Financial Stability Report

May 2019

NÁRODNÁ BANKA SLOVENSKA
EUROSYSTÉM

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NÁRODNÁ BANKA SLOVENSKA
EUROSYSTÉM

Contents

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.

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EUROSYSTÉM

Overview

The slowdown in global economic growth has led to a deterioration in expectations about future developments and to a weaker growth in investment activity, while also affecting financial markets

Global economic growth began to moderate from mid-2018. Growth outlooks for 2019 have been revised down, although the situation is expected to start gradually recovering in the second half of the year. The growth slowdown has been relatively pronounced in the euro area, owing mainly to falling exports. The uncertainty arising from the economic malaise was reflected in financial markets towards the end of 2018, as increasing risk aversion among investors resulted in several bouts of market turbulence and sharply declining prices of most assets, especially equities. The decline's causes were related to the negative expectations resulting from deteriorating conditions in international trade relations – especially between the United States and China – and to concerns about the gradual tightening of monetary policy.

After confidence picked up somewhat in early 2019, signs re-emerged that investors may be underestimating financial market risks

At the start of 2019 most of the previous losses on financial markets were recouped and investor risk appetite rebounded. This reflected the impact of monetary policy correction by a number of central banks and signs of global macroeconomic stabilisation. The surge in optimism was short-lived, however, and the risk of the situation worsening again remains largely undiminished. The risk of overvaluation is still associated with certain types of asset, and there are indications of investors underpricing potential risks, particularly in the corporate bond segment.

Risks related to excessive growth in global indebtedness are increasing

A corollary of current trends is a build-up in certain imbalances that could in time entail several risks. The pick-up in investor confidence has been greatly supported by the easing of financial conditions, which, however, could lead to an excessive rise in indebtedness over the longer term. Global indebtedness is higher today than at the tail of the global financial and economic crisis ten years ago. In the euro area, this risk relates mainly to high public sector debt.

The debt-related accumulation of imbalances pertains mainly to the fact that smooth debt servicing requires the maintenance of current low inter-

est rates and economic performance. Should these conditions change for the worse, the risks associated with excessive indebtedness could escalate significantly. At the same time, the room for fiscal and monetary policy manoeuvre to mitigate these risks is far less now than it was during the last crisis.

The global slowdown has also affected Slovakia's economic growth, which nevertheless remains relatively strong

The weakening of external demand in the context of recent global trends has also weighed on Slovakia's economic growth and on the outlooks for that growth. Even so, domestic GDP growth remains relatively strong compared with rates in other EU countries, thanks largely to domestic demand. So, despite the cooling of the global economy, the business and financial cycles in Slovakia remain in an advanced phase, and the economy continues to operate above potential. Economic overheating is most noticeable in the labour market, in which volatility is higher than in other EU countries' labour markets.

In the financial sector, the slowdown in retail loan growth has been a key change

Year-on-year growth in total retail[1] loans has fallen for the first time in five years. The slowdown has been most pronounced in the consumer loan segment (from 11.4% in March 2018 to 3.5% in March 2019). Housing loan growth began to ease from September 2018, though its slowdown has been far more moderate than that of consumer loans (from 12.0% in March 2018 to 10.9% in March 2019). There are several factors behind this trend. One is the effect of 'frontloading' during the second quarter of 2018, when loan uptake rose ahead of NBS's scheduled tightening of regulatory lending requirements. Another factor is the actual impact of the phased-in tightening of regulatory limits on lending, which are aimed at ensuring that lending to households is consistent with borrowers' actual financial situation. A third key factor, however, has been the gradual saturation of the credit market: the share of younger households that have a loan is already above the European average.

Developments in the retail loan market indicate that NBS measures are gradually having a positive effect

The impact of recent NBS measures is evident in two key developments in particular. The first is that household indebtedness has been increasing at

[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.

a slower pace, owing to both the measures and other factors. The increase in the household debt-to-GDP ratio has slowed to its lowest level since 2012. The second development is a significant reduction in potential losses on new retail loans in the event of a deterioration in economic conditions; this is expected to gradually reduce the riskiness of the retail loan portfolio over the longer term. According to a sensitivity analysis, the riskiness of new loans has fallen significantly since the adoption of the NBS measures. Banks potential losses on new loans in the event of an economic shock is estimated to have fallen by almost half since the measures took effect. The measures have also had a positive effect on the household sector itself, by bolstering households' resilience to potential crises. Besides tightening regulatory lending requirements, NBS has also increased own funds requirements in the form of capital buffers, thereby making banks more resilient to any losses arising from a deterioration in the economic situation.

On the other hand, several trends conducive to a build-up of risk remain present in the retail loan market

Despite slowing to some extent, retail loan growth in Slovakia has remained as the highest in the euro area and it can still be considered excessive. In 2018 household borrowing growth was higher in Slovakia than in any EU country apart from Denmark. The main causes of the continuing credit growth are the persistent low interest rate environment and the favourable labour market situation.

Another factor supporting credit growth has been the increasing activity of financial brokers, as evidenced by the gradual rising share of brokered loans in total loans. Their activity is contributing to the strong competition in the housing loan market. According to indicators, interbank competition in the housing loan market is stronger in Slovakia than in most euro area countries. Meanwhile, the extent of top-up lending has remained elevated. The average amount of housing loans increased sharply in 2018 (owing mainly to continuing growth in property prices), which may indicate increasing debt concentration. A related development is the increase in the age of borrowers at the maturity of their loans, with some borrowers now over 70 years old at that date.

The phased-in tightening of lending limits is proving effective in reducing the riskiness of new loans; nevertheless, loans which feature multiple parameters with high values remain a risky segment. Furthermore, such loans also entail other higher risk characteristics to a greater extent than do other loans (a larger share of such loans have a term of 30 years or are provided to individual or lower-income applicants).

Among EU countries, Slovakia reports the lowest ratio to GDP of households' net financial assets – a potential buffer against any deterioration in economic conditions – and that gap is growing.

Property market developments are posing certain risks. A shortage of supply of both new and existing flats is pushing up prices and contributing to market imbalances. For the past three years, the average year-on-year growth in prices of flats has been stable between 7% and 13 %, and in 2018 it was outpacing economic fundamentals.

Lending to non-financial corporations has been increasing steadily, and external financing is high compared with levels in other EU countries

Year-on-year growth in loans to non-financial corporations (NFCs) has been stable at around 5%, slightly above the EU median. What has changed somewhat, however, is the breakdown of new loans, with the share of investment loans increasing partly at the expense of short-term working capital loans.

In Slovakia, as in most EU countries, the NFC debt-to-GDP ratio fell moderately at the end of 2018. The leverage of firms in Slovakia is still among the highest in the EU. On a positive note, the ratio of external financing to sales has fallen, and the liquidity ratio has stabilised after its previous decline; nevertheless, the levels of both indicators are less favourable than they were in the past, possibly implying that the corporate sector is increasingly vulnerable to any deterioration in the economic situation.

The trend in bank profits is relatively favourable compared to the past and to the situation in other countries; even so, the sector's sensitivity to economic shocks is increasing

The aggregate net profit of banks in Slovakia increased, year on year, in 2018, but then fell slightly in the first three months of 2019. Slovak banks' profitability remains far higher than the EU median. The profit growth in 2018 was supported by the end of the previous downward trend in lending rates for NFCs, since the combination of stable rates and an increasing volume of lending had an upward impact on banks' interest income. Thanks to favourable economic developments, banks also benefited from a drop in credit risk costs.

Given that a key factor behind previous years' profit growth was strong credit growth, the future path of the banking sector's profit will be relatively sensitive to developments in interest rates and in credit risk losses. It is estimated that if, over the next three years, credit risk costs increased to

their 2014 level and interest rates remained subdued, the annual net profit would fall by more than one-third of its 2018 level. The impact would be greater among small and medium-sized banks. The rising sensitivity is a result of the gradual interest margin compression which banks have been experiencing and which has significantly reduced their capacity to absorb credit risk losses arising in the event of adverse economic conditions.

The capital adequacy of banks has fallen slightly; several systemic liquidity risk indicators are relatively elevated, though the rate of risk increase has moderated

The banking sector's capital adequacy ratios fell slightly during 2018, but still remain relatively high. Their decline stems mainly from the continuation of strong loan growth. The still low level of default indicators is positive news, as is the high provisioning coverage of non-performing loans.

It is important, however, that the current level of capital adequacy does not fall lower, or rather that it increases among small and medium-sized banks. This is because of headwinds that include imbalances in the external environment, a still strong financial cycle in Slovakia (and the concomitant risks this gives rise to), and the increasing vulnerability of banks' profitability to negative trends.

As regards NBS's macroprudential policy response, the importance of capital buffers is increasing, in particular the countercyclical capital buffer (CCyB). If the risks that have built up remain elevated, NBS may in the next period consider increasing the CCyB rate further.

Macro stress testing of the banking sector has provided further evidence of its rising sensitivity to adverse trends. In the more severe adverse scenario mirroring the deterioration in economic conditions observed during last global financial and economic crisis, the banking sector's average total capital ratio is estimated to fall from 18.6% to 13.7%, i.e. by almost five percentage points. Small and medium-sized banks show greater sensitivity to the adverse scenarios.

The financial cycle's expansionary phase also has liquidity risk implications. Although the banking sector has been meeting regulatory liquidity limits, indicators related to banks' short-term liquidity and level of stable funding have been giving weaker readings compared with those in other countries. In early 2019, however, the moderation of the financial cycle's expansionary phase was accompanied by an easing of the long-running upward trend in systemic liquidity risk.

NÁRODNÁ BANKA SLOVENSKA
EUROSYSTÉM

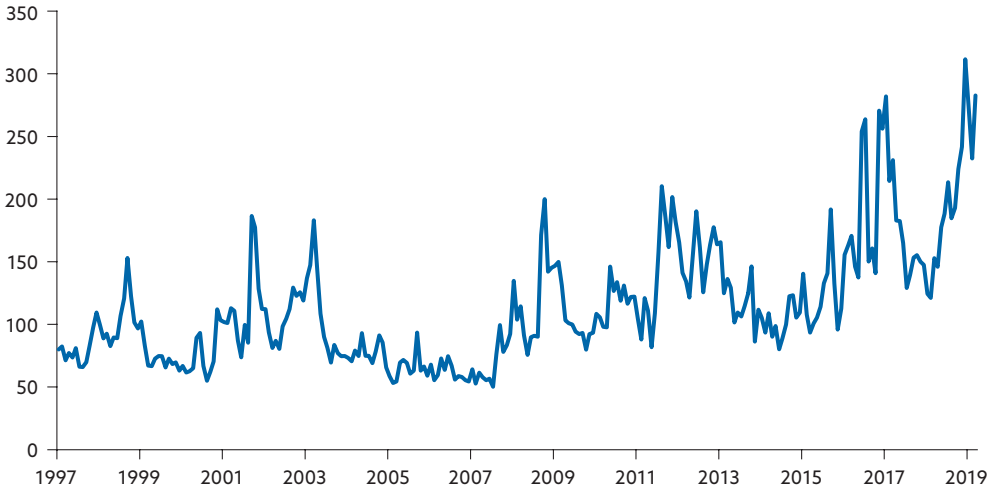
1 Macroeconomic environment and financial markets

1.1 Global economic performance has deteriorated

Macroeconomic trends since autumn 2018 have largely been characterised by negativity, which in turn has weighed on assessments of financial stability risks.

Global economic growth has unexpectedly been slowing since the second half of 2018. Concerns about the pronounced economic cooling reached financial markets at the end of the year, when there were sell-offs of riskier assets and an accompanying decline in asset prices. The worsening sentiment in both the real economy and financial system stemmed mainly from the increasing uncertainty generated by political and geopolitical events around the world. The pessimism lifted somewhat at the onset of 2019, so financial assets recouped much of their end-year losses. But despite some recent positive signals, short-term risks to financial stability are greater now than they were in autumn 2018. The longer-term outlook for financial stability risks remains substantially unchanged, with the risks seen as elevated.

Chart 1
The global economic policy uncertainty index has recently risen to record levels



Source: http://www.policyuncertainty.com

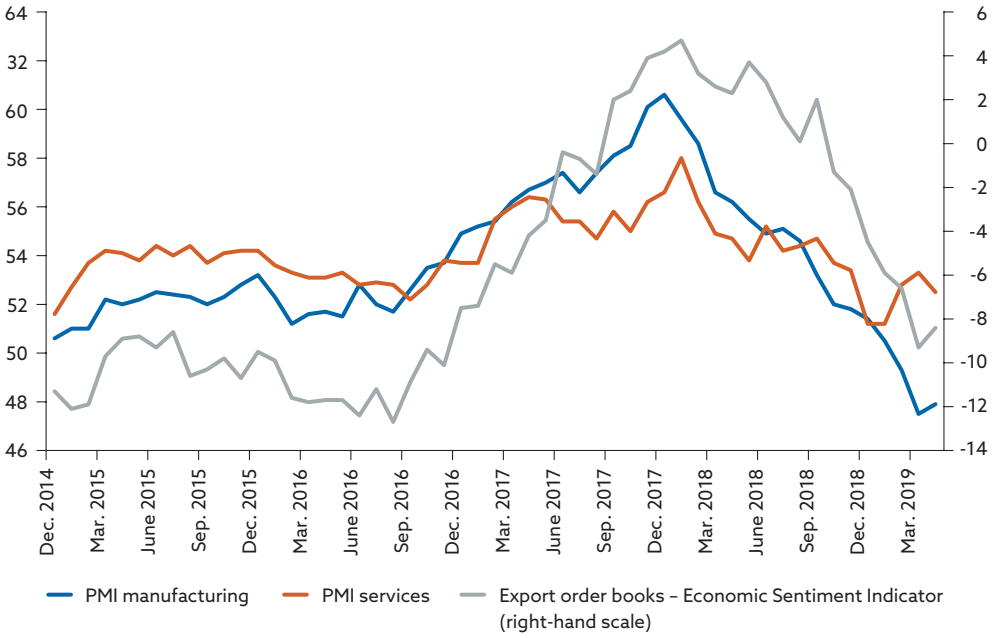
The global business cycle entered its declining phase in 2018. The slowdown in the production of goods and services gradually gained momentum. The magnitude of the slowdown is best illustrated by comparing the

year-on-year growth in global GDP in the fourth quarter of 2017 (4.0%) with that for the same period in 2018 (3.4%). The trend of declining performance was very broadly spread across the world, with most countries contributing to it. The interaction of slowdowns in international trade, industrial production and investment demand acted as a drag on the global economy. The causes of this situation were largely to be found in an erosion of sentiment in the real and financial spheres of the economy, amid heightened concerns and uncertainty about political developments – not just in the economic arena. Major sources of the increased nervousness were the rise in US-China trade tensions during 2018 and concerns about the tightening of monetary policy and financial conditions. Other significant contributions came from developments in certain large emerging market economies (EMEs) and from Italy's fiscal policy path.

The slowdown in euro area economic activity was particularly pronounced. Euro area GDP increased, year on year, by 1.2%, in the fourth quarter of 2018, which was less than half of its growth rate for the same period in 2017. Italy even entered a technical recession in the second half of the year and Germany only just avoided one. The euro area suffered from declining external demand, which undermined the region's export performance. Output growth was also dented by other factors on both the demand and supply sides.

Chart 2

The negative trend in manufacturing continued in early 2019, while in services there were signs of stabilisation



Source: Bloomberg.
Note: Where the Purchasing Managers' Index (PMI) has value of less than 50, it indicates contraction.

Several short-term indicators, particularly in the area of industry, continued in early 2019 to indicate a further deterioration in the economic situation. The PMI manufacturing index remained on a downward trend in the first quarter of 2019. It did not increase, month on month, until April, and even then the rise was modest and the indicator remained below the threshold denoting output contraction in the sector. A similar trend was seen in the managers' assessments of export order books, which form part of the European Commission's Economic Sentiment Indicator. In the services sector, however, signs of cycle stabilisation have started to appear. In its most recent staff projections released in March, the European Central Bank (ECB) expects macroeconomic conditions in the euro area to stabilise in the first half of 2019 and then recover moderately in the second half. Even, however, in that scenario, which is subject to many risks, euro area annual euro area GDP growth is projected to be only 1.1% in 2019 and to edge up to 1.5% in each of the next two years.

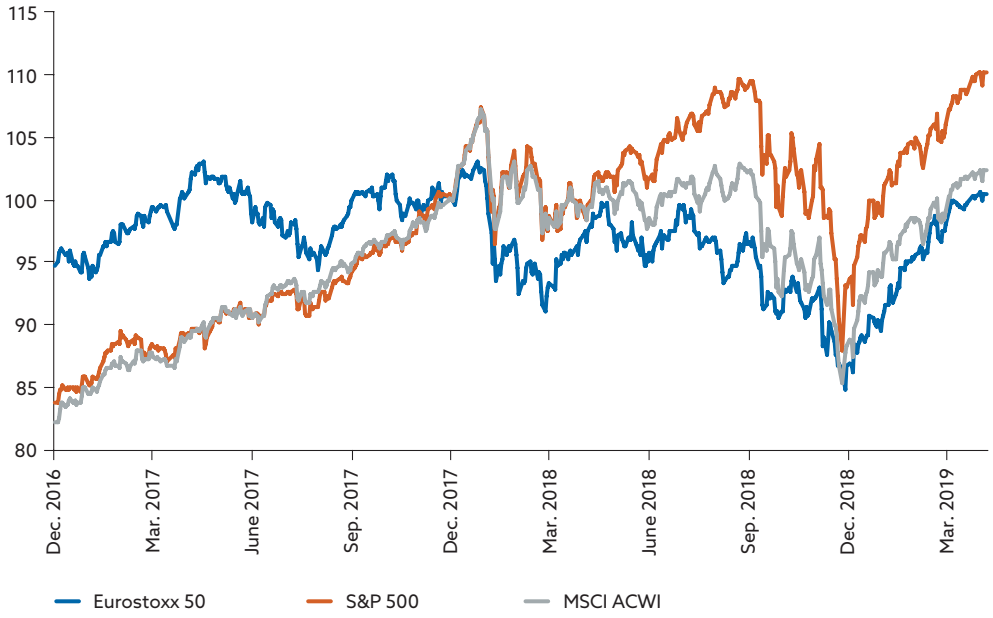
Risk repricing resulted in prices of most financial assets declining in 2018, before investor risk appetite rebounded at the start of 2019

The financial market climate was more volatile during 2018 than in the previous year. There were several bouts of turbulence, when a sudden increase in risk aversion pushed down asset prices. This trend culminated at the end of the year, when the bulk of assets, except those considered most secure, fell sharply in price. Equity investments made the largest losses. The MSCI All Country World Index (ACWI), which comprises a worldwide basket of equities, plummeted by 17% between early October and 24 December, the lowest point of its slump. The US S&P 500 index was approaching a decline of 20% over the same period. Investors were responding to proliferating reports about the deteriorating state of the global macroeconomic environment and to downward revisions of corporate profitability outlooks. The pressure to sell assets was further amplified by the general atmosphere of uncertainty and increasing risk aversion. The wave of risk repricing through increases in yields and credit spreads also affected debt instruments. In this environment of emerging panics, only the highest-rated sovereign bonds attracted significant investment.

The adverse economic and financial developments at the end of 2018 prompted several central banks to change their monetary policy course. The US Federal Reserve's correction attracted most attention since, even as recently as December 2018, the Federal Open Market Committee (FOMC) had been signalling further increases in the benchmark short-term interest rate in 2019. Subsequent months saw quite a marked shift of position: the FOMC now signals its intention not to adjust the benchmark rate this

year and has announced that its balance sheet unwinding process will end in September 2019. The ECB has also adopted a more cautious approach. After ending net purchases under the asset purchase programme with effect from December 2018, the Governing Council has maintained that policy while at the same time extending the period through which it expects to keep the key ECB interest rates unchanged. In addition, to provide long-term liquidity to euro area banks, the ECB will be launching a new series of quarterly targeted longer-term refinancing operations (TLTRO-III), starting in September 2019 and ending in March 2021. In many other countries, too, there has been a similar tendency towards loosening monetary policy, or at least tempering the pace of its tightening. Market indicators are reflecting a tilting of expectations back towards the long-term continuation of the low interest rate environment.

Chart 3
Equity indices recovered quickly from their sharp decline



Source: Bloomberg.
Notes: Standardised: 31 December 2017 = 100. The MSCI ACWI is a global equity index comprising stocks from advanced and emerging market economies. S&P – Standard and Poor's.

Due partly to the actions and rhetoric of central banks, financial market sentiment improved and asset prices increased from the beginning of 2019. Most types of asset quickly recouped their losses from the fourth quarter of 2018, and investor risk appetite increased strongly. A key factor behind the resurgent demand for risky assets was the markets' interpretation of central bank actions as a commitment to maintain substantially accommodative monetary conditions. Financial market optimism was further stoked by the United States and China adopting a more moderate tone in their trade dispute, as well as by signs of macroeconomic stabilisation at the global level.

The recent upturn in investor sentiment is fragile, and the risk of further adverse episodes of risk repricing remains present

The expectations about the future situation which are priced into financial asset prices are more positive now than they were at the turn of 2018/19. If, however, the more optimistic scenarios fail to materialise, the likelihood of a downward correction in these prices will probably increase. In certain financial market segments, asset prices remain overpriced vis-à-vis prices modelled on the basis of economic fundamentals. The US S&P 500 index recently set a new absolute record, yet the profit forecasts of the firms included in the index are significantly lower than they were in summer 2018, when the previous record was set. At the same time, the new peak was reached just a couple of weeks after an inversion of the US Treasury yield curve, which has in the past been one of the most reliable harbingers of recession. Although other major stock markets (in Europe and China, for example) were not breaking records, they were returning to levels similar to those reached when growth assumptions for the respective economies were more elevated.

The shift back to a climate of heightened risk appetite is also evident from bond market developments, in particular in the universe of lower-rated bonds. Corporate credit spreads have tightened, and even in those segments where their increases of late 2018 have not been completely reversed, their absolute levels are low from a long-term perspective. After its almost total stagnation in December 2018, the primary market has also picked up strongly. The global issuance of corporate bonds has been higher so far this year than in the same period of any previous year for which comparable data are available, and it has surpassed the previous high set in 2017.

The corporate bond segment in advanced economies, particularly in the United States, is displaying several characteristics of a late-stage credit cycle and accumulated risks. Aggregate corporate debt in these countries has risen to an all-time high, and the share in that debt of firms with a high leverage ratio has increased. Other aspects of this trend include marked growth in the amount of speculative grade bonds and, within investment grade bonds, the investment boom's concentration in the lowest-rated (BBB) bonds. Meanwhile, over approximately the last two years, credit market activity in the United States and Europe has shifted increasingly to the segment of leveraged loans, where credit standards are even lower. A proportion of the funding obtained through these loans or on the bond market has been used not for investment, but for financial transactions such as dividend payments or corporate takeovers. The recent episode of heightened stress showed that indicators of liquidity in the speculative

bond market have deteriorated more than they did during the previous credit spread shock and that their correlation with equity prices has increased.

Another warning signal about risk underpricing among investors is the return of exceptionally low volatility across financial markets. This is because low volatility often implies that market players have a one-sided view of the future path of asset prices. At the same time, it gives an impression of stability, and thus is conducive to risk underpricing.

Whether financial market participants and economic agents can maintain their current favourable positions will depend to a large extent on how the trade dispute between the world's two largest economies – the United States and China – plays out. The prevailing view in the first months of the year was that the dispute would at least not escalate further. These hopes stemmed from the increasing willingness to negotiate shown by both sides, supported by the US Administration's decision to further extend its original deadline for increasing tariffs on imports from China. In May 2019, however, when a final deal already seemed within reach, the United States went ahead with the tariff increase, raising the rate applied to USD 200 billion worth of Chinese goods from 10% to 25%. China responded by taking retaliatory measures. Despite this regression, negotiations will continue on the outlines of a potential bilateral trade deal. Recent events have shown, however, that willingness to negotiate does not by any means guarantee that a final compromise will be reached. If these efforts come to nought, then further escalation of the US-China trade war cannot be ruled out. Such a scenario, especially if it weighed on sentiment, could slow GDP growth not only in the two countries themselves, but also, given their combined size, in the rest of the world. The situation would be even worse if the wave of beggar-thy-neighbour protectionist policy-making spilled over to other countries. Such risk may be seen, for example, in the fact that the United States has for some time now been considering whether to impose tariffs on imports of cars and auto parts from Europe.

Developments in China are seen as one of the most important risk factors to global financial stability. China's economic performance in the second half of 2018 was slightly worse than expected, thereby fuelling concerns that it presaged a more severe slowdown. The most recent indicators suggest that the downward trend has come to a halt. This, however, has been achieved largely through fiscal stimulus and through the acceleration of investment lending via the state-controlled banking sector, contrary to structural reform programme now in progress. The question therefore arises as to what extent short-term risk reduction through these measures will later exacerbate the anyway sizeable imbalances and risks that have built-up.

NÁRODNÁ BANKA SLOVENSKA
EUROSYSTÉM

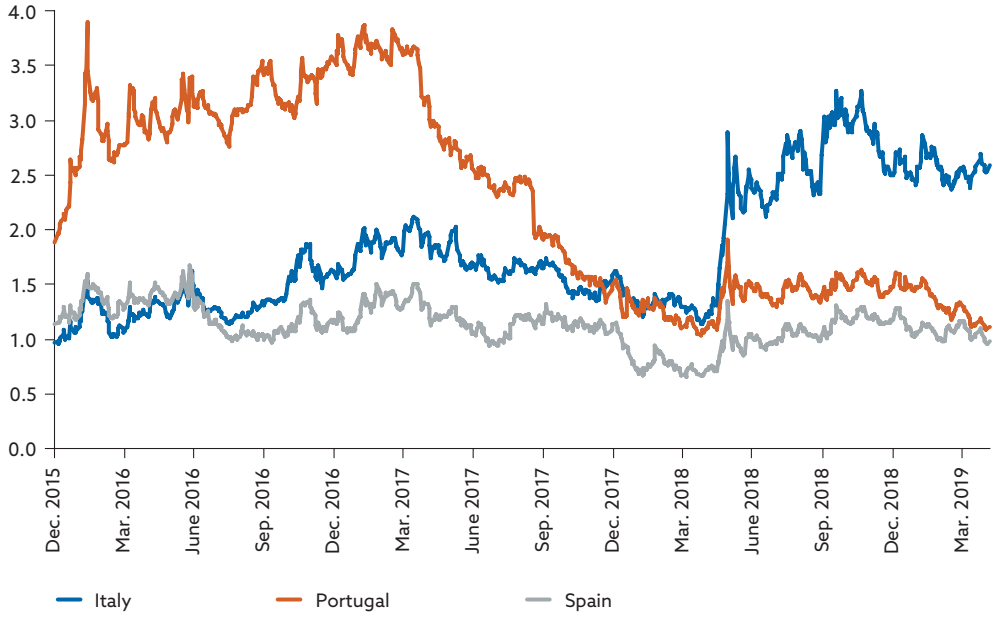
In the euro area, the risks with the largest destabilising potential are those related to the negative feedback loop between the financial condition of indebted countries and their banking sectors and to the uncertainty surrounding Brexit

Last year saw the return of concerns about a potential euro area sovereign debt crisis such as that which occurred earlier in the decade. The initial trigger of these concerns was the political uncertainty in Italy and the Italian Government's subsequent proposal to increase the fiscal deficit in coming years. These factors, in conjunction with the deteriorating economic outlooks for Italy, raised doubts about the fiscal sustainability of a country that was already so highly indebted. As a result, the credit spread on Italian government bonds increased around threefold. The spillover of this stress to other vulnerable euro area countries was short-lived and minor in extent. Risk premia in Italy itself also narrowed, although they remained around twice as high as their level at the start of 2018. At the same time, risk indicators in the Italian banking sector increased, implying the continuing presence of the risk transmission system from the sovereign to the domestic banking sector and vice versa. Market sensitivity to developments in Italy is warranted, since Italy is the only euro area country which in 2019 and 2020 faces a negative differential between real GDP growth and the real yield on Italian sovereign debt; hence Italy's public debt, currently at 130% of GDP, is expected to increase even if the country does not have a fiscal deficit. In Italy, the share of domestic sovereign debt in the assets of the domestic banking sector increased further in 2018 and reached its previous peak of around 10%. In some other countries (Portugal and Belgium), the penetration of domestic sovereign debt in the balance sheets of domestic banks is now higher than it was at the height of the euro area debt crisis.

Chart 4

Spreads on Italian 10-year government bonds increased

Spreads on 10-year government bonds



Source: Bloomberg.

Risks in the euro area banking sector have increased, and not just in connection with exposure to the public sector. The slowdown in economic growth has been accompanied by declining profitability outlooks for euro area banks, whose profitability has anyway in recent years been lower than that of banks in other regions. Euro area banks currently have a relatively robust capital structure; nevertheless, a potential combination of losses arising from market repricing of bonds and from credit risk costs related to both new and old non-performing loans (NPLs) could severely weaken this position. Some banks with less robust balance sheets may face market funding difficulties. Funding costs for banks in some countries have recently increased. In the short term, banks' refinancing will be made easier by the ECB's new series of targeted longer-term refinancing operations (TLTRO-III). This, however, only puts off the structural problem of certain national banking sectors, which will probably be further heightened by their need to issue more TLAC/MREL eligible bonds.

The process of the United Kingdom's withdrawal from the European Union ('Brexit') remains a source of political uncertainty. The deadline for Brexit has been postponed from its original date of 29 March 2019 to the autumn of this year. Despite intensive debate before the expiry of the original deadline, the UK Parliament did not ratify the EU Withdrawal Agreement between the UK Government and European Commission, nor did it offer any alternative proposals. The future arrangement of relations between the United Kingdom and the European Union therefore remains an open question, and as the postponed deadline draws close, nervousness may re-escalate.

The return to accommodative financial conditions is a risk not only in regard to the potential overvaluation of assets, but also in that it is conducive to increasing indebtedness in the longer term. On the one hand, cheap financing stimulates borrowing; on the other hand, it means lenders are under greater pressure to provide finance even for higher-risk activity, their only route to earning higher returns. Excessive indebtedness creates a major risk to financial stability, since it increases vulnerability to negative economic shocks. The global debt-to-GDP ratio is higher now than it was during the global financial crisis. The sectors in which this debt burden is concentrated vary from country to country. The principal risk for the euro area is sovereign debt. In the United States, the greatest balance-sheet vulnerability is reported by non-financial corporations. In China, high indebtedness is a problem in several sectors (NFCs, households, banks, shadow banking institutions), while the greatest vulnerability in other EMEs is in the public sector. Although each case is specific, a common element is the fact that debt-servicing is currently being smoothed by a combination of low interest rates and still relatively solid economic performance. Any deterioration of these favourable conditions could jeopardise this debt-servicing capacity, with adverse repercussions on both financial markets and real economic activity.

1.2 Slovak economic growth slowdown

Slovakia's economy is in an expansionary phase, although its growth slowed at the end of 2018

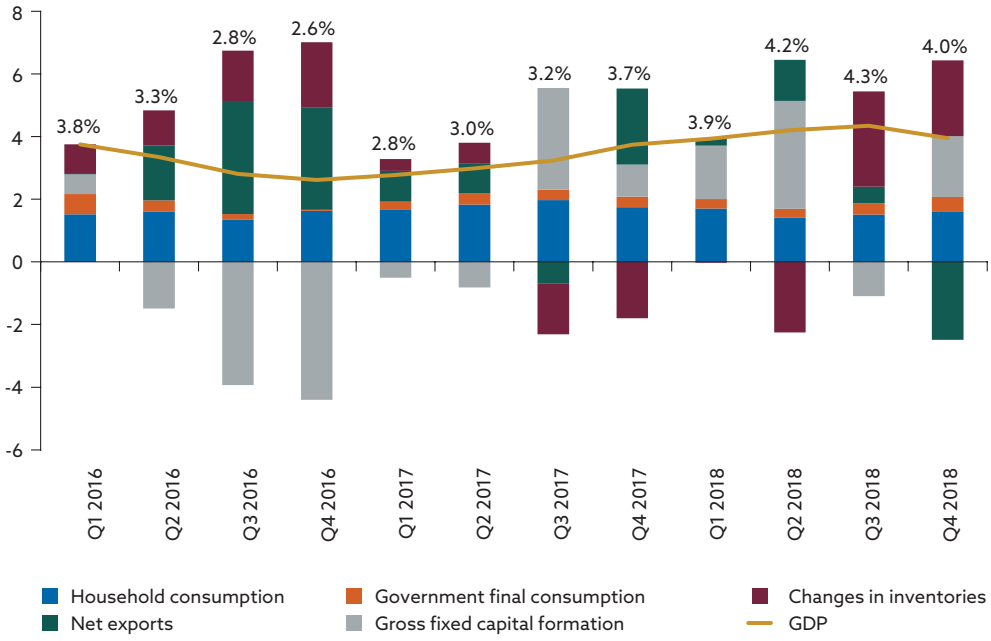
The ongoing expansion of the Slovak and European economies has moderated amid the weakening of demand in global markets. The period ahead is already expected to see a further easing of Slovakia's growth. Like most EU countries, Slovakia recorded a slowdown in economic growth in the second half of 2018 owing to weaker impetus from external demand. In both Slovakia and the euro area as a whole, the growth typical for the upswing of the business cycle reached its peak in the summer and autumn months of 2018. Despite losing some momentum, Slovakia's annual GDP growth maintained a rate of around 4%. Towards the year-end, however, there was also a deterioration in economic sentiment, signalling increasing private sector concerns about the future situation. The fourth-quarter deceleration in Slovakia's GDP growth was largely attributable to net exports, which amid softening demand in the country's export partners, actually made a negative contribution to overall GDP growth. Domestic demand provided a counterweight to that impact, remaining as a source of economic growth. This included household consumption expenditure, which maintained its upward trend underpinned by wage growth and favourable labour market developments. After experiencing a blip in the

third quarter, investment activity had an appreciable positive impact on GDP growth in the fourth quarter. Its improvement reflected stronger investment in the car industry and in the public sector – where the rising absorption of EU funds was having a positive impact. The government sector's positive contribution to GDP growth was driven mainly by consumption expenditure, in particular expenditure on consumption of goods and services and on public sector wages and salaries. Rising inventories also supported GDP growth in the second half of 2018. The Slovak economy is now operating above potential, and although it is expected to continue overheating in the next period, its growth is not expected to accelerate significantly. Economic growth is projected to benefit from favourable developments in domestic consumption and to the gradual coming on stream of new production in the car industry. Macroeconomic developments are therefore expected to continue putting upward pressure on private sector demand for loans.

Chart 5

Slovakia's economic growth slowed in the last quarter of 2018

Annual percentage changes in Slovakia's gross domestic product (GDP) at constant prices, and the contributions of GDP components to those changes (%)



Sources: SO SR and NBS.

Economic overheating in Slovakia is most noticeable in the labour market; at the same time, the labour market is highly volatile

The labour market in Slovakia is going through an upswing. Firms faced with labour shortages are to some extent seeking to overcome them by hiring more foreign workers. At the same time, however, the volatility that characterises the Slovak labour market represents a risk to financial sta-

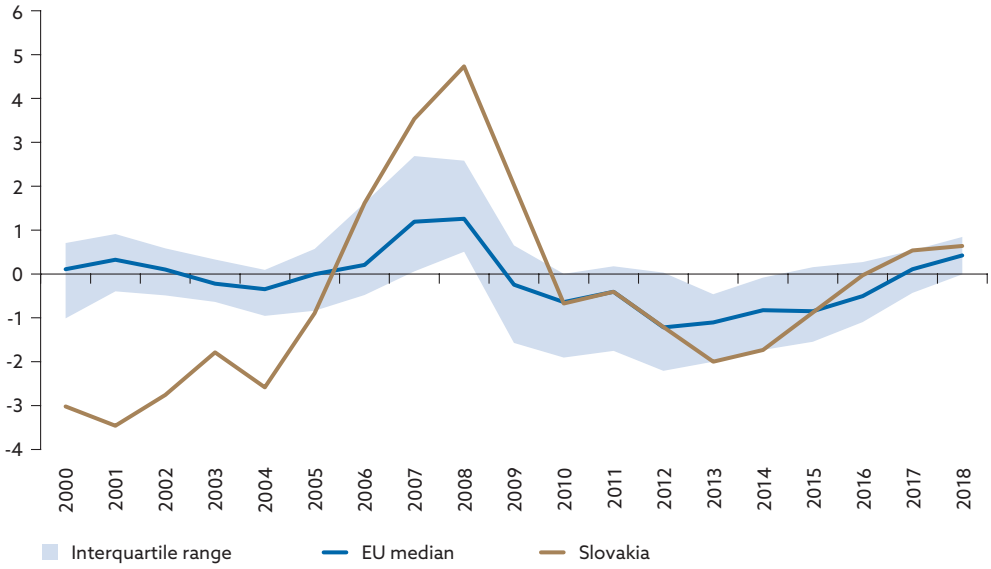
bility. The unemployment rate continued to decrease in the second half of 2018. After continuously setting new lows over the previous two years, the rate by the end of 2018 was under 6%. At the same time, the number of people in employment has been rising, and more than 2.4 million people were employed by the year-end. The pace of employment growth is, however, gradually moderating. Firms that are finding it harder to fill vacancies for skilled workers have begun addressing the shortage by hiring foreign nationals. The share of these workers in headcount employment growth is increasing, and it rose particularly sharply in 2018. Approximately 42,000 people found work in Slovakia last year and almost half of them were foreign nationals.

Labour shortages are also putting upward pressure on year-on-year wage growth, which in the second half of 2018 averaged 6.1%. This trend, even amid rising goods and services inflation, resulted in real wage growth of more than 3.5%. So, household disposal income also increased in 2018 and supported growth in demand for new loans. Slovakia's labour market situation is characterised by high volatility, with fluctuations that significantly exceed the EU average. Therefore, at a time of economic expansion, the creation and filling of job vacancies as a result of the favourable business cycle is higher in Slovakia than in the EU on average, while at a time of recession, jobs in Slovakia are cancelled or not filled to a greater extent compared with the EU average.

Chart 6

The labour market in Slovakia is overheating to a greater extent than are labour markets in most EU countries

Rate of labour market overheating (p.p.)



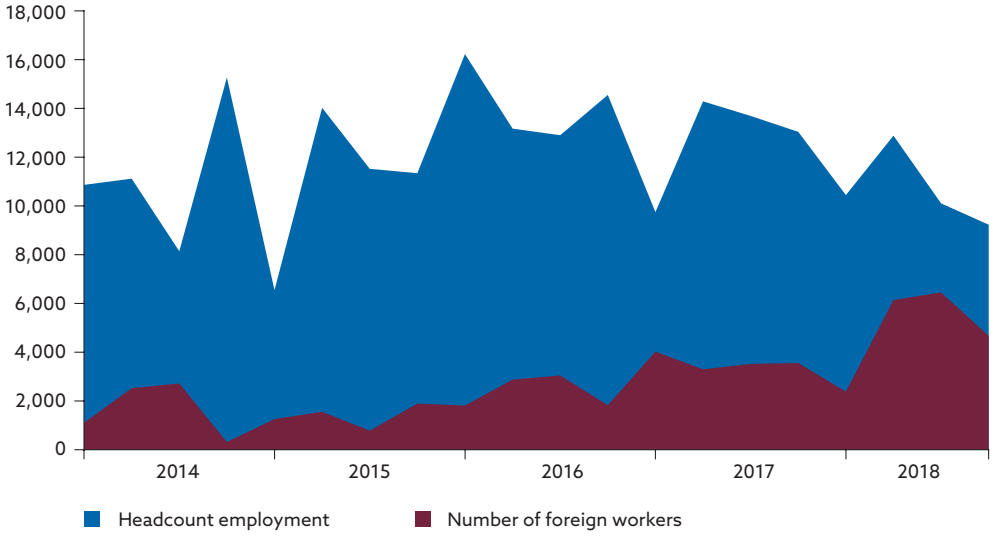
Sources: European Commission and NBS.
Notes: The rate of labour market overheating is measured as the difference between the non-accelerating wage rate of unemployment (NAWRU) – representing the unemployment rate that does not lead to an increase in overall wage inflation – and the current unemployment rate. Positive values indicate overheating of the labour market, while negative values indicate cooling, with the unemployment rate higher than structural unemployment.

The high volatility of the Slovak labour market can be partly attributed to its greater flexibility and to the fact that the share of lower-skilled jobs in the market is higher than the EU average. In terms of labour market overheating, Slovakia currently ranks in the upper quartile of EU countries. This means that a proportion of the jobs currently filled were created as a result of the economy's cyclical development, so they will not be sustainable over the long-term and may decline in number after the financial cycle turns. Such a development would then be expected to have implications for these workers' debt-servicing capacity. The Slovak labour market's volatile cyclical trend is being mitigated by the current increase in the recruitment of foreign workers, since it may be assumed that when firms cut jobs during the next business cycle contraction, they will tend to release foreign workers before native workers.

Chart 7

The share of foreign workers in headcount employment growth is increasing

Quarter-on-quarter increase in the number of employed persons



Sources: SO SR, ÚPSVaR SR and NBS.

The non-financial corporation (NFC) sector is experiencing good times, but expectations in the sector have deteriorated

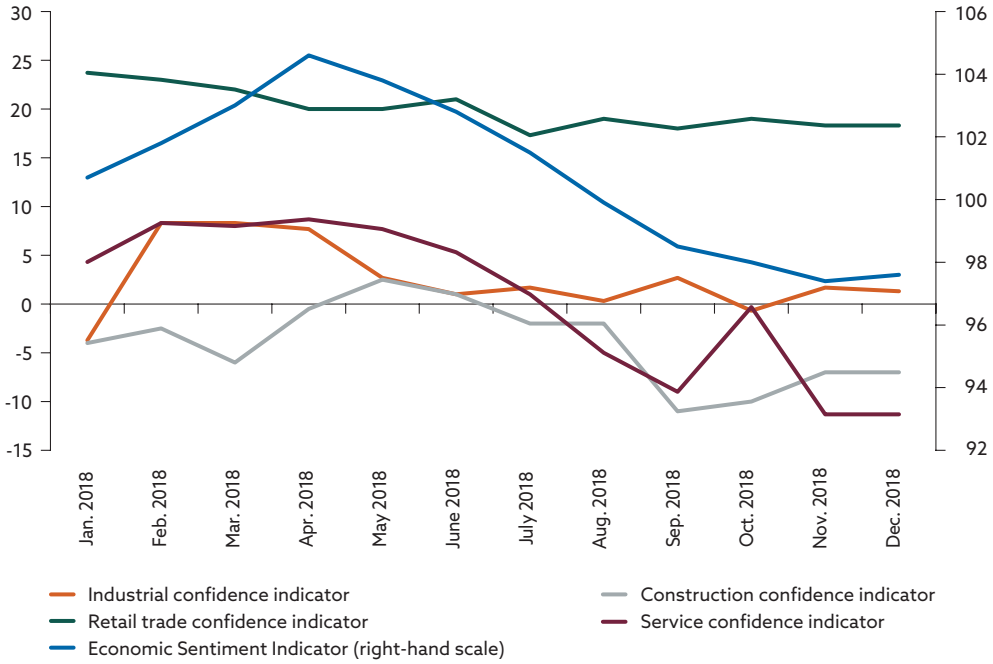
As sales in the NFC sector have been growing, so have firms' profits. The business cycle's ongoing expansionary phase is evident in NFC income, which was almost 8% higher in the last quarter of 2018 than in the same period of previous year. Sales growth was reported by all major sectors and was strongest in construction and services. The NFC sector also managed to increase its aggregate profit, year-on-year, by 16%. The industry and energy sectors posted the highest profit growth, while, at the other extreme, the transportation and storage sector saw its aggregate profit decline. But

despite the overall improvement in firms' results, sentiment in most of the major sectors has deteriorated since the first half 2018.

Chart 8

Economic sentiment in most of the major sectors deteriorated in the second half of 2018

Three-month moving average



Source: SO SR.

The worsening of sentiment has also been reflected in demand for loans to NFCs, which has remained flat despite the improvement in firms' economic conditions.

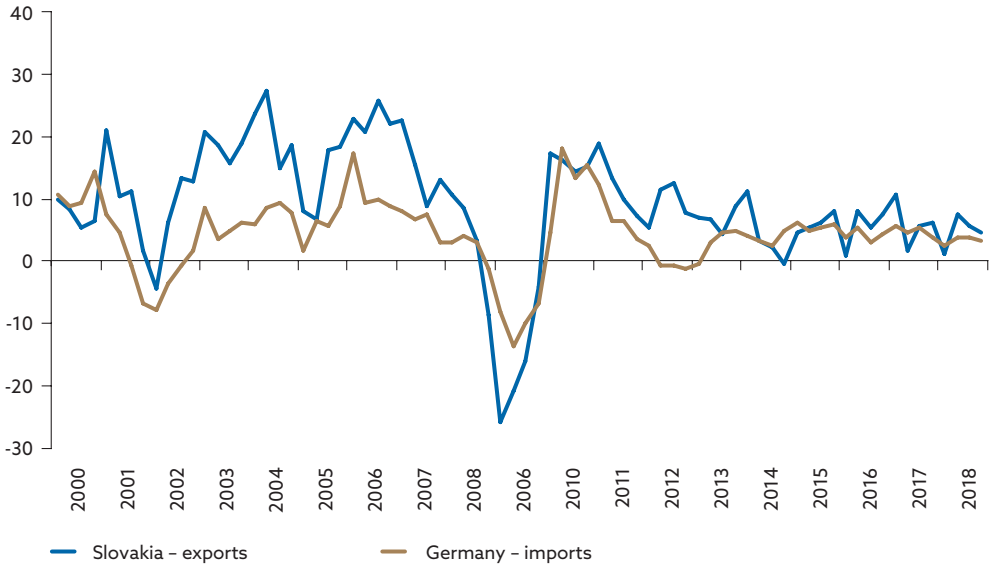
Price inflation in goods and services moderated towards the end of 2018. Mounting pressures resulting from the gradually overheating economy have begun passing through to the general price level of goods and services in Slovakia, which for most of 2018 was increasing, year on year, at a pace in excess of the ECB's long-term inflation target. The annual HICP inflation rate in Slovakia fell to 1.9% in December 2018. The main drivers of inflation in 2018 were increases in energy prices and in prices of food and services. Non-energy inflation was also rising, however, and stood at 1.7% in December 2018. In the persisting low interest rate environment, a proportion of new loans is still provided at a nominal interest rate below the inflation rate, thereby adding further upward pressure to demand for loans.

Risks to economic growth are predominantly on the downside

Chart 9

Year-on-year changes in German imports and Slovak exports have been following a very similar trend

(%)



Sources: Eurostat and NBS.

The risks to economic growth are mainly cyclical in nature. The positive output gap and labour market gap could correct earlier than is currently expected, resulting in negative repercussions for the financial sector. Such cooling may be triggered by a slowdown in external demand, especially in those countries that are the principal destinations of Slovak exports. Germany is a particularly important destination, as it imports a fifth of total Slovak exports accounting for around 20% of Slovak GDP. The German economy's recent slowdown and potential further stagnation is expected to weigh on Slovakia's exports and on its economy, which is now closely intertwined with the Germany economy.

2 Financial sector trends and risks

2.1 Household indebtedness still increasing

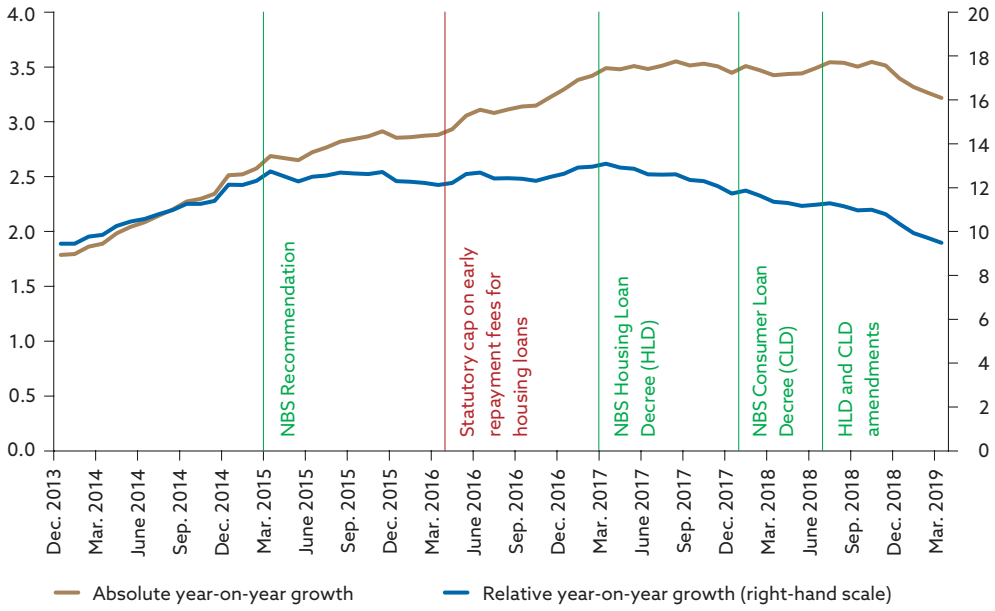
Despite slowing, growth in loans to households remains excessive

The second half of 2018 saw the growth trend in retail loans begin to moderate more significantly for the first time since 2013. Total retail loans increased each year from 2013 to 2018, while at the same time recording several short episodes of higher or lower growth, typically in response to forthcoming or approved regulatory measures. As a rule, however, these fluctuations were followed by a brief period of correction that returned loan growth to its medium-term trend. One of the most notable fluctuations occurred in 2016 following the introduction of a statutory cap on early repayment fees for housing loans, a measure that contributed to the acceleration of loan growth. Another impetus to loan growth was seen in the first half of 2018, when borrowers were 'frontloading' loans ahead of the entry into force of NBS macroprudential measures at the start of July 2018. From around the last quarter of 2018, however, retail loan growth started to deviate significantly from its long-term trend and, furthermore, the growth rates of housing loans and consumer loans were diverging.

Chart 10

Growth in loans to households has slowed moderately

(EUR billions, %)



Source: NBS.
Note: The green colour denotes events that dampened loan growth, and the red colour denotes events that accelerated it.

The annual growth rate of housing loans fell from 12.0% in March 2018 to 10.9% in March 2019. The slowdown became more pronounced from September 2018, when the monthly increase in housing loans started to fall below its levels of previous years. It remained below those levels through March 2019, the end of the available time series.

The moderation of housing loan growth is attributable to a combination of several factors. First, as mentioned above, loans were being frontloaded in the second quarter of 2018 in order to avoid the tighter regulatory rules that NBS was soon to introduce. This effect was still present during the summer months, when loans granted before the end of June 2018 were still being taking out. The subsequent slowdown in loan growth was therefore to some extent a natural correction of the frontloading effect.

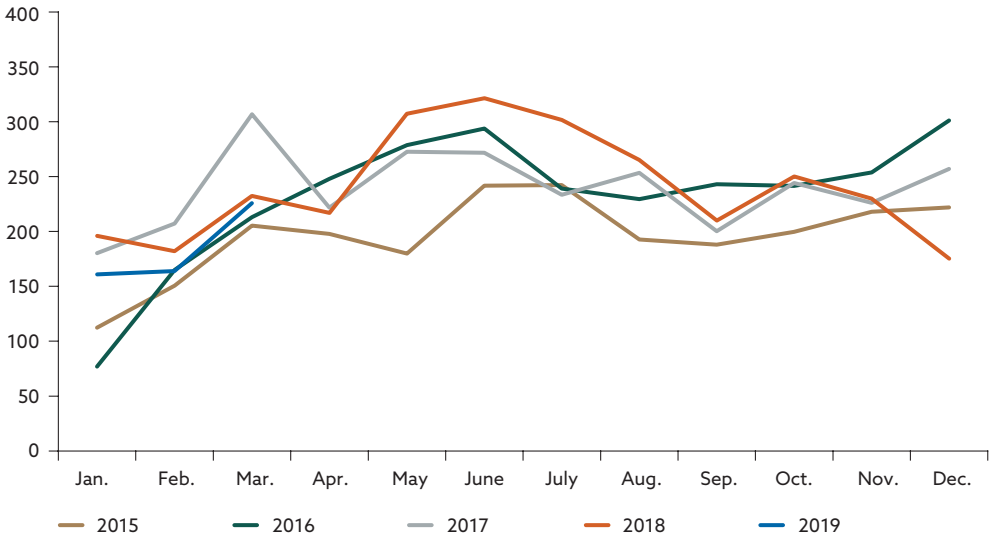
The second drag on loan growth came from the next stage of the phasing-in of the NBS regulatory tightening. Beginning from July 2018, this stage included the tightening of LTV ratio limits by prohibiting loans from having an LTV ratio of more than 90% and reducing the share of loans that may have an LTV ratio exceeding 80%. It also included the introduction of a new limit on borrowers' debt-to-income (DTI) ratio. The new measures taken together ensured less rapid loan growth by raising the bar for lending to the riskiest borrowers, i.e. by requiring greater compatibility between borrowers' indebtedness and their financial circumstances.

Other factors that may have weighed on loan growth were the plateauing of average interest rates from the second half of 2018 (albeit at a historically low level of 1.5%) and the gradual saturation of the credit market.

Chart 11

Absolute monthly increases in total housing loans began to fall below previous years' levels from the end of 2018

Month-on-month change in total housing loans (EUR millions)



Source: NBS.

There nevertheless remained strong factors that kept loan growth in Slovakia as the highest in the euro area until the end of the period under review. The first of these factors is the elevated supply of loans in the low interest rate environment. The banking sector's business model is quite narrowly focused on interest income, as described in the November 2018 Financial Stability Report. With interest rates falling, pressure to increase lending activity has inevitably increased. The importance of the supply side of loan growth is also evident from interbank competition, the strength of which has resulted in Slovakia's banking sector experiencing the largest interest margin compression in the EU. This compression can also be seen as decline in the price of loans, which in economic theory implies an excess of supply over demand.

At the same time, the low interest rate environment has been contributing to the elevated demand for loans through the consequent expansion of the pool of potential household borrowers and increase in the amounts of individual loans, stemming largely from the continuing growth in property prices. Last but not least among loan growth-supporting factors is the impact on demand of the favourable economic situation, which, primarily via the strong performance of the labour market, supports households' propensity to borrow. The registered unemployment rate has been falling to new historical lows, and in March 2019 it dropped to 5.0%.

The circumstances conducive to loan growth are expected to continue in coming months, as are the factors causing it to moderate. The period ahead may be expected to see the continuation of the low interest rate environment, generally favourable economic situation, and the large supply of loans. At the same time, however, strong loan growth will be held back by the ongoing tightening of LTV and DTI policies (the last stage of which is due to be implemented from 1 July 2019) and by any slowdown of domestic economic growth.

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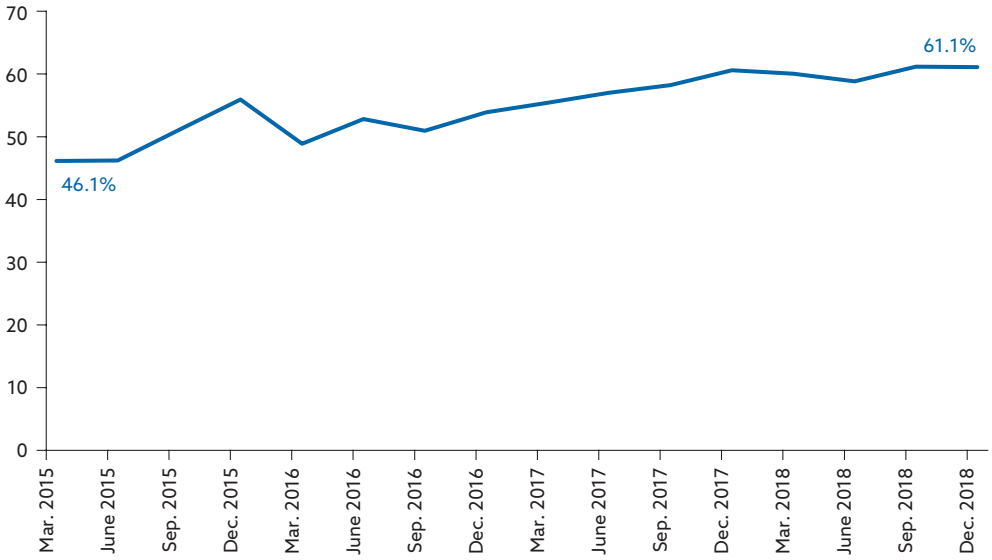
Chart 12

The share of brokered loans in total housing loans continued increasing in 2018

Brokered loans as a share of new housing loans (%)

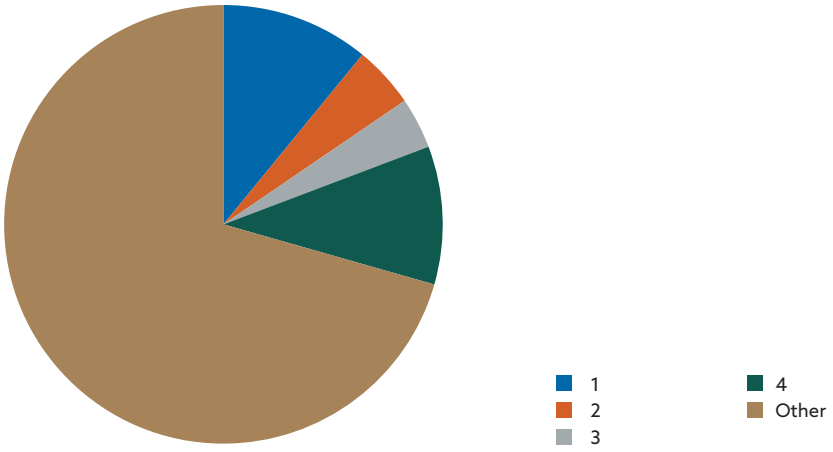


Source: NBS.

Chart 13

The loan brokerage market is quite weakly concentrated

Shares of brokered loans in new loans in the fourth quarter of 2018



Source: NBS.

A major catalyst of loan growth has been the activity of financial brokers. Although it cannot be denied that the provision of housing loans through brokers has several benefits, the way in which brokers currently operate is raising questions related to financial stability. These risks, which have also been noted by the European Commission,[2] include in

[2] COMMISSION STAFF WORKING DOCUMENT, Country Report Slovakia 2019.

particular the increasing extent of housing loan refinancing, which, since the principal of the new loan is frequently higher than that of the original loan, is increasing overall household indebtedness. Another aspect of current brokerage activity that is having a negative impact is its role in stoking competition in the retail credit market to an extent which is already threatening the adequacy of interest margins (Section 2.4) and the related sustainability of domestic banks' business models. A separate problem is the pressure to ease credit standards, which certain banks are reporting. Regarding the potential for such pressure to come from financial brokers, it is positive to note that the share of the four largest brokerage firms in total brokered loans amounted to 18% at the end of 2018.

Year-on-year growth in total consumer loans fell from 11.4% in March 2018 to 3.5% in March 2019. This slowdown reflected mainly a slight easing of new lending growth, which in the context of the high consumer loan turnover rate, had an appreciable impact on the portfolio's growth. Consumer loans are characterised by being short-term and by the relatively rapid amortisation of the principal. Furthermore, the portfolio's dynamic growth in recent years means that to maintain its percentage growth rate requires an ever increasing volume of lending. The common effect of these factors is to make the annual growth rate of the consumer loan portfolio relatively sensitive to even small changes in the volume of new lending. This sensitivity has been particularly evident since mid-2018, with consumer loan growth falling below the EU average after being among the highest in the euro area just two years earlier. If the absolute monthly increases in consumer loans remained at the average of the last six months, the annual growth rate of these loans for the year 2019 would decline to around 1%.

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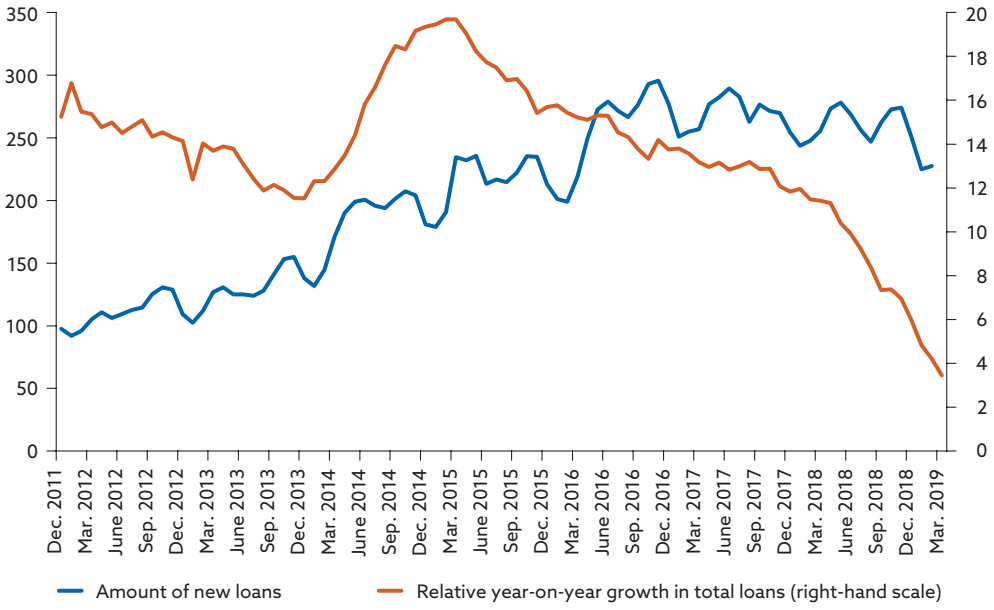
Chart 14

Moderate slowdown in the provision of new consumer loans has had a large impact on growth in total consumer loans

Three-month moving average for the amount of new consumer loans and the year-on-year growth in total consumer loans (EUR millions, %)



Source: NBS.
Note: The data are adjusted for the impact of one bank's acquisition of part of the non-bank company Consumer Finance Holding.

The slower growth in new consumer loans has stemmed partly from the phased-in tightening of NBS regulatory measures, in particular the debt-service-to-income (DSTI) ratio limit, which has been fully phased in since July 2018 and is coupled with a financial buffer requirement of 20%. July 2018 also saw the introduction of a debt-to-income (DTI) ratio limit, which inter alia restricts the extent to which housing loans can be co-financed with additional consumer loans.

The recent years' growth in consumer loans provided by banks stemmed partly from the refinancing of non-bank loans with bank loans. The product regulations for consumer loans are in many respects the same for the bank and non-bank sectors, thereby to some extent blurring the distinction between the two. At the same time, consumer loans are still providing attractive margins, which, in the low interest rate environment, has resulted in a surge in supply of bank consumer loans. There are, however, market indications that the refinancing of non-bank loans is less extensive than it was in previous years, and therefore its upward impact on growth in bank consumer loans is decreasing.

New consumer lending has also been affected by the repeal of the statutory exemption of 'pre-approved' loans from NBS regulatory limits as

from January 2019. Until the end of 2018 these loans were exempt from the DSTI ratio calculation requirement and from the credit ceiling. The exemption was repealed through an amendment to the Consumer Credit Act, yet even several months before the amendment entered into force, consumer growth was notably decelerating.

Since the adoption of the NBS regulatory measures, the riskiness of new loans has decreased; the banking sector has loosened credit standards in unregulated areas

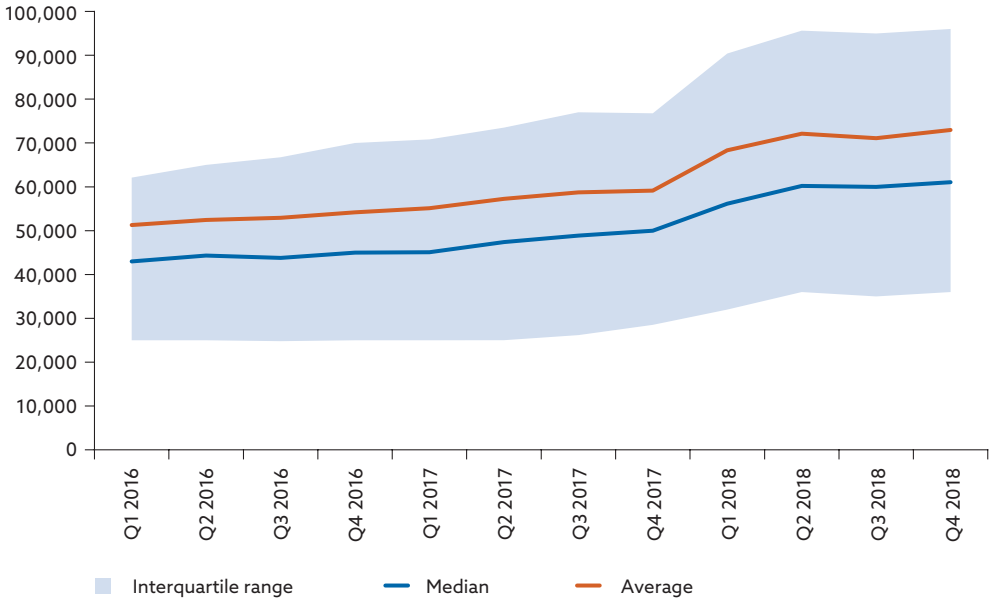
Lending to households is being conducted in compliance with the recently introduced NBS regulatory measures. Banks are adhering to the limits on the share of new loans that may have an LTV ratio of more than 80%, and they are falling within the limit by an average margin of between 3% and 5%. As for the DTI ratio, banks have reduced the share of loans that may have a DTI ratio of more than eight in accordance with the phased-in tightening of the ratio limit. Some banks have met the binding DTI limit by treating their housing loans and consumer loans as a single portfolio for the purposes of the DTI assessment, which is permitted under the regulations. Banks are also complying with the DSTI ratio limit and related financial buffer requirement, although with a higher share of loans that have a DSTI ratio close to the regulatory limit. Loan term requirements are also being met, comfortably so in the case of the limit on the share of housing loans that may have a term of more than 30 years: less than 0.5% of new housing loans have such terms and only a few banks offer them.

According to a sensitivity test, banks' potential losses arising from an economic shock are estimated to have fallen by as much as half since the adoption of the NBS regulatory measures, and also to have reduced the share of household borrowers who would not be able to service their debts in that event. The measures have also contributed to the decrease in loan growth. This is shown in the Special Feature of this report using analyses of loans granted in 2017 and 2018. In the adverse scenario, the probability of default (PD) and loss given default (LGD) decline. The measures that have the greatest impact on the first parameter are the tightened DSTI ratio limit and the DTI ratio limit. The second parameter is directly linked with banks' loan collateral policies and therefore to the level of the LTV ratio. Both dimensions of credit risk would materialise in full under adverse economic developments.

Chart 15

Relatively strong growth in the median and average amounts of housing loans in 2018

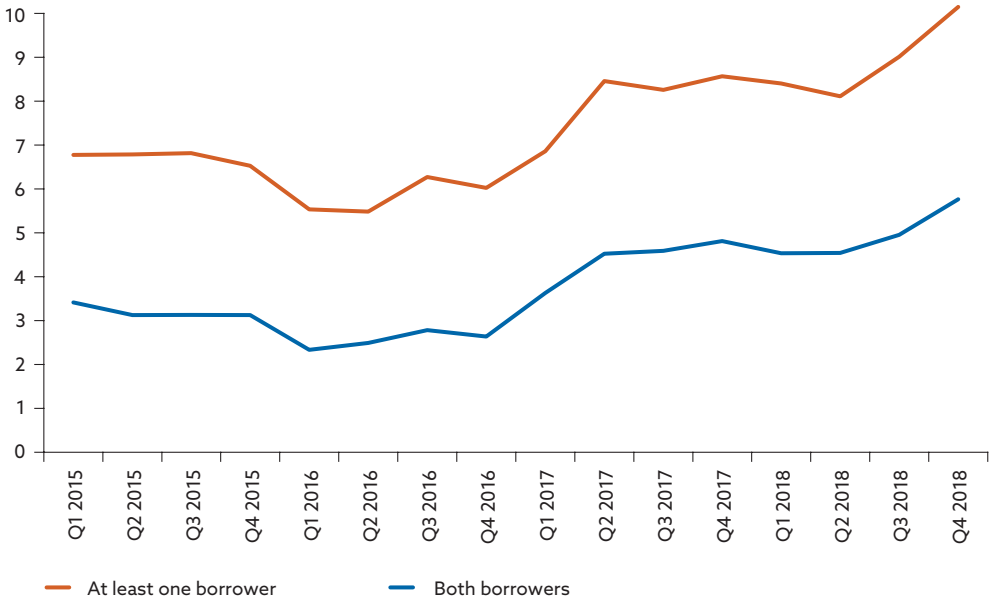
Loan amount in EUR



Source: NBS.
Note: The chart shows values for those new loans provided in the given quarter which were still included in the banking sector's portfolio as at 31 December 2018 (i.e. they had not been repaid or refinanced through another bank).

Chart 16

Increase in share of loans where one or both of the borrowers will be older than 70 at the loan maturity date



Source: NBS.
Note: The chart shows values for those new loans (housing loans and consumer loans) provided in the given quarter which were still included in the banking sector's portfolio as at 31 December 2018.

During 2018, however, there emerged new trends that may indicate areas of potentially increasing risk. The first trend is the accelerating increase in the median amount of housing loans. The year-on-year increase in the median amount of housing loans provided per quarter accelerated in 2018, by 22% to 27%. This increase was far greater than the average growth in total housing loans, which stood at 12% for the year. The acceleration, which occurred mainly in the first half of 2018, may imply an increasing concentration of indebtedness across households. This highlights the appropriateness of the new limit on borrowers' overall indebtedness, which is gradually being tightened. This acceleration trend was not present in 2017, when the increase in the median housing loan was lower than the growth in total housing loans.

A second trend concerning housing loans is the rising average age of borrowers at the loan maturity date. This trend represents a risk in that it significantly limits the scope for extending the loan term as a means of reducing the instalments of a distressed borrower. This trend will have to be monitored more closely in the future.[3]

Box 1
The use of exemptions and borderline values in regard to credit standards for housing loans[4]

A proportion of new loans are combining high LTV and DTI ratios, and thus the riskiness of these loans is higher

Under the current regulatory provisions on LTV and DTI ratio limits, a specified share of new loans may be exempted from those limits. The LTV ratio limit is 80%, and banks may provide a share of new loans in excess of that limit. As part of the limit's phasing-in, that share is gradually being reduced, from an initial level of 35% (in the third quarter of 2018) to a final level of 20% (from 1 July 2019); its level in the first half of 2019 is 25%. As for the DTI ratio limit, set at eight, the share of loans that may be exempted from it has been phased down from 20% to 10%.

Regarding the identification of potential areas of risk, it is important to analyse the groups of borrowers to whom banks are providing loans that have higher LTV or DTI ratios in accordance with the regulatory exemptions to the respective limits. It is also important to see whether these loans are also riskier than other loans in other respects, not only in terms of their LTV or DTI ratios.

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[3] In regard to providing a loan whose maturity date falls after the borrower's expected retirement age, the current NBS measures require only that banks take into account the potential decline in the borrower's income following retirement. How this should be taken into account, however, is not specified further.

[4] The values are for new housing loans provided in the third and fourth quarters of 2018 by the five largest domestic banks, which have a combined 79% share of the retail loan market.

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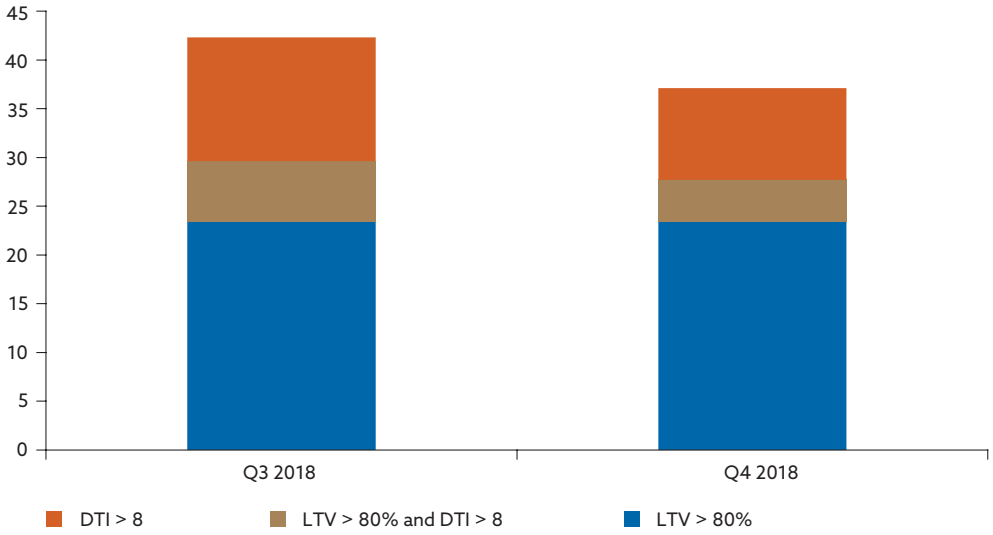
Chart 17

Loans for which both the DTI and LTV ratios fall within the limit exemption are higher risk

Share of new loans for which both the DTI and LTV ratios fall within the limit exemption (%)



Source: NBS.
Notes: The values are for new housing loans provided in the third and fourth quarters of 2018 by the five largest domestic banks, which have a combined 79% share of the retail loan market. Refinancing loans not involving a significant principal increase are not included. DTI – debt-to-income ratio; LTV – loan-to-value ratio.

A proportion of new bank loans fall within the exemptions for both the DTI and LTV ratio limits, which points to their ongoing risk. This risk applies mainly to loans with a DTI ratio greater than eight. Of the new loans provided in the fourth quarter of 2018 with a DTI ratio greater than eight, one-third also had an LTV ratio of more than 80%. The share of such loans in new loans was highest in the second quarter of 2018, when loans were being frontloaded ahead of the tightening of lending conditions from 1 July 2018.

Loans provided under the LTV and DTI ratio exemptions feature other risky characteristics, too

Loans with a high DTI ratio (i.e. associated with high indebtedness) or a high LTV often feature other risky characteristics (lower income of the borrower; higher loan amounts; longer loan term; single applicants). A comparison of different characteristics of such loans is provided in Table 1.

As regards riskiness, it is positive to note that loans falling within the LTV ratio limit exemption are mostly provided to **borrowers with higher education,** i.e. who are less likely to lose their employment.

A less positive factor in regard to riskiness is that loans with higher LTV ratios are provided to **single** borrowers to a greater extent and are therefore more vulnerable to any loss of the borrower's income than are loans provided to co-borrowers. Although the **average age of these borrowers is younger** compared with other loans, and the income of the co-borrowers is, on average, equal, **the average amount of these loans is substantially higher.** This indicates that the individual indebtedness of the borrowers is higher. Furthermore, loans with a high LTV ratio have a far higher share of 30-year terms than do other loans.

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Table 1 Characteristics of loans whose LTV or DTI ratios are high compared with those of other loans

Variable	Characteristics according to LTV ratio		Characteristics according to DTI ratio	
	LTV ≤ 80%	LTV > 80%	DTI ≤ 8	DTI > 8
Share of loans with a single borrower	41%	47%	41%	56%
Share of loans with non-graduate borrowers	47%	42%	46%	44%
Share of loans with a term of 30 years or more	41%	60%	43%	75%
Average age of borrower	38	34	38	33
Average income of borrower	1,873	1,899	1,909	1,404
Average loan amount	73,912	94,284	74,469	116,469

Sources: NBS and HFCS.
Notes: The values are for new housing loans provided in the fourth quarter of 2018 by the five largest domestic banks, which have a combined 79% share of the retail loan market.
DTI – debt-to-income ratio; LTV – loan-to-value ratio.

The characteristics of loans that fall within the DTI ratio limit exemption are very similar to those of loans with a high LTV ratio. Compared with other loans, this loan category has a greater proportion of 30-year terms and single borrowers.

The main difference is that the average income of borrowers with a DTI ratio greater than eight is more than one-quarter lower than the average in other loan categories. This might be partly related to the fact that high DTI ratio loans have a larger share of single borrowers. At the same time, the average amount of the loan is more than one-half higher. The higher the DTI ratio, the greater the drop in borrowers' average income.

The combination of parameters with values close to the regulatory limits is even more pronounced

A relatively large proportion of new loans comprise loans which comply with the NBS regulatory limits but which include multiple parameters whose values are close to those limits. The parameters in question are mainly the LTV ratio, the DTI ratio, and the DSTI ratio – defined as the ratio of the borrower's total loan repayment obligations (after taking into account any increase in interest rates) to the borrower's net income less minimum subsistence amount. Where such parameters increase simultaneously, the riskiness of the loan is even higher.

More than one-fifth of new loans have a combination of high parameter values (Chart 18). More than one-third of loans with an LTV ratio of 80% or higher also have a high DTI ratio (at least seven) or high DSTI ratio (at least 70%). It may be assumed that if the economic situation deteriorated, these loans could represent an elevated risk for banks.

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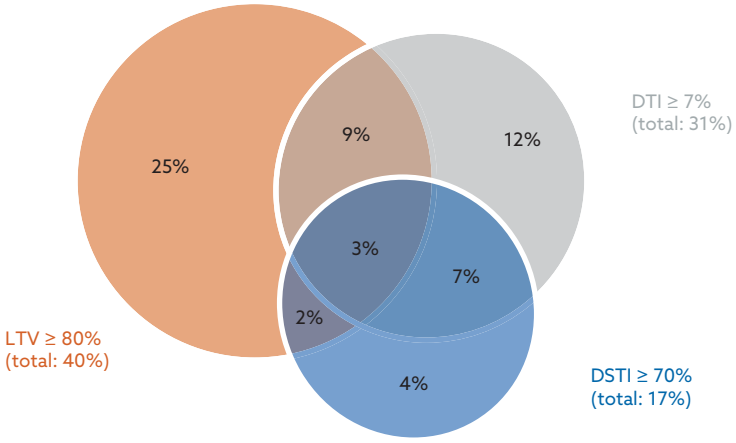
Chart 18
Diagram showing the combination of high parameter values of loans provided in the fourth quarter of 2018



Source: NBS.
Notes: The values are for new housing loans provided in the third and fourth quarters of 2018 by the five largest domestic banks. Refinancing loans not involving a significant principal increase are not included. DTI – debt-to-income ratio; LTV – loan-to-value ratio, DSTI – debt-service-to-income ratio.

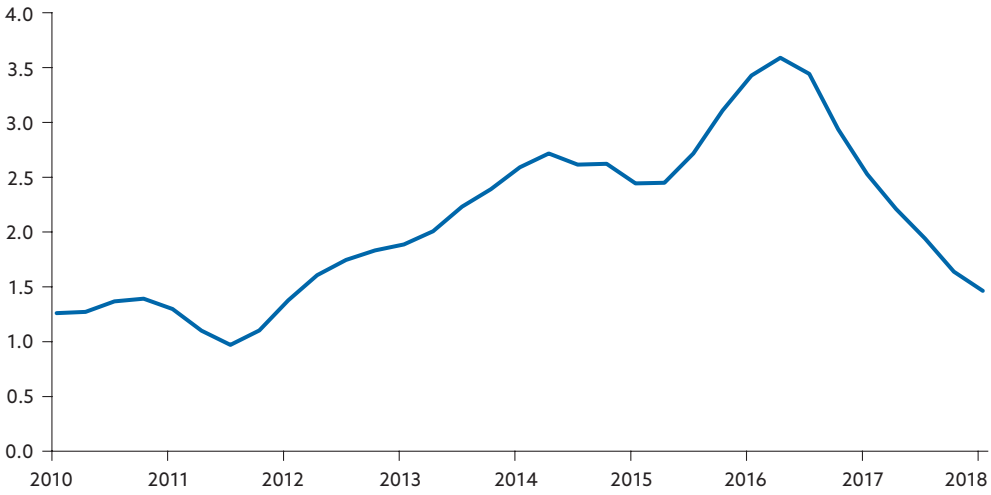
Although its rate of increase has slowed, Slovak households' indebtedness has reached a new historical high

The rate of increase in the ratio of household debt to GDP slowed significantly in 2018. The implementation of regulatory limits relating to the provision of retail loans, along with the gradual saturation of this market, resulted in a slower increase in the household debt to GDP ratio in 2018. Its year-on-year increase fell back to its lowest level since 2013. Although the build-up of risk associated with excessive loan growth is continuing, its pace has moderated.

Chart 19

Year-on-year increase in the household debt-to-GDP ratio slowed significantly in 2018

(p.p.)

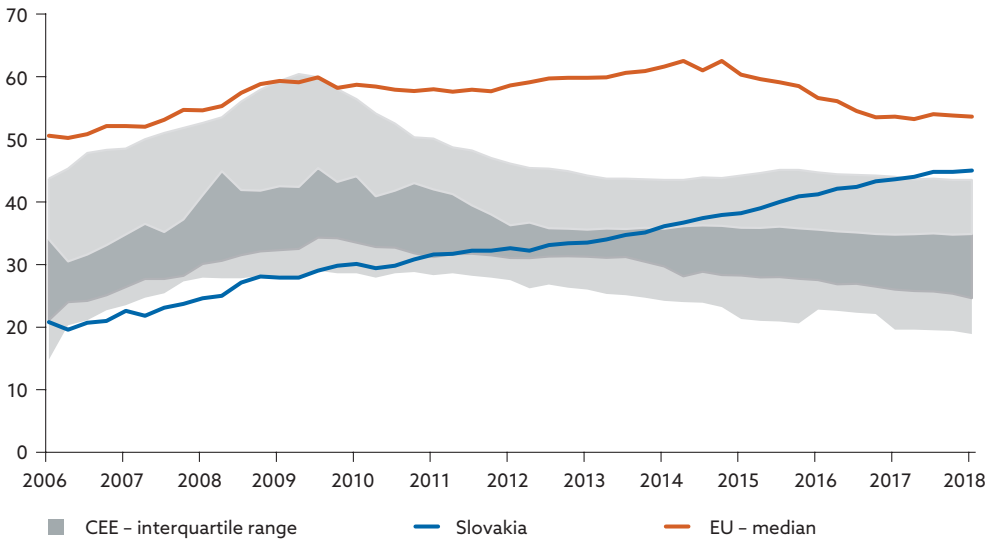


Sources: NBS and SO SR.
Note: GDP – gross domestic product.

Chart 20

The household debt-to-GDP ratio has increased faster in Slovakia than in other EU countries

(%)



Source: Eurostat.
Notes: CEE – central and eastern Europe; GDP – gross domestic product.

Although the upward trend in household indebtedness eased toward the end of 2018, the rate was still the highest in both the central and eastern European (CEE) region and the euro area. Despite slowing in the second half of the year, the increase in household indebtedness in Slovakia in 2018 was higher than that in any other EU country apart from Denmark. Slovakia's household debt-to-GDP ratio remained the highest in the CEE region and its divergence from the EU median fell to an all-time low. Furthermore, the debt-to-GDP ratio of Slovak households now stands at 45%, the mid-

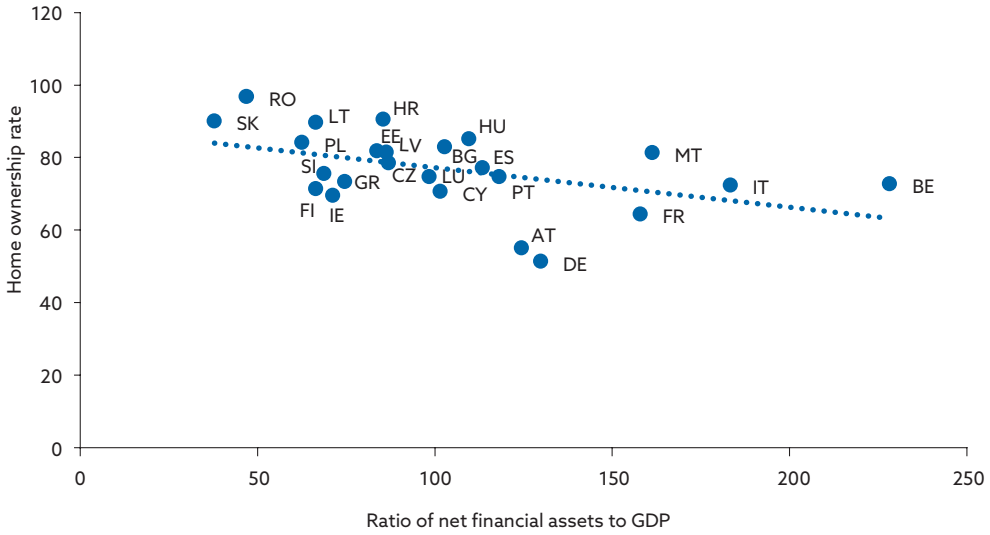
point of the range within which, according to the IMF,[5] the ratio has an increasingly negative impact on economic growth.

The ratio of net financial assets[6] to GDP is lower in Slovakia than in any other EU country. Even though the debt-to-GDP ratio of Slovak households is still below the EU median, the ratio of net financial assets to GDP is the worst in the EU. This is unfavourable from a financial stability perspective, given that financial assets may be used for loan repayments in the event of labour market shocks. On the one hand, it is positive to note that this ratio is not deteriorating with the increase in lending activity and that it appears on whole to be a structural characteristic related to some extent with Slovakia's high home ownership rate. This means that although Slovak households have lower financial assets, their wealth is more heavily concentrated in houses and flats. On the other hand, however, the relative gap between Slovakia and other EU countries in terms of households' net financial assets is widening. In recent years the ratio of net financial assets to GDP has been increasing in most EU countries (especially in the CEE region), but in Slovakia it has been characterised by stagnation. The difference vis-à-vis other CEE countries is very significant, given that at the outbreak of the global financial crisis, the ratio in Slovakia was still at the median for the region (Chart 22). This trend is undermining the capacity of indebted Slovak households to cope with any negative shocks.

Chart 21

Slovak households' worse ratio of net financial assets to GDP is also related to their high home ownership rate

(%)

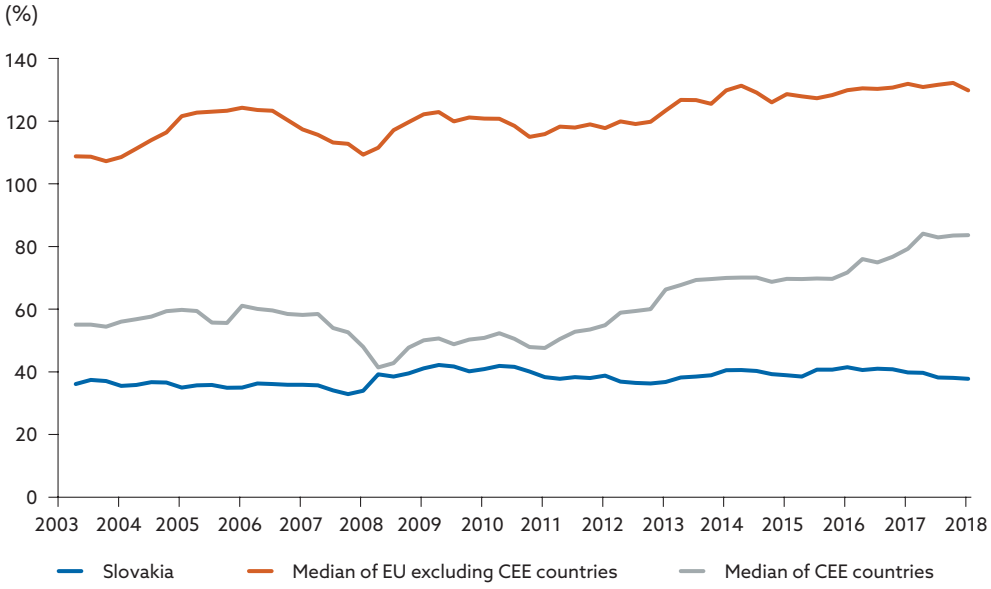


Source: Eurostat.
Note: GDP – gross domestic product.

[5] Valckx, N. et al., "Household debt and financial stability", Global Financial Stability Report, IMF, October 2017.

[6] Net financial assets means the difference between financial assets and financial liabilities.

Chart 22
The net financial position of households in Slovakia has continued to deteriorate vis-à-vis that of households in other countries



Source: Eurostat.
Notes: CEE – central and eastern Europe; GDP – gross domestic product. The net financial position is the ratio to GDP of the difference between financial assets and financial liabilities.

Although the share of indebted households is a different concept from the household debt-to-income ratio, the upward trend in debt penetration is, along with NBS regulatory measures, reducing the potential for further loan growth. The strong retail loan growth of recent years has been reflected not only in a rising volume of household debt, but also in an increasing percentage of indebted households. Before 2017 loan penetration in all age cohorts in Slovakia was below the EU median (regardless of the type of borrowing and lender), but in 2017 it began approaching the EU median. Although debt penetration data may be affected by households with a minimal residual debt, and therefore may not be clearly correlatable with loan volume, it is probable that the credit market is slowly becoming saturated.

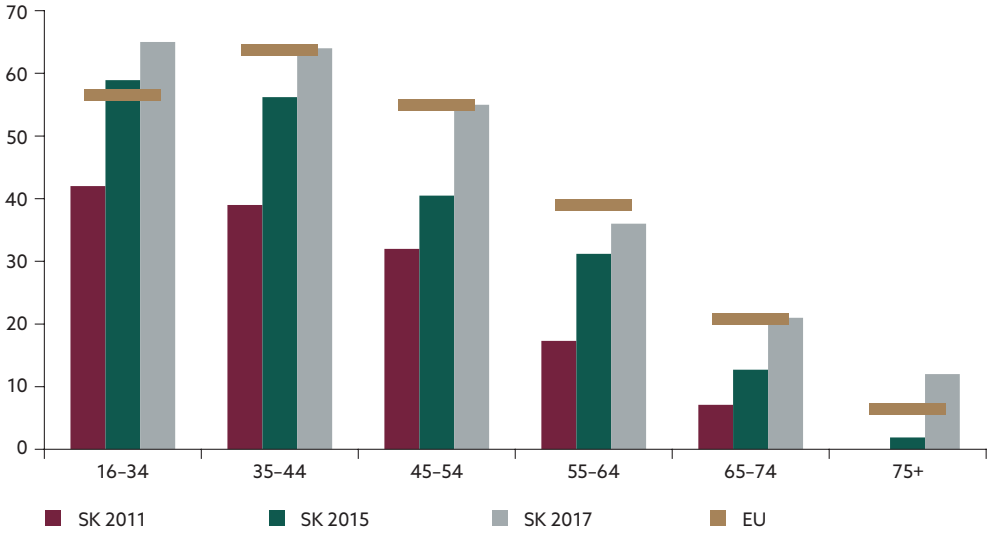
A separate development is the significant relative increase in penetration in all age cohorts and the fact that the penetration percentage in the largest cohort is now above the EU average. In older age cohorts, indebtedness naturally comprises consumer loans to a far greater extent than housing loans. As regards the breakdown of bank loans by age of borrower, consumer loans account for the majority of the debt of borrowers aged below 30, but that share is being eroded by housing loans. Housing loans are the principal form of debt among borrowers aged 30 to 45, who are more likely to have consolidated their consumer loans into a single housing loan or to have already repaid their consumer loans. In the 45 to 70 age group, there is again a relative increase in the penetration of consumer loans, as these borrowers are more likely to have finally settled their housing ar-

rangements or to have repaid their housing loan. The years ahead will see housing loans account for the bulk of household indebtedness since these loans' relatively large average amount and longer term will ensure they remain longer on the balance sheets of both banks and households.

Chart 23

Loan penetration in the household sector is rising more quickly in Slovakia than in the EU as a whole

Share of households servicing debt, regardless of the type of debt or lender (%)

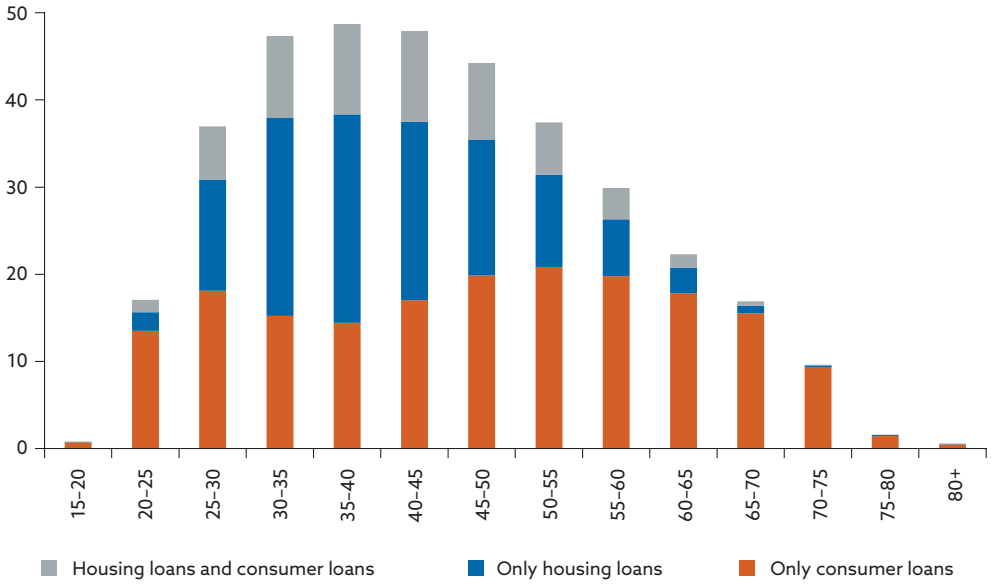


Sources: ECB and HFCS.
Note: The EU median is calculated using data from the second wave of the HFCS. There were no significant differences in the median between the first and second waves of the HFCS.

Chart 24

Housing loan penetration is concentrated in younger age cohorts and consumer loans are concentrated in older cohorts

Share of households servicing different types of bank loan (%)



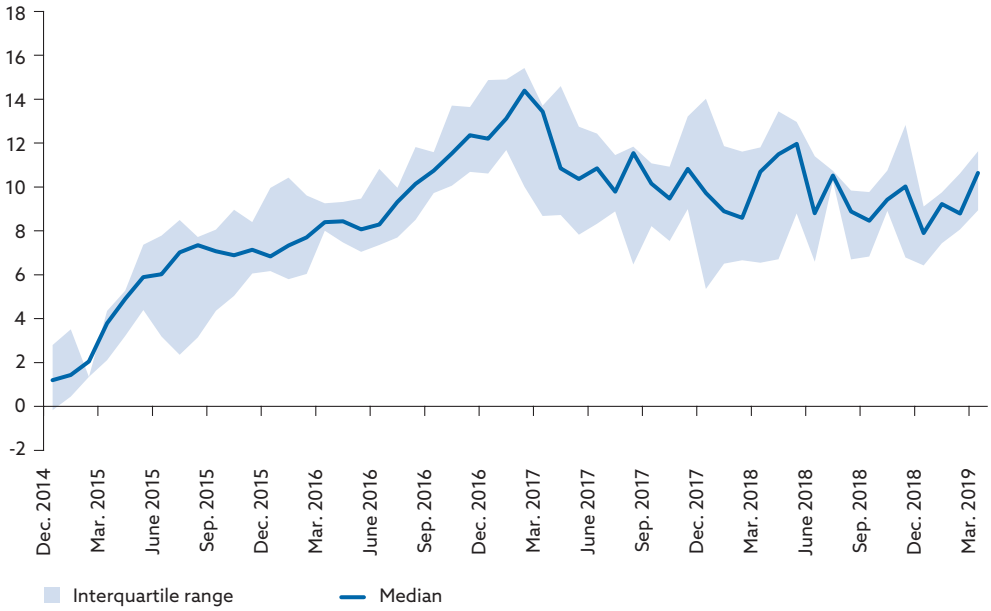
Source: NBS.

2.2 The existence of imbalances in the residential property market

Prices of flats have continued increasing in all regions

The upward trend in prices of flats is continuing across all regions and types of flat. The average year-on-year increase in the price per square metre of a flat in Slovakia has been consistently between 7% and 13% for the past three years. In the breakdown of flats by their number of rooms, price increases have likewise been within relatively narrow bands. In their breakdown by region, the medium-term price growth trend has been maintained and occasional deviations from that trend have not lasted long.

Chart 25
Stable growth in prices of flats in Slovakia
Year-on-year increase in the average price of a flat in each regional capital in Slovakia (%)



Source: CMN.

The decline in the number of existing flats has moderated in recent months. From around the second quarter of 2018 the number began to level off at historically low levels. The moderate decline in the supply of one-room flats continued, at a rate of around 5% year-on-year. The shortage in the supply of flats is pushing up prices and contributing to market imbalances.

New-build prices in Bratislava increased amid a supply shortage and still strong demand

The shortage of new flats for sale became more pronounced in the first quarter of 2019. The number of new flats on the market fell to its lowest

level since 2012, as supply for such flats remained unable to keep up with demand. The number of new flats introduced to the market in the first quarter of 2019 was among the lowest during the period covered by the available data (since 2012). It should be noted, however, that although supply was subdued, the number of new flats under construction is more than four times higher than the current supply. The fact, however, that most of these flats have already been sold points to strong demand in this period and a gradual build-up of off-plan sales.

A notable number of new residential property developments are being planned, but what matters is how many of them manage to be realised. The current stock of new developments planned for the coming years could increase the supply of new flats and reduce the upward pressure on new-build prices. Whether or not such developments start being built, however, may depend on several factors, such as the economic outlook, sentiment among developers, the progress of approval processes, or the availability of construction capacity.

Strong demand for new builds has persisted and this, in conjunction with lagging supply, has put upward pressure on new-build prices. Although the number of flats sold has been recording a relatively large year-on-year decline, this trend needs to be assessed in the context of diminishing supply. On the other hand, the first quarter of 2019 saw an increase in the average ratio of sold flats to the total number of flats in development projects, alongside the fact that the number of flats sold continued to exceed the number coming on to the market. The favourable labour market situation and still ready availability of financing for home purchase are the main factors behind the sustained demand for new builds. Given the impact of supply and demand, new-build prices have continued to increase and to reach their highest levels in the post-crisis period.

Diminishing scope for sustainable growth in property prices

The price growth of flats in 2018 was outpacing economic fundamentals.[7] After the bursting of the residential property price bubble in 2008/09, prices of flats in Slovakia were to a large extent moving in equilibrium with the size of the working population, workers' disposable income, interest rates, and increasing indebtedness. The same was true for the increase in flat prices after 2015, which to a great degree reflected the impact of the improving labour market against a backdrop of falling interest rates. Although the

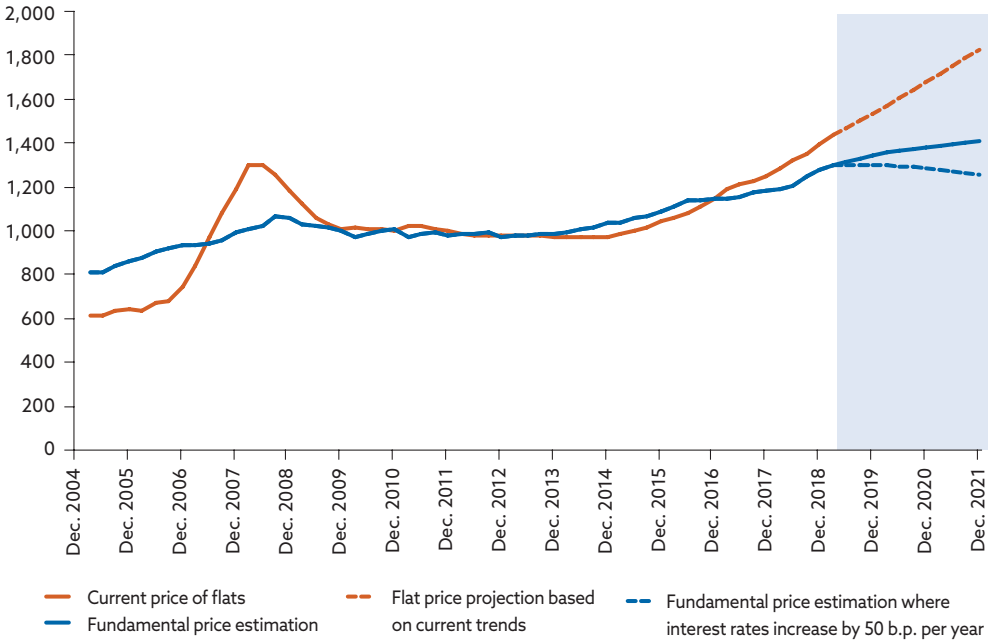
[7] The fundamental price is estimated from the long-run linear relationship between prices of flats and potential demand. Potential demand is calculated as the product of the number of workers and the average wage in the given age cohort, less debt-servicing expenditure.

fundamental price (estimated on the basis of economic fundamentals), has been gradually increasing, since 2013 it has been slowly outpaced by actual prices of flats. This trend was most pronounced in 2018 and early 2019, during which period the average price of flats increased more than was implied by its long-run relationship with the number of workers, their wages, and their interest rate-related indebtedness. It is noteworthy that although this period saw an increase in fundamentals, a decline in the average interest rate on housing loans, and a steady rise in the fundamental price, there was stronger growth in flat prices (Chart 26).

Chart 26

Growth in flat prices has recently been outpacing economic fundamentals

Current price of flats and the estimation of the fundamental price of flats (EUR/m²)



Sources: NBS, SO SR and NBS calculations.
Note: The baseline scenario for the labour market and wages is based on NBS's Medium-Term Forecast and assumes the continuation of current trends in lending and prices of flats.

A simulation for the years 2019–2021 indicates that the current double-digit growth trend in prices of flats would be in line with fundamentals only on the assumption of an exceptional increase in the number of workers and a further decline in interest rates. Taking into account data from NBS's Medium-Term Forecast (wage growth and a decline in the unemployment rate), the fundamental price estimation is expected to increase in the period 2019–2021. This increase, however, is lower than that recorded in the last 12 months. This is because several fundamentals are reaching their boundary, so it is difficult to envisage a decrease in housing loan interest rates or a decrease in the unemployment such as was observed in 2017 and 2018. Furthermore, the combination of deteriorating demographics in younger age cohorts and increasing market saturation is starting

gradually to dampen growth in the fundamental price. Hence under the assumption of no change in their current growth, flat prices over the simulation period deviate significantly from the fundamental price estimation. The simulated overvaluation of flat prices at the turn of 2020/21 is similar to that observed in the first quarter of 2008, when flat prices reached what was then a historical high. So, overall, there is diminishing potential for a significant improvement in the labour market and a further decrease in interest rates, and that is having a marked impact on the question of whether the current pace of flat price growth is sustainable.

2.3 The business model of Slovak banks is sensitive to increases in the interest margin and credit risk costs

The expected developments in the global economy and the responses of central banks will probably prolong the period of low interest rates

In early 2019 a number of international institutions revised down their outlooks for global economic growth. Consequently, in its March 2019 Medium-Term Forecast (MTF-2019Q1), NBS revised down its projections for Slovakia's economic growth. The ECB responded to such revisions by anchoring expectations about monetary policy accommodation and by launching a new series of quarterly targeted longer-term refinancing operations (TLTRO-III). At the same time, however, international institutions remain of the view that the probability of a serious recession is relatively small and expect that economic growth will continue in the years ahead, albeit more moderately. In its March 2019 forecast, NBS also envisages that the Slovak economy will maintain solid growth and that by supporting job creation, it will facilitate a reduction in unemployment. Wage growth is also expected to remain relatively robust. Overall, it can therefore be expected that GDP growth and labour market trends in the years ahead will not dampen demand for loans and that risk-free interest rates will not increase to an extent that pushes up retail interest rates.[8]

The Slovak banking sector is relatively sensitive to developments in retail interest rates and in credit risk losses

Given the business model of the Slovak banking sector and the still high share of net interest income in banks' total income, these developments may have a considerable impact on banks' profitability in the years ahead.

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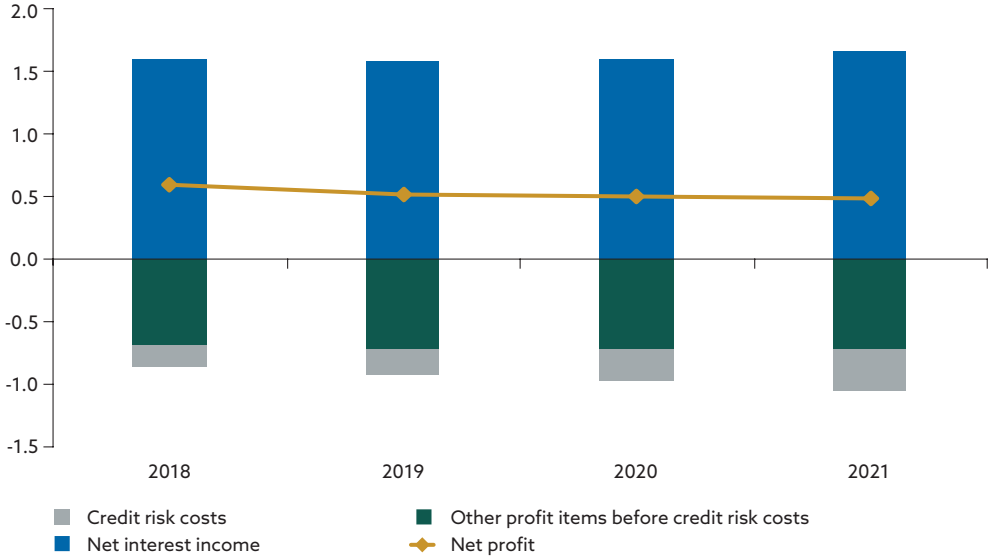
[8] Retail interest rates are the interest rates applied by banks to households and non-financial corporations.

In recent years banks' profit levels have been maintained mainly through increasing lending activity (mostly via housing loans) and through steadily decreasing credit risk costs, which at the end of both 2017 and 2018 stood at the historically low aggregate level of 0.4% of loans to customers. Given the persistently low risk-free interest rates and the expected gradual saturation of the retail loan market, the downward pressure on profitability can be expected to continue.

One potential future trend in the banking sector's aggregate profit may be glimpsed in the baseline scenario results from the most recent stress test exercise. The baseline scenario is based on NBS's December 2018 Medium-Term Forecast (MTF-2018Q4) and accordingly assumes a gradual normalisation of monetary policy which supports a moderate increase in retail interest rates. But while this moderate growth in net interest income has an upward impact on the sector's estimated profit, there is also an assumption that credit risk costs will gradually normalise from their current all-time low levels, i.e. that they will increase until the end of 2021, to around the level they were at in 2015. Under these assumptions, the aggregate profit of banks included in stress testing is estimated to decline gradually, from €594 million for 2018 to around €485 million for 2021.

Chart 27
Estimated net profit under the baseline scenario
(EUR billions)



Source: NBS.

These results, however, are relatively sensitive to changes in assumptions. Assuming that interest rates on new housing loans do not increase but remain unchanged at their end-2018 level, the net profit for 2021 is estimated to be 9% lower than under the baseline and 26% lower compared with the profit for 2018. The grounds for making such assumption were support-

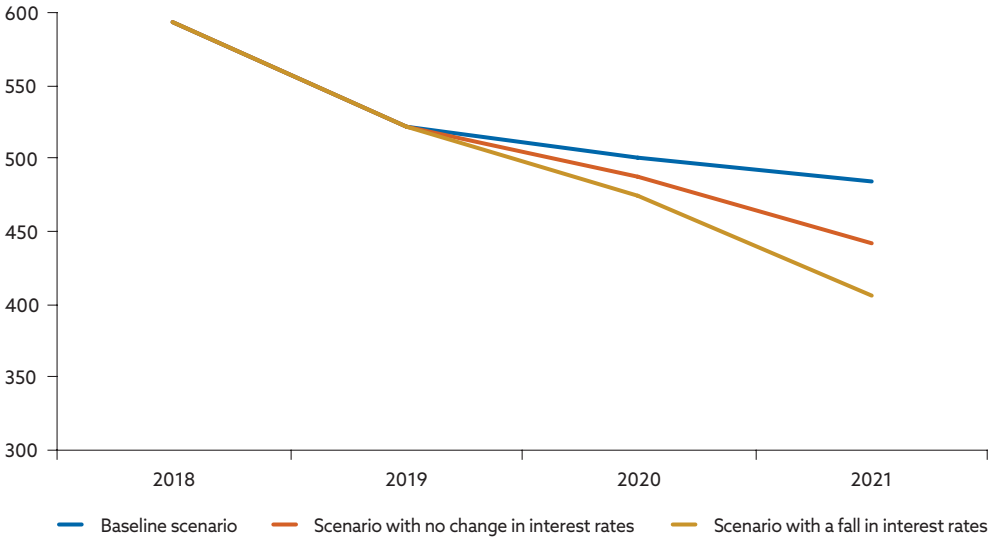
ed by interest rate developments in the first quarter of 2019, when interest rates on new housing loans remained flat. Assuming that the current strong interbank competition does not ease and that housing loan interest rates fall gradually, to 1% at end-2021, the net profit for 2021 is estimated to be 16% lower than under the baseline and 32% lower compared with the profit for 2018.

The banking sector is likewise sensitive to a potential increase in credit risk costs. Applying the baseline assumption for interest rate movements and assuming that credit risk losses gradually increase through 2021, up to the level they were at in 2014, the net profit is estimated to decline steadily, with the result that net profit for 2021 is 8% lower than under the baseline and 25% lower compared with 2018. If it is further assumed that interest rates remain flat, the net profit for 2021 is almost 17% lower than the baseline and 32% lower compared with 2018.

Chart 28

The impact of interest rates on banks' net profit

(EUR millions)

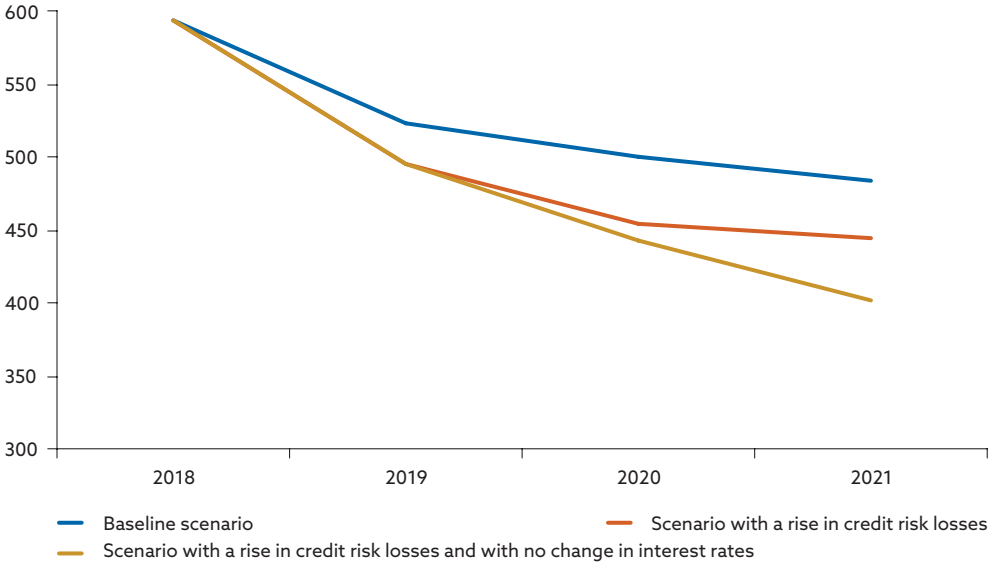


Source: NBS.

Chart 29

The impact of an increase in credit risk losses on banks' net profit

(EUR millions)



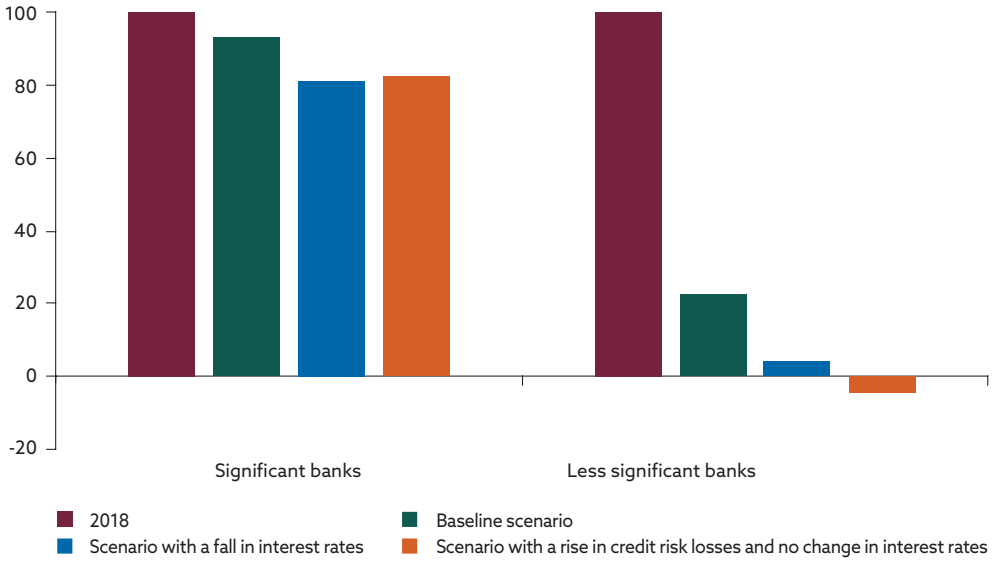
Source: NBS.

The scenario featuring a fall in interest rates has a greater impact on less significant banks

Chart 30

Sensitivity test: The impacts of a fall in interest rates or an increase in credit risk losses on significant and less significant institutions

Estimated profit or loss for 2021 under the sensitivity test (%)



Source: NBS.
Notes: For both significant and less significant banks, the profit for 2018 represents 100%. The sensitivity test was applied to the estimation of the profit or loss under the baseline scenario of the macro stress test.

The impacts of the above-mentioned changes on significant and less significant institutions differ markedly. Whereas the impacts on the ag-

gregate profit of significant institutions (under direct ECB supervision) are similar to those described above, the impacts on less significant banks are higher. In the baseline scenario, the aggregate profit of less significant banks for 2021 is estimated to be 22% lower than the profit for 2018. If a fall in interest rates is assumed, that figure drops to less than 4%. If both an increase in credit risk losses and no change in interest rates are assumed, less significant institutions are actually estimated to make a slight loss. It remains the case, however, that the group of less significant institutions is relatively heterogeneous.

2.4 Competition in the Slovak housing loan market may also have financial stability implications

The high level of competition in the banking sector could have negative consequences for both financial stability and the real economy

Several studies have addressed the issue of whether competition in the banking sector has an impact on the build-up of risks in the sector. Although the results indicate that the impact depends largely on the sector in question and the degree of competition (Carletti and Hartmann 2002[9]), elevated or excessive interbank competition may result in lower risk aversion among banks and therefore a significant build-up of risks in the banking sector (Keeley 1990,[10] Feng 2018[11]). Beck et al. (2004)[12] have shown that a lower concentration in the banking sector, i.e. greater competition, correlates with a higher frequency of banking crises. Jiménez et al., (2013)[13] have demonstrated potential non-linear relationship between interbank competition and the degree of risk that banks are willing to undertake.[14] A number of studies have shown that elevated risk, although also an effect of competition, may under given assumptions result in an appreciable increase in unemployment in the banking sector (Feng 2018, Chodorow-Re-

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9 Carletti, Elena and Hartmann, Phillipp (2002), "Competition and stability: what's special about banking?", *Working Paper Series*, No 146, ECB, Frankfurt am Main, May.

10 Keeley, Michael C. (1990), "Deposit Insurance, Risk, and Market Power in Banking", *The American Economic Review*, Vol. 80, December, pp. 1183–1200.

11 Feng, Alan X. (2018), "Bank Competition, Risk Taking and their Consequences: Evidence from the U.S. Mortgage and Labor Markets", *IMF Working Papers*, No 18/157, June.

12 Beck, Thorsten, Demirgüç-Kunt, Asli and Levin, Ross (2006), "Bank Concentration, Competition, and Crises: First Results", *Journal of Banking & Finance*, Vol. 30, May, pp. 1581–1603.

13 Jiménez, Gabriel, Lopez, Jose A. and Saurina, Jesús (2013), "How Does Competition Impact Bank Risk-taking?", *Journal of Financial Stability*, Vol. 9, June, pp. 185–195.

14 The paper showed that where concentration across deposits was low, an increase in concentration was accompanied by an increase in non-performing loans, but that where concentration across deposits was higher, a further increase in concentration was accompanied by a decrease in NPLs.

ich 2014,[15] Mian and Sufi 2009,[16] 2010[17] and 2014[18]). In sum, there are empirical results pointing to a potential negative impact of excessive competition on financial stability and consequently also on the real economy.

An underlying question of these studies is how to measure the degree of competition. Several studies (e.g. Jiménez et al. 2013) show that standard concentration indicators (e.g. the share of the three or five largest banks, or the Herfindahl-Hirschman Index) may not necessarily be reliable indicators of the degree of competition. One extensively used method of measuring the degree of competition is to apply the Panzar-Rosse test (as discussed, for example, in Bikker et al. 2009[19]), which estimates an equation relating gross income, as a dependent variable, to a vector of input prices and other control variables, as explanatory variables. Another broadly used method for measuring the degree of competition (more precisely, for measuring bank market power) is to apply the Lerner index (see, for example, Jiménez et al. 2013), which captures the relationship between the marginal price of a given product and the marginal cost.

Competition for housing loans in the Slovak banking sector has been increasing since around 2011 and has probably exceeded the degree of corresponding competition in other euro area countries

Competition in the Slovak banking sector is strongest in the area of retail housing loans. When selecting the most suitable indicators for this segment, it is important to note that NBS regulatory measures adopted in recent years have had a significant impact on several areas of credit standards. They have not yet, however, had a direct impact on lending rates, which are one of the inputs used in the construction of the Lerner index. Another advantage of interest rates is that they can be compared across euro area countries.

Housing loan interest rates in Slovakia have been on a virtually unbroken downward trend since 2008. As mentioned in the May 2017 Financial Sta-

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15 Chodorow-Reich, Gabriel (2014), "The Employment Effects of Credit Market Disruptions: Firm-level Evidence from the 2008-9 Financial Crisis", *The Quarterly Journal of Economics,* Vol. 129, February, pp. 1–59.

16 Mian, Atif and Sufi, Amir (2009), "The Consequences of Mortgage Credit Expansion: Evidence from the 2007 Mortgage Default Crisis", *The Quarterly Journal of Economics,* Vol. 124, November, pp. 1449–1496.

17 Mian, Atif and Sufi, Amir (2010), "The Great Recession: Lessons from Microeconomic Data", *The American Economic Review*, Vol. 100, May, pp. 51–56.

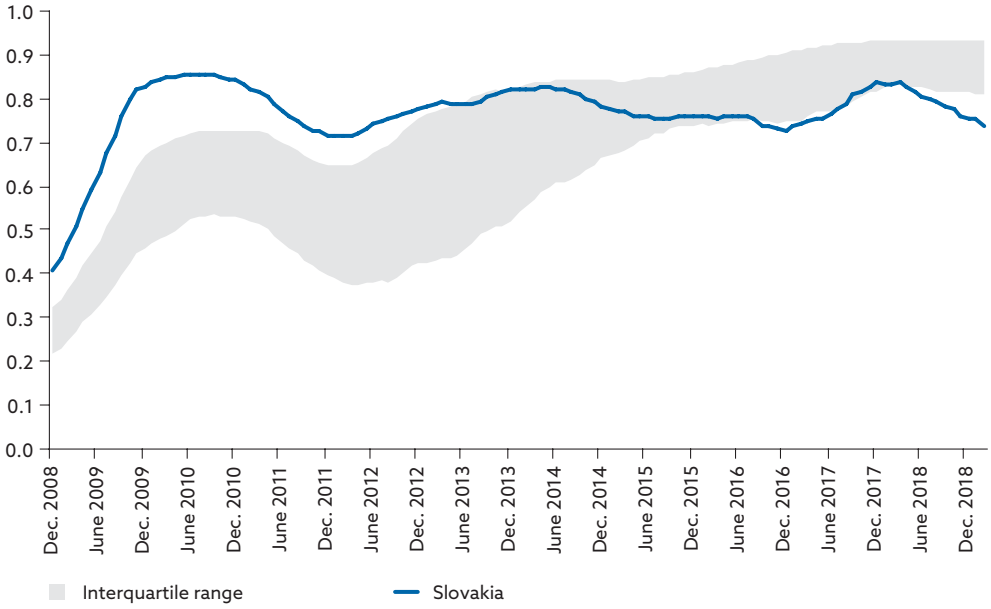
18 Mian, Atif, and Sufi, Amir (2014), "What Explains the 2007-2009 Drop in Employment?", *Econometrica*, Vol. 82, November, pp. 13–43.

19 Bikker, Jacob A., Shaffer, Sherrill and Spierdijk, Laura (2009), "Assessing Competition with the Panzar-Rosse Model: The role of Scale, Costs, and Equilibrium", *DNB Working Papers*, No 225, July.

bility Report, the decline in these interest rates has outpaced the decline in the fundamentals that were determining the level of the same rates until approximately 2009-2012. This trend probably indicates an increase in competition over the period in question, i.e. since around 2011. Another indicator of rising competition was the sharper drop in housing loan interest rates which occurred in the second quarter of 2016, following the introduction of a statutory cap on early repayment fees for housing loans.

Besides the marginal price of the given product (in our case, approximated by interest rates on new loans), the Lerner index also uses the marginal cost.[20] This cost is more difficult to calculate, especially where the comparison is between several banking sectors within the euro area. One of the parameters is the price of funds, which in our case is approximated by interest rates on new deposits. What, however, we are not able to include in the index are credit risk costs. If, though, we compare the results for all countries and the results for only those countries that did not experience a significant deterioration in credit risk during the crisis,[21] the relative results for Slovakia remain qualitatively unchanged.

Chart 31
The Lerner index for euro area countries



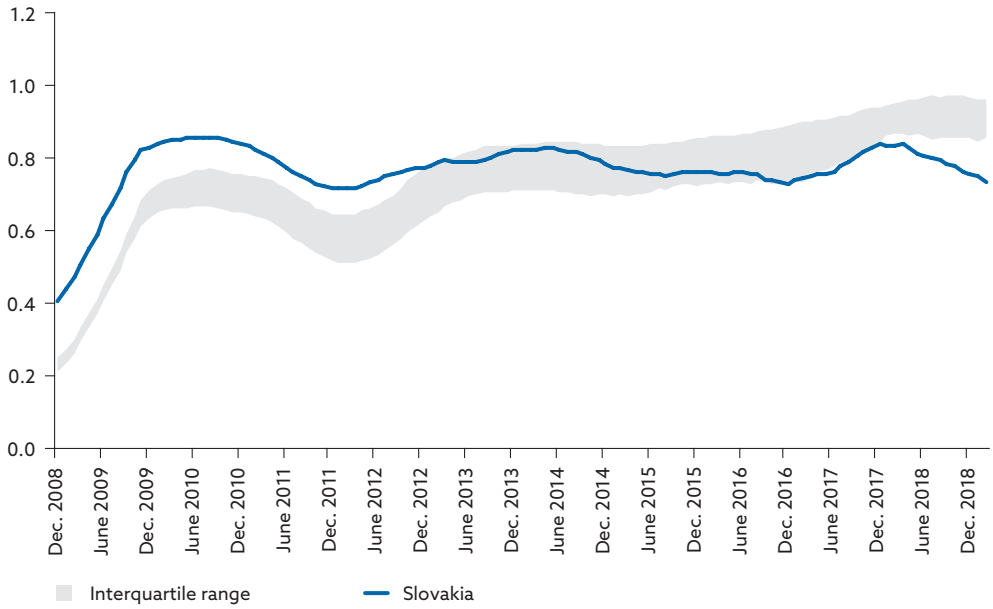
Sources: ECB SDW and NBS calculations.
Notes: The chart shows the index's 12-month average. The closer the index is to zero, the greater the estimated degree of competition.

[20] The Lerner index was calculated as $(R_1 - R)/R_1$, where R_1 is the interest rate on new loans and R is the interest rate on new deposits.

[21] Besides Slovakia, the countries included in the comparison included Austria, Belgium, Germany, Finland, France, Luxembourg, Malta, and the Netherlands.

NÁRODNÁ BANKA SLOVENSKA
EUROSYSTÉM

Chart 32
The Lerner index for selected euro area countries



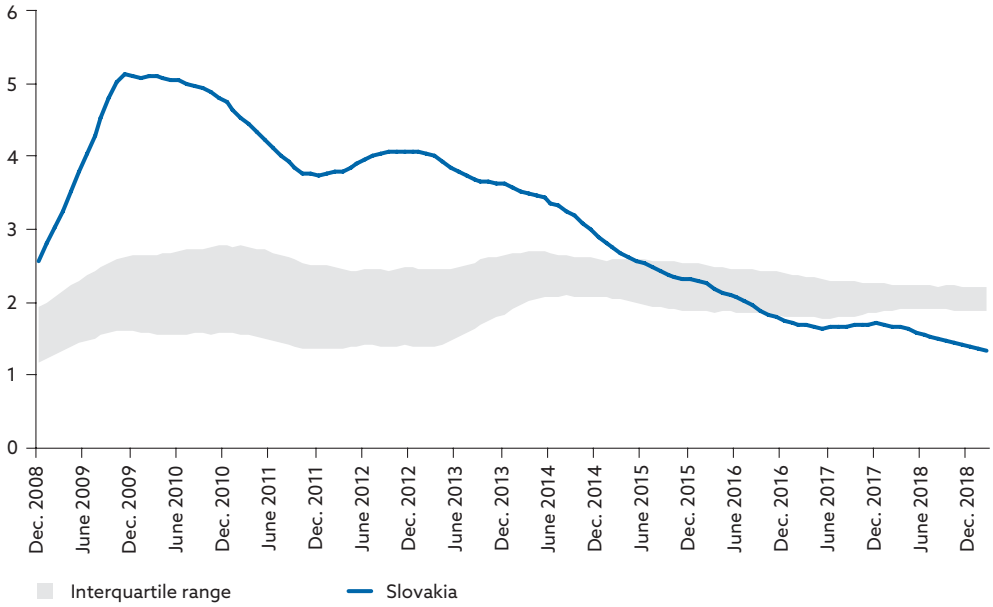
Sources: ECB SDW and NBS calculations.
Notes: The chart shows the index's 12-month average. The closer the index is to zero, the greater the estimated degree of competition.

Until approximately 2011, the Lerner index for Slovakia moved similarly to the indices for other euro area countries and its value was above the euro area's third quartile. After 2011, however, in contrast to the indices for other countries, the index for Slovakia stopped increasing and even declined slightly (the closer the index is to zero, the greater is the competition in the banking sector). The index for Slovakia is now below the euro area's first quartile, which indicates that the degree of competition in the banking sector in Slovakia is high in comparison with that in other euro area countries. Since deposit rates are included in the index, the stronger increase in competition in comparison with other euro area countries may also reflect interbank competition for deposit business. Due to rapid loan growth, the Slovak banking sector's aggregate loan-to-deposit (LTD) ratio has gradually been increasing, and this may be having an upward impact on competition for deposits. Further evidence of this trend is provided by the fact that the decline in the remuneration of deposits with an agreed maturity has been less pronounced in Slovakia than in the euro area on average. Although the Lerner index has been greatly affected by extremely low deposit rates, a similar trend can be seen in the simple spread between interest rates on new loans and interest rates on new deposits. In Slovakia, this spread is at a historically low level.

Chart 33

Interest rate spreads in euro area countries

(p.p.)

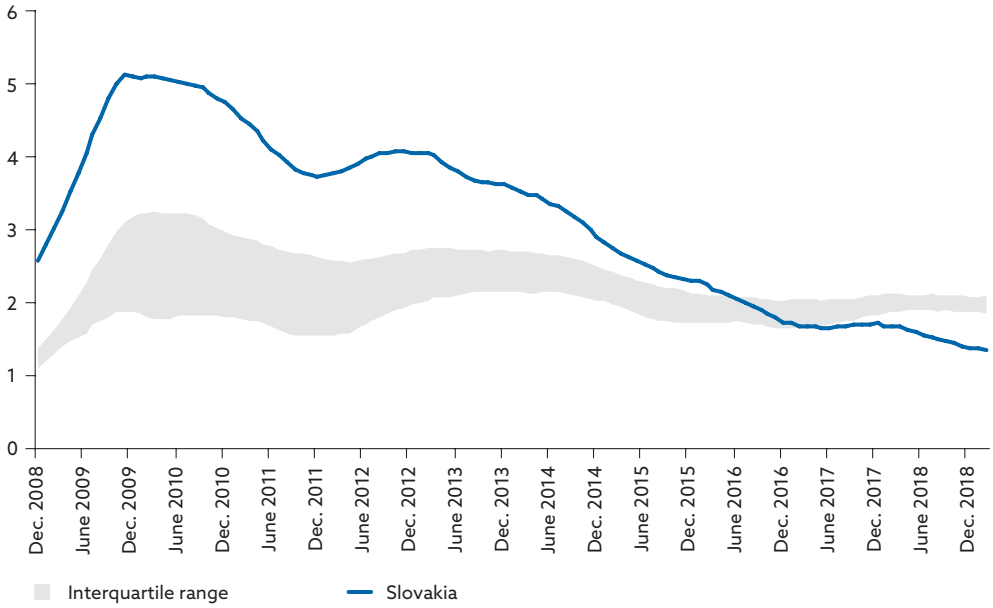


Sources: ECB SDW and NBS calculations.
Note: The chart shows the index's 12-month average.

Chart 34

Interest rate spreads in selected euro area countries

(p.p.)



Sources: ECB SDW and NBS calculations.
Note: The chart shows the index's 12-month average.

2.5 Trends in the non-financial corporation sector have remained stable

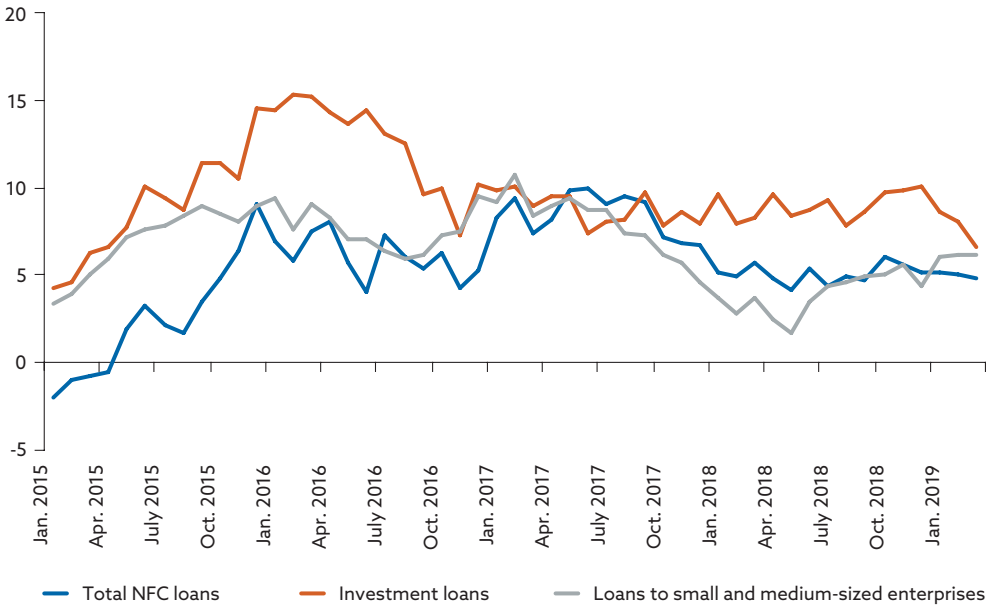
The growth rate of loans to non-financial corporations (NFCs) has remained similar to the levels of the previous period

Growth in loans to NFCs has remain steady, while the breakdown of that growth by type of loan has shown signs of change. The year-on-year growth in total loans to NFCs was largely the same in the first three months of 2019 as in the whole of 2018, remaining stable at around 5%. The composition of NFC loan growth did, however, show signs of change. In the previous period investment loans and loans with a term of more than one year constituted a stable share of total loan growth, but in 2019 the growth rates of these loans moderated. The situation across the banking sector is, however, highly heterogeneous: on the one hand, this slowdown was concentrated in only a few banks, while, on the other hand, there were banks reporting substantial increases in their investment loan portfolio. The impact of lower aggregate growth in investment loans was partly cancelled out by growth in short-term working capital loans. The bank lending survey has also indicated a correction in credit demand, in particular demand for long-term loans. Compared with other EU countries, Slovakia lies just above the median for NFC loan growth.

Chart 35

Stable growth in total NFC loans, along with a gradual decrease in investment loan growth

Year-on-year growth in loans to NFCs (%)



Source: NBS.

The financial situation of the NFC sector did not change significantly in 2018

The overall NFC debt-to-GDP ratio in Slovakia fell slightly in 2018. This was due, on the one hand, to the stable increase in NFC debt, and, on the other hand, to the significant impact of the still favourable situation in the domestic economy. Compared with other countries in the central and eastern European (CEE) region, Slovakia has remained just below the median for corporate indebtedness. In most EU countries, though, there is a downward trend in corporate debt.

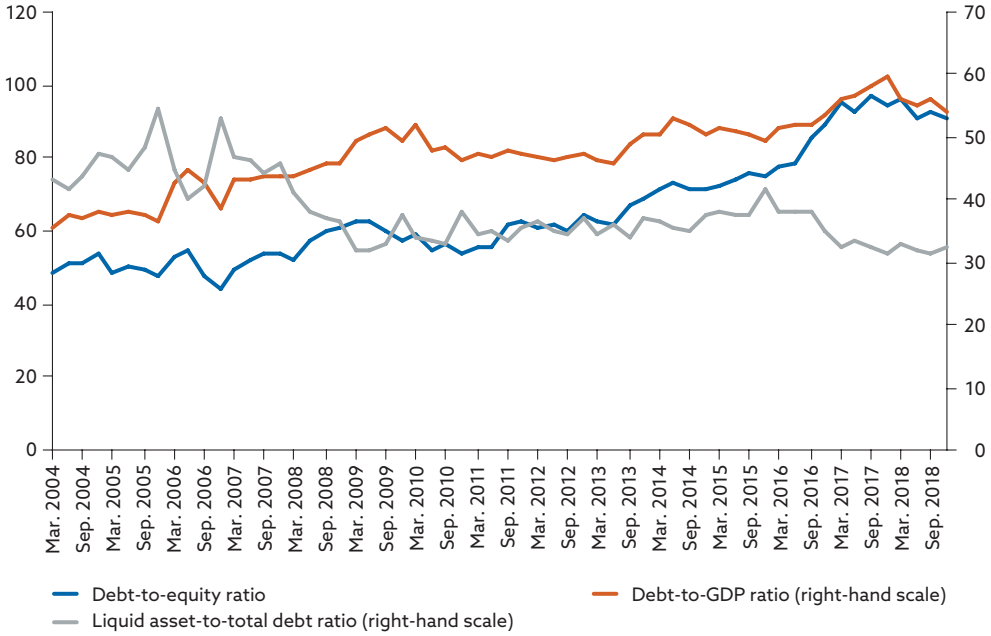
The Slovak NFC sector does, however, stand out significantly for its debt-to-equity ratio. Although this ratio, like the debt-to-GDP ratio, fell slightly in the recent period, it remains one of the highest among CEE countries and EU countries. Such high leverage entails, however, more pronounced risk in the form of firms' greater vulnerability to potential adverse economic developments and the consequent increase in their credit losses.

Favourable trends in corporate sales have had a positive impact on other indicators; nevertheless, risks remain present. The aggregate ratio of external financing to annual sales decreased during 2018 and the liquid asset-to-total debt ratio came to the end of its downward trend. At the same time, however, each of these ratios are relatively negative from a historical trend perspective, despite the favourable economic environment. There remains the risk that these ratios will decline further amid deteriorating sentiment in the corporate sector.

Chart 36

No significant change in the NFC sector's financial position

(%)

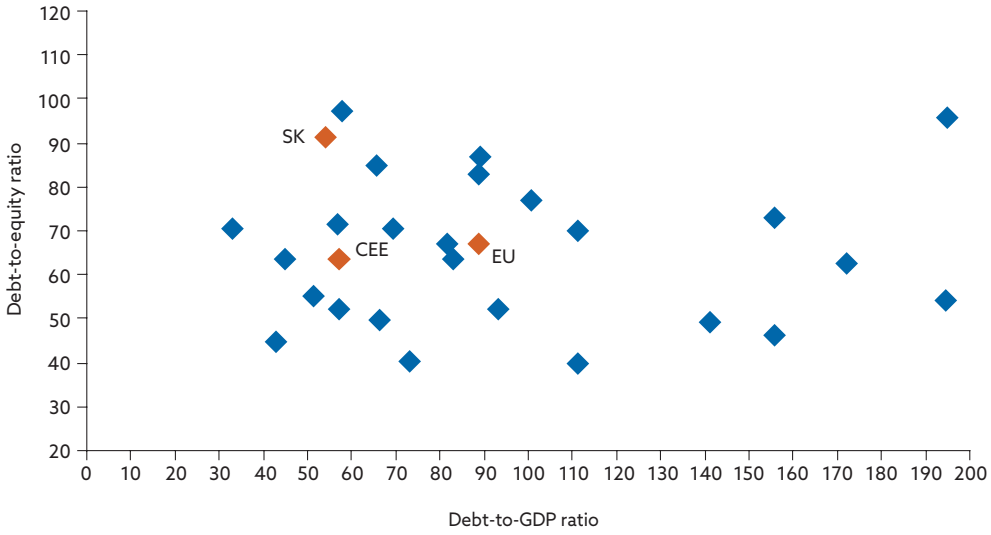


Source: NBS.
Note: GDP – gross domestic product.

Chart 37

The NFC debt-to-equity ratio is one of the highest in the EU

(%)



Source: NBS.
Note: CEE – central and eastern Europe; GDP – gross domestic product.

The improvement in the credit quality of the banking sector's NFC loan portfolio was underpinned by the good economic times

The non-performing loan (NPL) ratio for NFC loans continued decreasing in the first quarter of 2019, down to a post-crisis low of 3.59%. The causes

of the further significant fall in the NPL ratio were the same as in previous years and they had a large downward impact on the aggregate volume of NPLs. The main factor in this context is the low default rate, which has resulted in the lowest increase in NPLs in recent years. In the first quarter of 2019, for the first time since 2012,[22] the amount of loans reclassified from non-performing to performing exceeded the amount of new loans. Hence the net default rate turned negative in 2019. Loan write-downs/offs and sell-offs have been a major factor behind this trend, and another important factor has been the growth in the NFC loan portfolio.

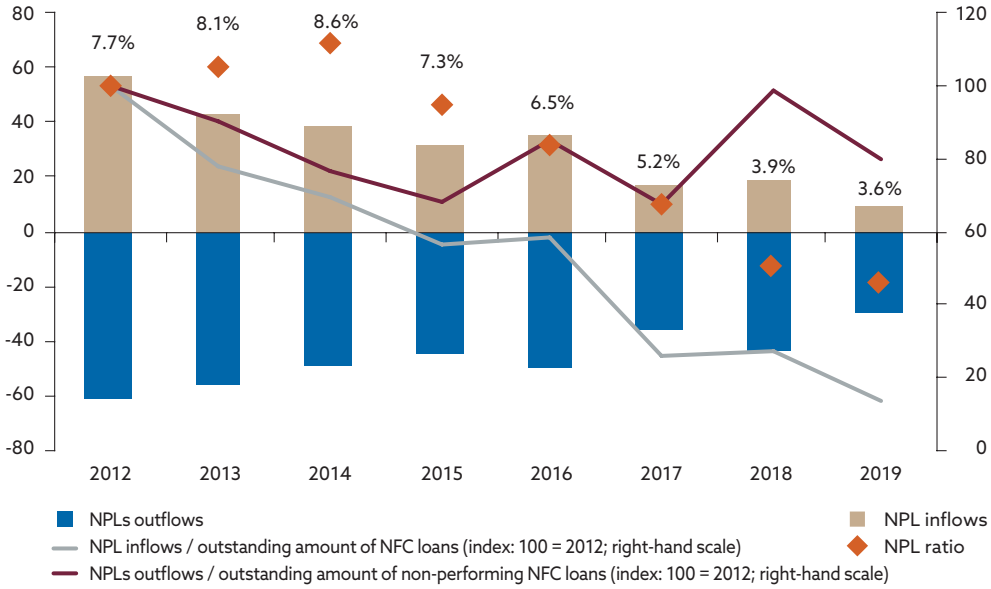
The continuation of the favourable macroeconomic environment has been key to the stable downward trend in the NPL ratio. The year-on-year percentage point decrease in this ratio has been at around the same level since 2014. Two factors, each supported by the relatively long period of economic expansion, have enabled this rate of decrease to be maintained even at the ratio's recent low levels.

The first is the gradual but large fall in the inflow to the NPL portfolio, underpinned by the above-mentioned decrease in the default rate. In the first quarter of 2019, when the default rate was negative, the NPL inflow consisted solely of increases in existing NPLs. The NPL inflow rate (i.e. the ratio of new NPLs to outstanding NFC loans) fell in the first quarter of 2019 to one-thirteenth of its level in 2012.

The second factor is the relatively stable NPL outflow rate (i.e. the ratio of loans removed from the portfolio of non-performing NFC loans to the outstanding amount of that portfolio). This is so even though a relatively large proportion of NPLs are past due by more than two years. Furthermore, the share of such past due loans is gradually increasing as the NPL portfolio decreases. The outflow of NPLs occurs mainly through the repayment of NPLs, through the reclassification of NPLs as performing loans, and through loan write-downs/offs and sell-offs.

[22] From when the data were first available.

Chart 38
Corporate NPLs have continued to decrease amid still favourable macroeconomic conditions
(EUR millions)



Source: NBS.

2.6 Liquidity risk in the banking sector increased more slowly

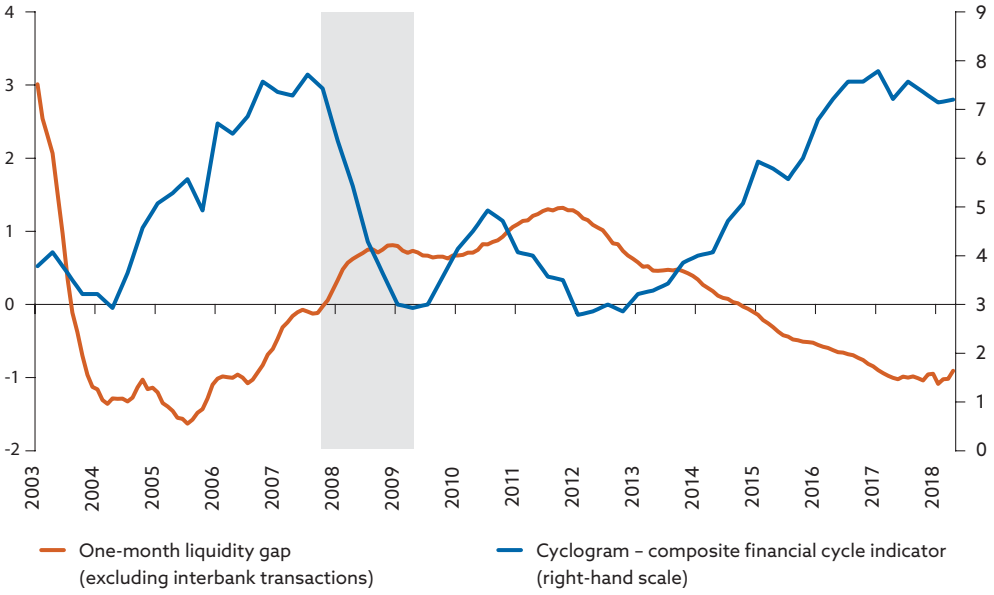
Stable funding and the maturity mismatch between assets and liabilities has over the long term been changing in line with the financial cycle[23]

The cyclical character of systemic liquidity risk has been evident in trends in the Slovak banking sector. In general, a financial cycle's expansionary phase is accompanied by increases in the maturity mismatch between assets and liabilities and in the loan-to-deposit (LTD) ratio. Such correlation is logical, given that, as a rule, financial cycle expansion is coupled with credit market growth. Growth in loans, i.e. in long-term and illiquid assets, leads to an increase in the asset and liability maturity mismatch as well as in the LTD ratio. A rise in the one-month liquidity gap and a faster increase in LTD ratio were recorded in the pre-crisis period of 2004–2007 and have also been a feature of recent years.

[23] A more detailed methodology and results are provided in a draft publication: Rychtárik, Š. "Systemic liquidity as a part of a financial cycle indicators set: the case of Slovakia", proceedings at the 10th International Conference on Currency, Banking and International Finance, Bratislava.

Chart 39

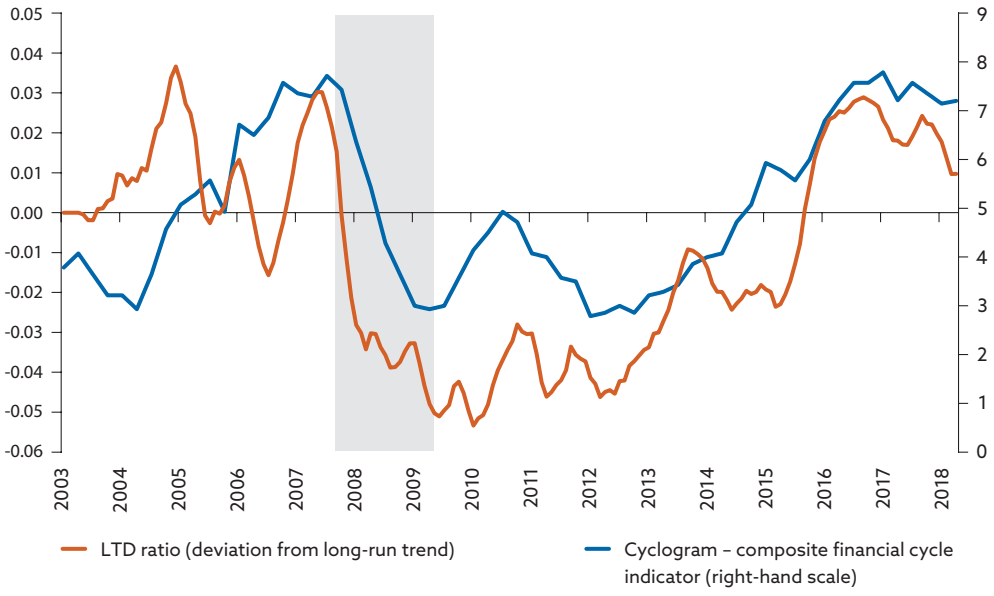
The increase in the asset and liability maturity mismatch has been more pronounced during the financial cycle expansion



Source: NBS.
Note: The liquidity gap is calculated as the ratio of, on the one hand, the difference between assets and liabilities with a residual maturity of less than one month and, on the other hand, total assets; it is normalised through mean and standard deviation.

Chart 40

The LTD ratio's deviation from its long-run trend has increased during the financial cycle expansion



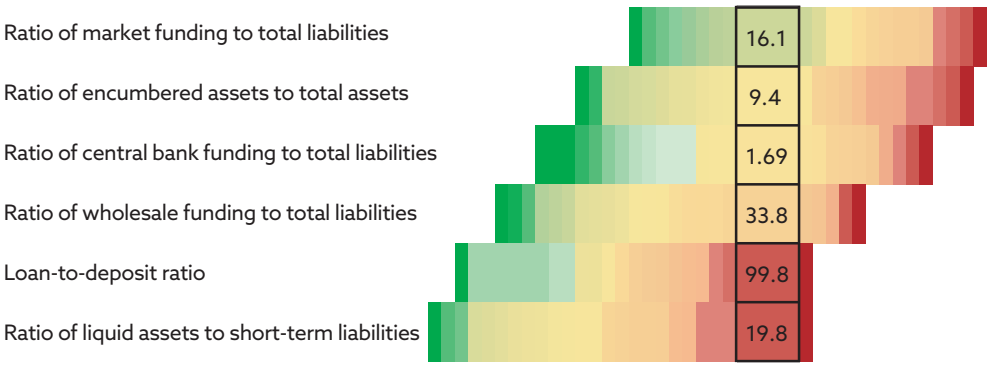
Source: NBS.
Note: The long-run trend of the loan-to-deposit ratio (LTD) is calculated as a one-sided Hodrick–Prescott filter with a lambda parameter of 400,000.

Systemic liquidity risk, having reached its highest level in the post-crisis period, has stopped increasing

The gradual slowdown in loan growth in the second half of 2018 has also, in combination with other factors, been evident in trends related to liquidity risk. In 2018, the asset and liability maturity mismatch was gradually setting new historical highs and the LTD ratio exceeded 100% for the first time ever. The situation stabilised somewhat towards the end of the year, but although both indicators remained stable during the first quarter of 2019, it is still too early to conclude that the trend has changed.

According to most available indicators, liquidity risk in the Slovak banking sector appears to be slightly above the median for national banking sectors (Chart 41). This is most apparent from the ratio of liquid assets to short term liabilities and from the loan-to-deposit ratio. On the one hand, Slovak banks have a lower ratio of liquid assets to short-term liabilities, which, given that the short-term assets in this case are stable deposits, does not in itself necessarily indicate significant risk. On the other hand, the LTD ratio is relatively high. So, banks' reliance on stable funding is decreasing, mainly through strong loan growth. The risk associated with the sufficiency of stable funding is being partially mitigated by the issuance of covered bonds, although only a few banks have so far taken this course. After adjusting for the issuance of covered bonds, however, the LTD ratio is still comfortably below 100%. This is also partly why domestic retail banks were net providers of liquidity in intragroup transactions, according to data as at December 2018. Several banks, however, saw their position as a net provider of liquidity diminish over the course of 2018.

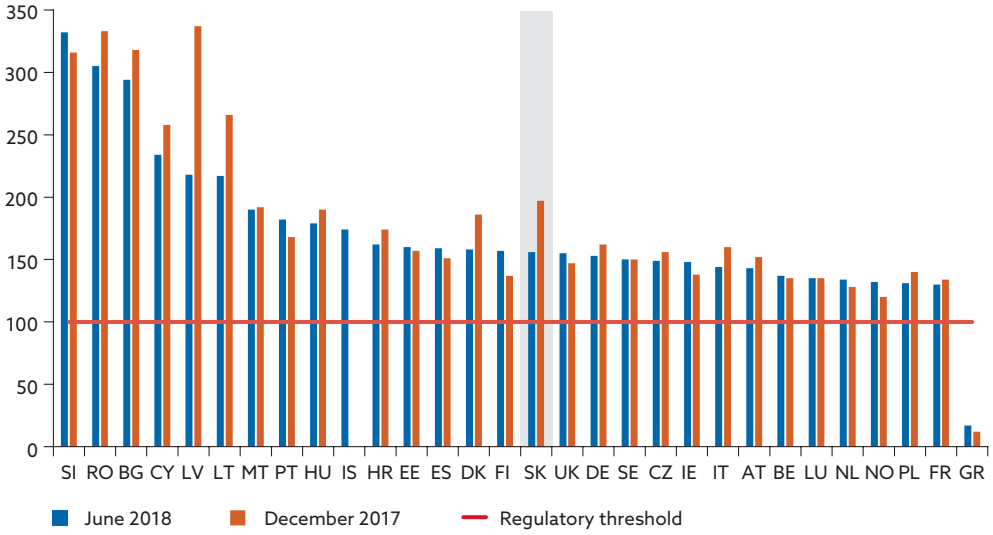
Chart 41
Slovakia's position vis-à-vis other EU countries in regard to selected liquidity indicators



Source: ECB.
Notes: The boxes show values for the Slovak banking sector. The level of risk is indicated by the colour of the shaded area, from green (lowest risk) to red (highest risk).

Although there has been a moderate decrease in the readings of regulatory liquidity indicators – the liquidity coverage ratio (LCR) and net stable funding ratio (NSFR),[24] their median values have remained comfortably above the regulatory minimum. The increase in liquidity risk over recent years has also been reflected in declines in the LCR and in the NSFR estimation. But whereas the fall in the LCR has been to some extent consistent with the increasing maturity mismatch between assets and liabilities, the NSFR estimation has been, as expected, negatively correlated with the LTD ratio. The LCR has fallen also in comparison with the LCRs for other EU countries. In December 2017 Slovakia ranked among the seven countries with the highest LCR, but by June 2018 it had fallen to 16th place, i.e. below the median.

Chart 42
Country rankings for the aggregate LCR of selected domestic banks



Source: EBA.
Notes: The liquidity coverage ratio (LCR) is an indicator of short-term liquidity. The values are as at 30 June 2018. The data for individual countries are not aggregate data for the whole banking sector but only for a group of selected banks.

2.7 Risks in other financial market segments

Increased reinvestment risk in the insurance sector

In 2019 the Slovak insurance sector must reinvest 7.3% of its investment portfolio, which consists mostly of high-yielding government bonds. The low interest rate environment poses a risk to the insurance sector, particularly in regard to meeting the investment returns guaranteed under traditional life insurance contracts. Such contracts have, as a rule, a longer

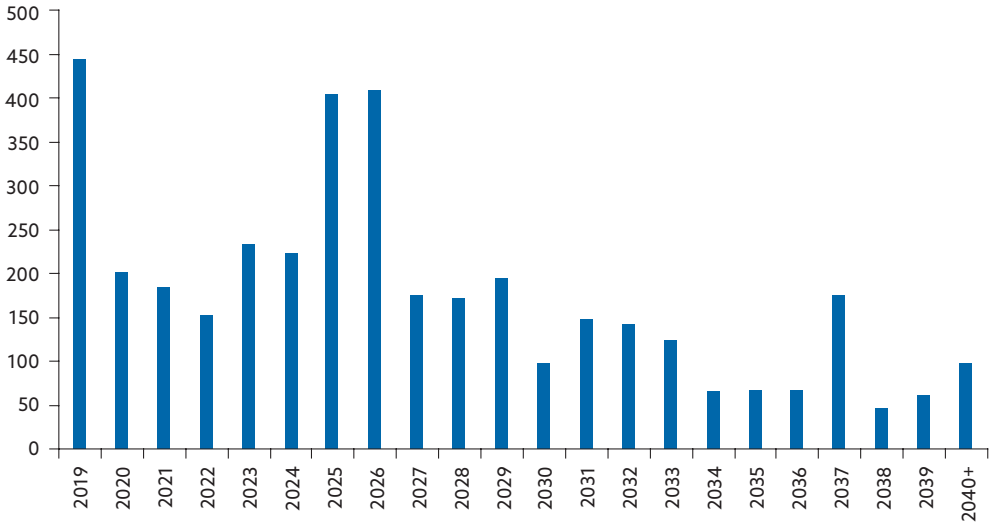
[24] In the case of the NSFR, the value is only an estimation made in accordance with the Basel III documents.

maturity than do the financial assets that insurers use to earn the required returns. In this regard, 2019 will be significant, since insurers hold €443 million worth of fixed coupon bonds that mature this year (the corresponding figures for the previous three years averaged €226 million). Furthermore, as much as 81% (€357 million worth) of these bonds comprise 15-year Slovak government bonds issued in May 2004, which insurers were buying until 2009. By comparison, domestic insurers held a total of €136 million worth of fixed coupon bonds that matured in 2018, after buying them until 2011, i.e. before the steep decline in interest rates. Of the bonds bought before the end of 2011, a total of €95 million worth are expected to mature in 2020, and €46 million in 2021.

Chart 43

A significant batch of fixed coupon bonds purchased as investments under non-unit-linked life insurance contracts, mostly before the end of 2009, are due to mature in 2019

Breakdown of insurers' holdings of fixed coupon bond investments by year of maturity (EUR millions)



Source: NBS.

Assuming that the maturing bonds are reinvested back into sovereign debt, the average return on insurers' aggregate investment portfolio for non-unit-linked business is estimated to fall by 0.3 percentage point. The lower estimate for the return on the maturing bonds is 4.74%, which was the average return on 10-year government bonds in 2009. Replacing them with 10-year government bonds with an average yield of 0.78% would imply that the insurance sector's average investment return under non-unit-linked business falls below the average guaranteed rate. Alternatively, insurers may opt to invest in higher-yielding, but also higher risk, assets.

The risk structure of the insurance sector's capital

The insurance sector's capital structure comprises mainly expected profits, a volatile component, and continues to pose a significant risk to the sector's stability. At the end of 2018 *expected profits included in future premiums (EPIFP)* made up 57% of the sector's total capital, and previously in the year this component had risen to as high as 62%. In other words, less than half of the total capital is available to absorb unexpected losses of the insurance sector. If EPIFP were included in Tier 3 capital, where by their nature they belong, the insurance sector's average solvency capital requirement (SCR) coverage ratio would fall from 187% to 101%; five of the 14 domestic insurers would fail to meet the SCR and a further two would be close to the 100% threshold.

Uncertainty in the insurance sector about non-material damage claims

It remains difficult for insurers to estimate the amount of claims for non-material damage. Non-material damage refers to moral, emotional or other non-physical injury resulting from physical injury or death. Most claims for such damage are made under motor third party liability insurance policies. Because the area of non-material damage is insufficiently regulated by legislation, it is difficult for insurers to accurately estimate their liability for non-material damage claims. The situation is further complicated by the heterogeneity of court rulings on litigated claims and by the fact that individual insurers' data on non-material damage claims are confined to their own cases, thereby further shrinking the sample on which their claim estimations are based. Overall, the compensation awarded by courts for non-material damage has so far had a marginal impact on the insurance sector's profit, but uncertainty about future court rulings on such cases poses a potentially significant risk to the sector.

The negative performance of pension funds[25] and investment funds in 2018 slowed the growth in their net asset value

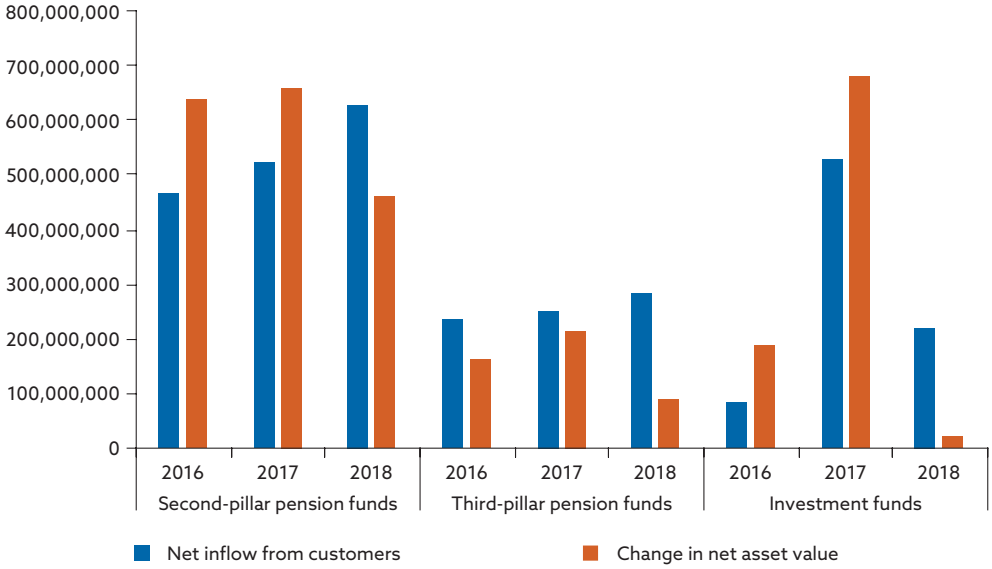
In the Slovak financial market segments focused on the management of customer assets, the outstanding amount of assets under management continued to increase in 2018, but more slowly than in previous years. Although the investment fund sector saw a certain drop in demand from

[25] Referring to second-pillar funds and third-pillar funds. 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).

household investors, the overall demand for investment funds, as indicated by net issuance of shares/units, did not decelerate too significantly. The weaker growth in the net asset value (NAV) of pension funds and investment funds was largely accounted for by the funds' negative investment performance.

Chart 44

The impact of customer inflows to pension and investment funds was dampened by the funds' negative investment returns



Source: NBS.

It is worth noting that at a time of elevated financial market turbulence and adverse trends in the global economy, customer demand for pension and investment fund products was relatively higher for those carrying higher risk. The prevailing factor behind this trend appears to have been the still sound domestic economic situation and the persisting low returns offered by traditional bank deposit products. In the pension fund sector, not only were new savers opting to invest in equity funds or index funds, but also existing savers were switching to these types of funds. In the investment fund sector, the funds with the highest net sales were mixed funds and real estate funds. By contrast, the longer-term trend of net redemptions of bond fund shares/units continued in 2018.

In the second half of 2018, however, fund management companies responded to mounting financial market volatility by slightly reducing the risk parameters of their funds. Within the assets of equity and mixed third-pillar pension funds and mixed second-pillar pension funds, the last months of 2018 saw a steady trend of equity investment disposals. Across both second-pillar funds and third-pillar funds, the average residual maturity and duration of the respective sectors' bond portfolios was decreasing from the summer of 2018. In the case of the second-pillar funds, it was

the first time in eight years that these indicators of interest rate sensitivity had decreased.

In one regard, however, the riskiness of portfolios increased during 2018. In both pension pillars there was a rise in funds' exposure to government bonds issued by countries hard hit by the previous debt crisis. These increases were mostly accounted for by purchases of Italian sovereign debt. This trend was most pronounced among third-pillar funds, to the extent that the share of Italian sovereign debt in the aggregate NAV of these funds increased threefold in year-on-year terms, to almost 6%. Summed with the small amount of Italian corporate bonds, it resulted in Italy edging Slovakia out of first place in terms of the geographical breakdown of debt securities within the assets of third-pillar funds.

The decline in prices of almost all types of asset in 2018 weighed on the performance of pension funds and investment funds in Slovakia. In each of the three sectors, the average nominal annual return on funds as at 31 December 2018 was negative, with second-pillar pension funds earning a return of -1.6%, third-pillar funds -4.6%, and investment funds -3.5%. The worst performing funds were those pension and investment funds following a growth investment policy and including a larger equity component. Even second-pillar bond funds, for the first time ever, recorded a negative annual return. The rally in asset prices at the start of 2019 ensured, however, that these losses were quickly recouped. By 30 April 2019 the average pension-point value for second-pillar funds was back to the level it recorded at the start of 2018. Over the intervening period, second pillar funds even earned a positive average return of 2.5%.

Real estate investment funds show increasing vulnerability to any sudden wave of redemptions

Investment funds have been gaining in popularity in recent years, as seen in the substantial increase in their net asset value. The almost constant inflow of customer funds has been stimulated by the good economic times and by rising demand for higher-yielding investment alternatives to the low remuneration on bank deposit products. The growing inflows have gravitated towards mixed funds and real estate funds. Past experience has shown, however, that sentiment towards the sector is volatile and that each period of expansion is followed by a sharp increase in investor risk aversion and wave of fund redemptions. Such episodes occurred in response to general turbulence in financial markets accompanied sometimes by deteriorating economic performance. But while that description can be partly applied to recent developments, neither the sharp drop in financial asset prices at the end of 2018, nor the heightened uncertainty

about the macroeconomic trajectory, have prevented the net sales of investment fund shares/units in Slovakia from continuing to rise moderately. Given, however, the prevailing elevated risks to the global macroeconomic and financial environment, the risk of a negative shock that would prompt a significant proportion of investors to cash in their shares/units cannot be considered negligible.

If investment funds are to cope with any wave of redemptions, they must have sufficient liquid asset holdings. Given that bank deposits are among the most liquid assets, one way to assess investment funds' resilience to an unforeseeable wave of redemptions is to look at the share of bank deposits in funds' assets. On this basis, the most vulnerable investment funds as at 31 December 2018 were equity funds (as bank deposits constituted just 8% of their aggregate assets), followed by real estate funds (15%). The situation was better with mixed funds and bond funds, since bank deposits made up, respectively, nearly one-quarter and nearly one-third of these funds' NAV. In general, however, it is real estate funds that face the greatest risk from a potential run of redemptions. Whereas the assets of other types of fund include a large volume of securities tradable on liquid markets, up to 80% of the assets of real estate funds are extremely illiquid in nature and include participating interests in real estate companies and credit claims on such companies. To put the scenario of a redemption wave in context, the wave that occurred during the global financial crisis resulted in a 22% decline in the aggregate NAV of the domestic investment fund sector and a 33% drop in the NAV of money market funds, the largest category of funds at that time.

3 Financial sector resilience

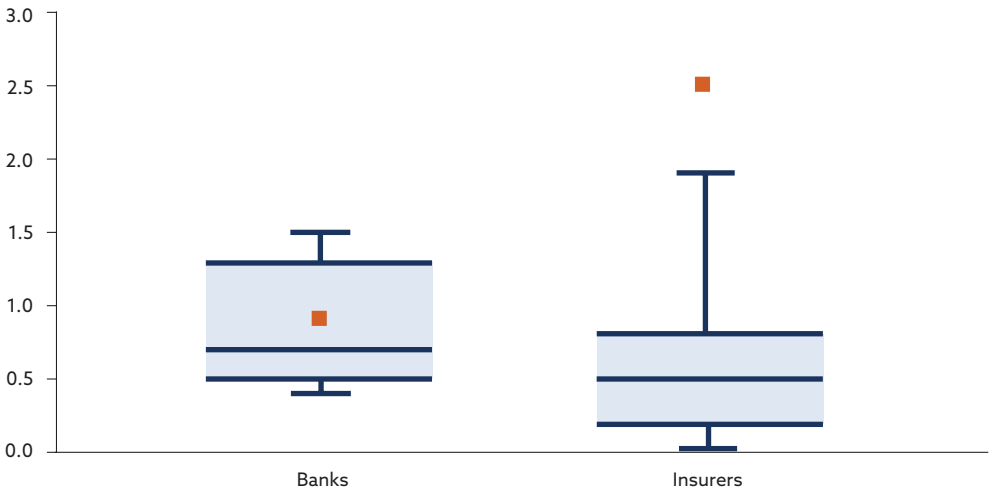
3.1 Solvency and financial position of the financial sector

3.1.1 Financial position of financial market segments

The banking sector's net profit increased moderately

The aggregate net profit of the domestic banking sector increased, year on year, by 7% in 2018. On the other hand, banks' profit for the first quarter of 2019 declined by 3% year on year. The return on assets (ROA) of the Slovak banking sector remains relatively elevated compared with the median for banking sectors of EU countries and is the tenth highest in that group.

Chart 45
ROA distributions of banking and insurance sectors within the EU
(%)

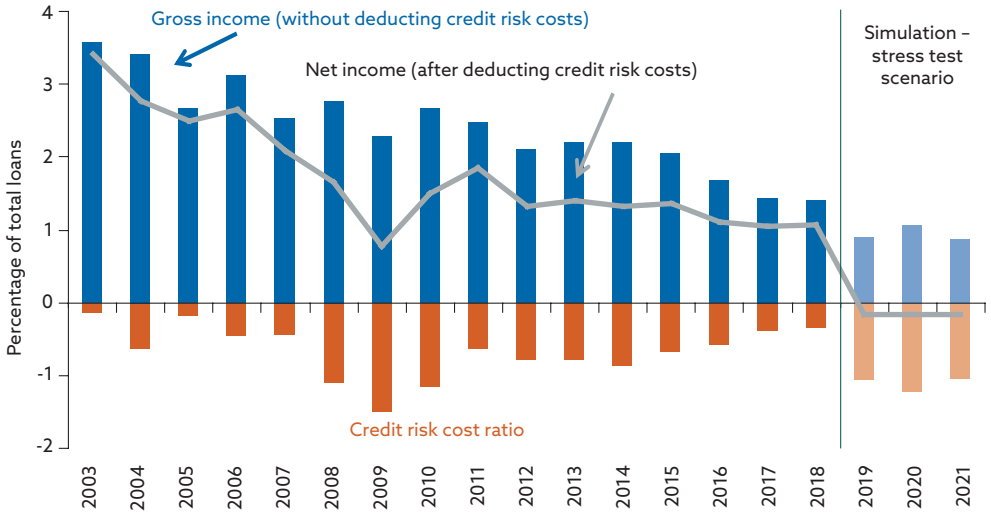


Sources: NBS, ECB and EIOPA.
Notes: The chart shows the ROA distribution – 10th percentile, interquartile range, median, and 90th percentile. The values for Slovakia are marked with a small square. The data for banks show the distribution across EU countries as at 30 September 2018 and are annualised. The data for insurers show the distribution for 114 individual insurers across the EU as at 31 December 2017.

A key element of the Slovak banking sector's profit growth in 2018 was an increase in interest income from loans to NFCs. After declining in the previous year, lending rates for NFCs were relatively stable in 2018 and even increased slightly in the second half of the year. On the other hand, interest rates on new NFC loans provided in the first two months of 2019 fell appreciably, therefore calling into question the sustainability of the previous trend.

Another significant factor was the continuing downward trend in the credit risk cost ratio. The still strong growth in retail loans also had a substantial positive impact on banks' profit growth. This trend, together with interest margin compression, is making banks more vulnerable to any future increase in credit risk costs. It is estimated that if the credit risk cost ratio increased to its average level for the period 2013–2016, the banking sector's net profit would fall by almost one-third. If there were a more severe economic shock according to the assumptions of the stress test scenario mentioned below, then current interest margins, in contrast to those at the time of the global financial and economic crisis, would not necessarily be sufficient to absorb the increased credit losses and the banking sector as a whole would make a loss (Chart 46).

Chart 46
Increase in banks' vulnerability to an increase in credit risk costs



Source: NBS.

Profitability of other financial market segments

The insurance sector's net profit for 2018 declined slightly, by 1.6%, year on year. The decline stemmed mainly from a drop in the aggregate financial result, with the result for life insurance business falling by 5% and the result for non-life insurance falling by 22%. In addition, the non-life technical result decreased (by 21%). On the other hand, the life technical result (excluding unit-linked business) recorded a year-on-year increase, albeit due only to extraordinary accounting effects. Absent these effects, this profit component would also have declined, so the sector's net profit would have fallen even more markedly. In international comparison, the profitability of the Slovak insurance sector remains high (Chart 45).

In the second pillar of the pension system, the aggregate profit of Pension Fund Management Companies (PFMCs) fell, year on year, by 7.7% in 2018,

owing mainly to lower income. In the investment fund sector, by contrast, fund management companies saw their aggregate profit increase, year on year, by a substantial 62% and reach a historical high. This growth was driven mainly by a decrease in fee and commission expenses at one management company. Across management companies within this sector, fee and commission income increased slightly.

3.1.2 Solvency and leverage

In both the banking and insurance sectors, solvency has fallen moderately

Capital adequacy ratios in the Slovak banking sector fell slightly during 2018. Their values are shown in Table 2. The main cause of the decline was continuing strong lending growth, which increased the own funds requirement for the banking sector. Another factor was the implementation of the new IFRS 9 accounting standard from 1 January 2018. There was also, however, upward pressure on the sector's capital ratios from banks' retention of around one-third of their earnings for 2017. Some banks, moreover, also increased their equity in the second half of 2018. From the perspective of the banking sector's resilience, it is positive that such increases occurred mainly at certain less significant banks reporting the lowest capital ratios.

Table 2 Capital and leverage ratios (%)

	2017	2018
Common Equity Tier 1 capital ratio	16.2	15.8
Tier 1 capital ratio	16.6	16.5
Total capital ratio	18.6	18.2
Leverage ratio	8.2	8.0

Source: NBS.

Capital adequacy developments are also to be seen in the context of gradually decreasing risk weights. The risk weights concerned are mainly for retail loans provided by 'IRB banks'[26] (Chart 47). The average risk weight for these fell over the three years from 2016 to 2018 by more than one-quarter (from 20.4% to 14.6%), to a level close to the banking union average (13.9%). This is a result of a downward trend in the loan portfolio's riskiness parameters, in particular the probability of default (PD) and loss given default (LGD). Absent this decrease, the banking sector's aggregate total capital ratio would have been 0.8 percentage point lower.

Decreasing risk weights may lead to a gradual underpricing of credit risk and increasing sensitivity to any deterioration in economic condi-

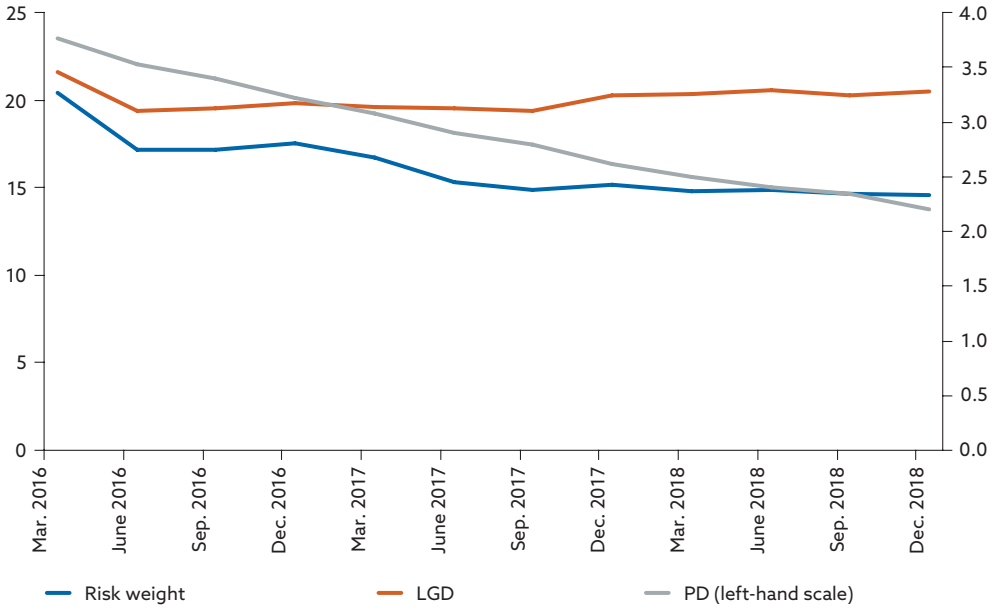
[26] Banks using the internal ratings-based (IRB) approach for assessing credit risk.

tions, similarly as may falling credit risk costs. Risk-weight reductions in previous years were largely a consequence of the favourable economic conditions that have resulted in the current low default rates. This trend, however, has heightened the banking sector's sensitivity to the cyclical developments. If, due to worsening of the economic situation, risk weights returned to previous levels, banks would face rising capital charges and their total capital ratios would fall. Decreases in risk weights and in credit risk costs may be among the factors highlighting the need for adequate capital buffers, including buffers of a countercyclical nature. The requirements for such buffers are implemented through the capital buffers described in more detail in the following section.

Chart 47

Risk weights and LGD/PD parameters for IRB banks' retail exposures secured by immovable real property

(%)



Source: NBS.
Note: LGD – loss given default; PD – probability of default; IRB – internal ratings-based approach.

The insurance sector has also experienced a slight decline in solvency. Its solvency capital requirement (SCR) coverage ratio has fallen from 201% to 187% (as at December 2018). Within the capital structure of domestic insurers there remains, however, a risk posed by *expected profits included in future premiums (EPIFP)*, which can be considered a volatile component and which make up more than half of the aggregate own funds eligible to cover the solvency capital requirement. From a financial stability perspective, it is also negative that the decline in the SCR coverage ratio has been most pronounced among insurers whose ratio is below the market average.

Using macro stress testing to gauge the banking sector's resilience

The resilience of the Slovak banking sector has again been analysed using macro testing, with end-2018 being the cut-off date for data used in the latest exercise. The stress test included one baseline scenario and two adverse scenarios, all covering a three-year period from 2019 to 2021. The baseline scenario is based on NBS's December 2018 Medium-Term Forecast (MTF-2018Q1). This scenario assumes positive economic growth trends, an inflation rate around 2.5%, and falling unemployment. The adverse scenarios, Scenario 1 and Scenario 2, assume the materialisation of systemic risks that lead to decline in foreign demand and consequently to a contraction of the domestic economy as well as to a substantial increase in financial market uncertainty. Scenario 2 assumes the materialisation of certain risks (e.g. risks related to Brexit and to car industry problems) that will have a more structural nature, so the economic contraction in this scenario is larger and longer lasting.

What remains crucial to the banking sector is its ability to generate net interest income even during negative global economic developments, so that banks have robust capital buffers in place when a crisis arises. In the baseline scenario, the sector's total capital ratio is estimated to decrease from 18.6 to 18.1% over the stress test period, owing to the assumed growth in loans to NFCs and households. In Scenario 1, the same ratio is estimated to fall to 15.4%, and in Scenario 2, to 13.7%, due mainly to the assumed decline in net interest income and to an increase in losses, primarily from credit risk. Losses on NFC loans increase more under the adverse scenarios than under the baseline scenario; nevertheless, owing mainly to the substantially higher volume of retail lending, they are lower than the losses on retail loans in all of the scenarios.

Table 3 Stress test

	Baseline scenario	Scenario 1	Scenario 2	Modified Scenario 2
Total capital ratio at the end of the stress test period	18.1%	15.4%	13.7%	12.0%
Capital shortfall against the 8% capital requirement	€0 million	€0 million	€21.6 million	€307 million
Capital shortfall against the 10.5% capital requirement	€0 million	€20.7 million	€164 million	€524 million

Source: NBS.

Given that the period since the last crisis has seen several changes concerning the economic environment and housing loan market, it is questionable to what extent historical relationships by themselves may be used to capture the impact of a future economic downturn on the housing loan portfolio. Therefore, the stress test exercise included an anal-

ysis of the potential impact of a more severe deterioration in the credit quality of the housing loan portfolio, in particular housing loans. For this purpose, the exercise applied a modified Scenario 2 which differed from the original Scenario 2 by assuming following: first, that growth in total loans to households falls gradually to zero during 2019 and then remains flat; second, that the NPL ratio for housing loans gradually increases by ten percentage points, up to 11.5% by the end of 2021; and, finally, that the provisioning ratio for non-performing housing loans is 40% (up from 20% in the original scenario). The stress test outcomes, summarised in Table 3, show that the banking sector is highly vulnerable to changes in the stated parameters.

3.2 NBS macroprudential policy

The key factors to be considered in future decisions on the countercyclical capital buffer rate will be cyclical risk developments in the credit market, in property prices and in macroeconomic imbalances

Several EU countries are experiencing strong financial cycle expansion, and a number of them have recently increased their countercyclical capital buffer (CCyB) rate. As at the start of May 2018, ten EU countries had approved a non-zero CCyB rate,[27] while other countries had stated that discussions on the issue were ongoing and that they expected to take the same step in the period ahead.

In the domestic financial market, the financial cycle is now in an advanced expansionary phase. In contrast to the early part of the cycle, when the build-up of cyclical risks was largely associated with excessive credit growth, cyclical risks are currently accumulating in several areas. Hence the approach to assessing cyclical risks needs to be far more comprehensive than one based solely on credit market indicators. Excessive growth in loans to households remains a feature of the credit market, although the pace of that growth has been moderating (Section 2.1). Their currently low interest margins are incentivising banks to expand their loan portfolios (Section 2.2). On the one hand, stable growth in property prices is increasing demand for loans, but, on the other hand, it is increasing the banking sector's exposure to cyclical risks (Section 2). Gradual economic overheating, particularly evident in the labour market, is raising both the probability and size of the banking sector's potential losses in the event of a turn in the business or financial cycle (Section 1.2). At the same time, the current exceptionally low level of credit risk costs and persisting interest

[27] https://www.esrb.europa.eu/national_policy/ccb/html/index.en.html

margin compression are making the banking sector's profits more vulnerable to cyclical developments. A prolonged period of good economic times and lower credit costs may result in the banking sector underestimating cyclical risks and in an increase in risk appetite among banks and across the private sector (Section 3.1). Meanwhile, interest margin compression and the greater vulnerability of banks' profits to credit costs is reducing the potential importance of banks' profits as a first line of defence against any deterioration in economic conditions.

Further evidence of the current elevated level of cyclical risks is provided by the Cyclogram, a composite indicator of the domestic financial cycle. This indicator provides a more comprehensive view of cyclical risk trends in the financial market.[28] Despite falling slightly in the second half of 2018, this indicator's value is close to its historical high, and most of the indicator's components point to heightened cyclical risks in particular areas. At the same time, a simulation[29] of this indicator's trend over one year ahead suggests that the financial market's cyclical risks will remain high.

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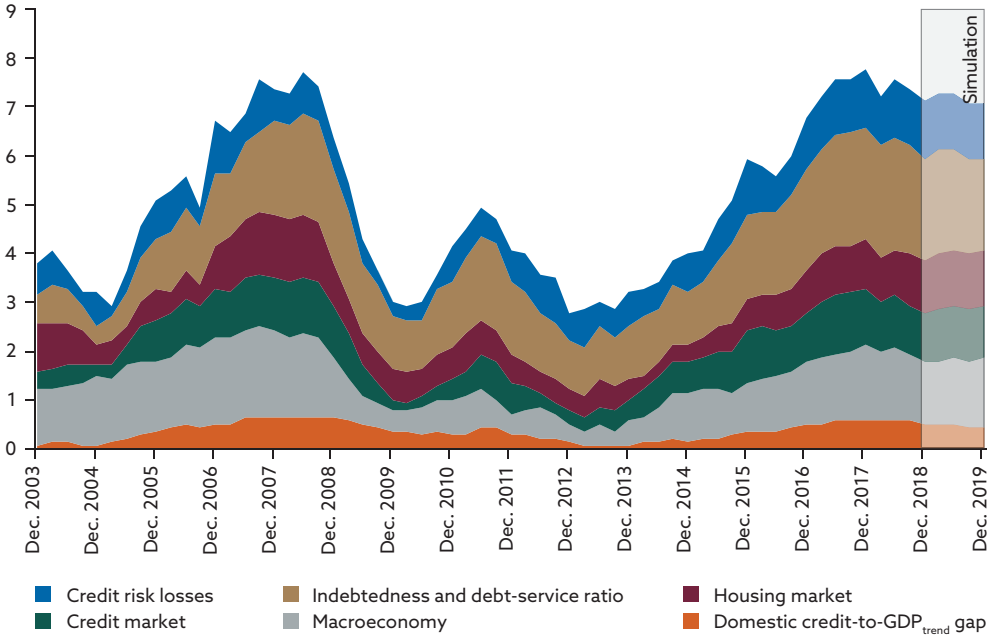
[28] This broad view of several areas that map financial market cyclical trends sets the Cyclogram apart from the domestic credit-to-GDP_{trend} gap, an indicator that NBS has been using to assess the excessiveness of credit market growth. Because the domestic credit-to-GDP_{trend} gap is overly focused on one aspect of the credit market and because it has certain technical limitations (discussed in more detail in NBS's April 2019 Quarterly Commentary on Macroprudential Policy), NBS has decided that it will now base its assessment of financial market cyclical risks on the Cyclogram and will no longer discuss the domestic credit-to-GDP_{trend} gap in the Quarterly Commentary on Macroprudential Policy.

[29] Conducted using the assumptions of the macro stress test baseline scenario.

Chart 48
The Cyclogram's historical trend and a simulation of its trend in 2019



Source: NBS.

The banking sector's resilience is primarily dependent on its profitability and capital adequacy. As the macro stress test outcomes indicate, both the profitability and capital adequacy of the Slovak banking sector are highly sensitive to any economic or financial headwinds. An increase in costs resulting from credit risk materialisation would have a significant adverse impact on Slovak banks' profitability, which has been increasingly reliant on the current period of exceptionally low credit risk costs. It would also weigh heavily on the capital adequacy ratios of banks, and in particular of small and medium-sized banks.

Národná banka Slovenska now perceives that financial-cycle-related risks are building up in several areas – in connection with macroeconomic developments, with the ongoing increase in household indebtedness, with potential imbalances in the housing market, with the underestimation of risk, and with the decline in the banking sector's resilience. This broader constellation of factors behind the build-up of financial-cycle-related risks will be taken into account when NBS takes its regular decisions on the countercyclical capital buffer rate. At present, NBS is cognizant of the presence of cyclical risks, and noted at the time of its most recent CCyB rate decision[30] that the **key factors to be considered in future decisions on the CCyB rate will be cyclical risk developments in the credit market, in pro-**

[30] https://www.nbs.sk/en/publications-issued-by-the-nbs/publications-of-financial-market-supervision/quarterly-commentary

perty prices and in macroeconomic imbalances. If the accumulated risks remain elevated, the NBS Bank Board may consider raising the CCyB rate.

No change in 2019 in the list of domestic banks identified by NBS as 'other systemically important institutions' (O-SIIs)

Table 4 Settings of additional capital buffer rates for O-SIIs

	Overall buffer rate	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% SyRB
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 institutions; SyRB – systemic risk buffer.

Since 2016 Národná banka Slovenska 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, like previous reviews, was conducted using the methodology published in the EBA Guidelines of 14 December 2014. The review did not result in any change to the list of O-SIIs, which comprises the following five banks: Všeobecná úverová banka, a.s., Slovenská sporiteľňa, a.s., Tatra banka, a.s., Československá obchodná banka, a.s. and Poštová banka, a.s. Additional capital buffer requirements are applied to these banks on grounds of their systemic importance, and the rates of these buffers remained unchanged in 2019 (Table 4).

3.3 Establishing resolution capacity

In regard to the largest banks, or other banks providing critical functions, in each EU Member State, it is assumed that if any such institution gets into difficulties, it should be subject to resolution action instead of being wound up under normal insolvency proceedings, so as to allow the bank to continuously perform its critical economic functions. The resolution planning process should include the determination of a minimum requirement for own funds and eligible liabilities (MREL). The MREL should ensure that the bank for which it is determined can be resolved without the use of public money. It is currently envisaged that the MREL will consist of a loss absorption amount corresponding to the given bank's capital requirement (the Pillar 1, Pillar 2 and combined buffer requirement under the Basel framework) and a recapitalisation amount, corresponding to the amount of the Pillar 1 and Pillar 2 requirements plus a market confidence charge set at the level of the combined buffer requirement less 125 basis points.

The MREL requirement will be included in the resolution plans adopted in the 2018/2019 planning cycle for those banks established in Slovakia for which the EU's Single Resolution Board has direct competence to take decisions. The MREL will be calculated on the basis of data as at 31 December 2017, in accordance with the SRB's applicable MREL methodology. In the second quarter of 2019, the SRB together with all the banking groups under its competence is organising workshops aimed at addressing issues related to the MREL calculation methodology and MREL compliance. Based on the workshops that have already taken place and on discussions within internal resolution teams, the MREL and the conditions for meeting it are being further specified.

Joint decisions of resolution colleges on the resolution plans produced within the 2018/2019 planning cycle are expected to be delivered no later than the third quarter of 2019. Subsequently – by the start of 2020 at the earliest – banks will receive the SRB's implementing decisions setting the amount and quality of the MREL as well as the length of the transition period for MREL compliance.

For banks in Slovakia that fall under the competence of the national resolution authority – the Resolution Council – the MREL will be calculated in accordance with the applicable SRB methodology, so as to maintain consistency and equal conditions for the Slovak banking sector. As regards their timing, the Council's MREL decisions will be taken as closely as possible to the SRB's decisions.

NÁRODNÁ BANKA SLOVENSKA
EUROSYSTÉM

Special feature: An analysis of changes in the riskiness of new loans to households

During the period 2016–2018 NBS adopted several measures concerning requirements for the provision of housing loans and consumer loans. One of the main objectives of these measures was to reduce the riskiness of new loans, so as to mitigate the impact on both banks and borrowers of any deterioration in the economic situation. In Slovakia and other countries, experience has shown that the loans most at risk in times of crisis are those provided before the crisis, when economic conditions were favourable and optimism high.

The purpose of this special feature is to estimate the expected impact that measures adopted to mitigate loan riskiness have had so far and will have in the future. This analysis estimates the percentage of new housing loans that could default if unemployment increased and the extent of losses that banks would incur as a result of such default. In addition, a comparison is made between two situations: one in which the NBS measures are in place, and another in which they have not been adopted and loans continue being provided under the previous conditions. The analysis is divided into two parts.

The first part of the analysis examines the impact that the NBS measures have had on bank loan-level data. The riskiness of new loans provided in 2017 and 2018 is analysed using a test of sensitivity to an increase in unemployment and a decline in property prices.

The second is more complex, focusing on what impact the measures will have when they are fully phased in. This analysis uses data on a sample of households collected as part of the Household Finance and Consumption Survey (HFCS). These data include loans provided before the measures took effect. Based on these data, we simulated the provision of new loans over the five years following the measures' full phase-in (including a three-year period of deteriorating economic conditions), and did so in two ways: one excluding the measures' impact and the other taking it into account.

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Main conclusions of the analysis

The riskiness of new loans has fallen sharply in the last two years, after the tightening of regulatory lending requirements. Banks' potential losses in the event of an economic shock may have fallen by almost half, and the share of households that would face difficulties related to loan default has also dropped. The reduction in the new loan riskiness is expected in the longer term to have a downward impact on the riskiness of the overall retail loan portfolio and therefore to increase the banking sector's resilience.

The fall in riskiness was supported by decreases in the probability of default (PD) and the loss given default (LGD) under adverse economic conditions. The LGD decrease has been caused mainly by gradual tightening of the loan-to-value (LTV) ratio limit, while the fall in PD is largely the result of new limits on borrowers' debt-service-to-income (DSTI) ratio and debt-to-income (DTI) ratio. The analysis also supports the conclusions that the adopted measures are slowing the rate of growth in household indebtedness, as noted in the May 2018 Financial Stability Report.

An analysis using a sensitivity test based on loan-level data

Assumptions and methodology

The first part of the analysis of developments in new loan riskiness involved applying a test of sensitivity to employment losses and to falling property prices. The same test was applied to all housing loans provided in 2017 and 2018. The probability of employment loss was estimated on the assumption of a general increase of five percentage points in the unemployment rate. For specific borrowers, this probability depends on their socio-demographic characteristics. The probability of employment loss, PU^i, of borrower i was modelled using a logit model in the form

$$\mathbf{PU^i = 1 - \frac{1}{1+e^{-\left(\beta_0+\Sigma_j \beta_j X_j^i\right)}}},$$

where X^{ij} are the variables denoting the borrower's highest level of education attained, age, marital status, and gender. The coefficients for individual variables are shown in Table 1. Since the level of educational attainment has the largest impact on the probability of employment loss, the model enables the riskiness of loan portfolios to be differentiated according to the share of borrowers who have higher education and are therefore, based on empirical experience, less likely to lose their job.

Table 5 Logit model parameters for estimating the probability of employment loss

Variable	Coefficient
Intercept	0.6285
Education (higher = 2, secondary = 1, primary = 0)	2.0388
Age (years)	0.0081
Gender (male = 1, female = 0)	0.0335
Marital status (single = 1)	-0.6381

Sources: NBS and HFCS.
Notes: The model is estimated using data from the Eurosystem Household Finance and Consumption Survey conducted in 2016 on a comprehensive sample of households (i.e. not just those who were borrowers). The intercept is calibrated so that it corresponds to an increase in the unemployment rate of five percentage points.

A borrower who becomes unemployed is assumed to experience a 25% drop in income. Where an income so reduced is not sufficient to cover the sum of the borrower's debt-servicing costs and minimum subsistence amount, the loan is assumed to default. The PD therefore depends on the probability of employment loss and on whether the borrower's income falls below the mentioned sum. This approach also takes into account that loans provided to two co-borrowers are generally less risky than are loans provided to individuals. Where only one of two co-borrowers loses his or her job, the income of the other co-borrower implies that the probability of the loan repayments continuing to be made will be greater than in the case where an individual borrower loses his or her job.

The impact of a borrower's job loss can be mitigated by extending the loan term and thereby reducing the amount of repayments. In the sensitivity test, we assume that the loan maturity date may be extended up to the borrower's 70th birthday. Thus, a distinction can be made between the riskiness of lending relationships in which loan default is avertable through term extension and the riskiness of those in which that option is no longer feasible.

Table 6 Sensitivity test assumptions

Variable	Scenario
Property prices	decrease of 20%
Unemployment	increase of 5 p.p.
Income following loss of employment	decrease of 25%
Loss given default	10% + positive difference between loan-to-value ratio and 80%
The borrower's age up to which the loan maturity date may be extended	70 years

Sources: NBS and HFCS.

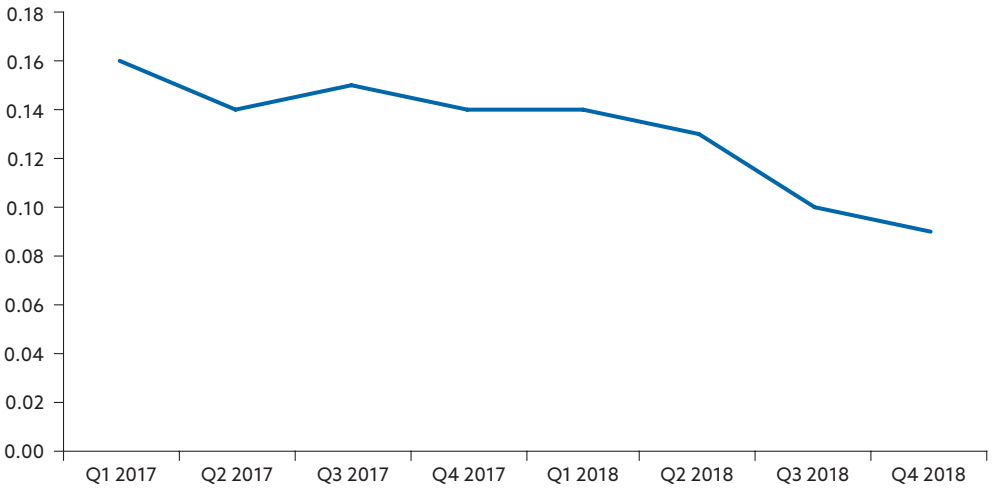
If the loan defaults, it is assumed that the bank will realise the immovable property collateral. However, the test also assumes a decline in property prices such that the sale price of the immovable property collateral will be 20% lower than the property's value when the loan was provided. It is fur-

ther assumed the bank will have administrative costs related to the recovery of the claim (including the auctioning of the collateral), amounting to 10% of the non-performing loan's outstanding amount irrespective of the amount of the collateral.

Outcomes and conclusions

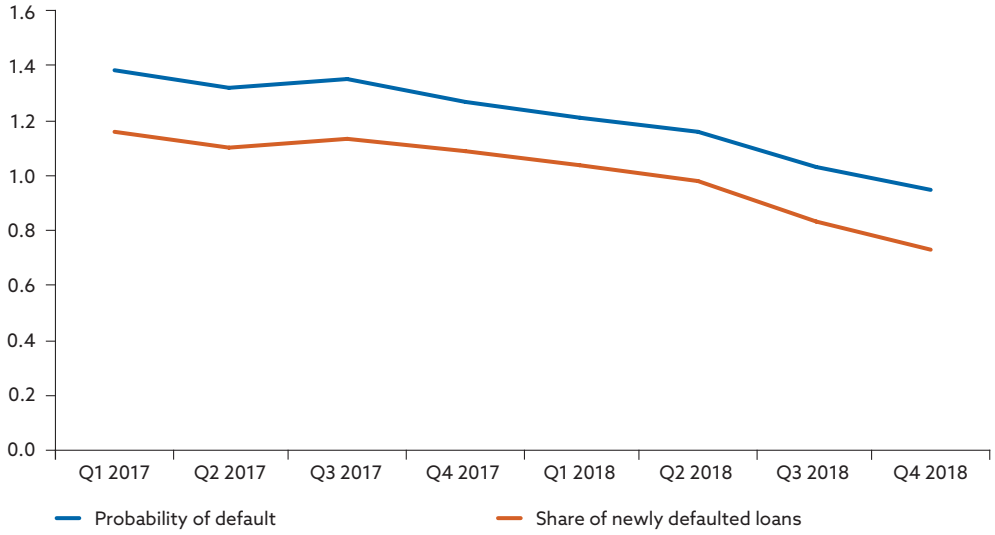
The sensitivity test shows that after the gradual tightening of regulatory lending requirements, the riskiness of new loans has decreased markedly in the last two years. Banks' credit risk cost ratio for new loans under the economic downturn assumptions set out above gradually falls from 0.16% to 0.09%, i.e. by almost one-half. The reduction in losses is supported by declines in both probability of default and loss given default. It must be stressed that these are not declines in the current PD and LGD values, but in the values to which these parameters could increase amid adverse economic developments. One interpretation of the outcomes is therefore that the NBS measures have helped reduce the impact of any adverse scenario. The share of new loans that could default under that scenario falls by around 37% (from 1.16% to 0.73%). The decrease in PD implies that the NBS measures have gradually contributed to reductions both in banks' potential losses and in the potential impact of adverse economic developments on the household sector. It should be noted, however, that the fall in loan portfolio riskiness may have been supported not only by the NBS measures, but also by positive economic trends, particularly in the area of income growth.

Chart 49
Credit risk cost ratio
(%)



Source: NBS.
Note: The data are for banks with a combined market share of 58%.

Chart 50
Probability of default vis-à-vis the share of newly defaulted loans
(%)



Source: NBS.
Note: The data are for banks with a combined market share of 58%.

An analysis of the riskiness of new loans using data from Household Finance and Consumption Survey (HFCS)[31]

General characteristics of the approach

The analysis uses an integrated dynamic household balance sheet model, following Gross and Población (2017).[32] This model features several modules, including a module for macroeconomic developments, an unemployment simulator, a default simulator based on household balance sheet developments, and a module for assessing the impact on the banking sector's total capital ratio. For NBS's purposes, the model was implemented in such a way as to allow analysis of the NBS measures' impact on new loan riskiness under a crisis scenario based on the scenarios used in macro stress testing of the Slovak financial sector and on the macroeconomic model used for the NBS Medium-Term Forecast.

On the one hand, the main advantage of the HFCS-based analysis is its highly comprehensive approach. Since the HFCS collects a large volume of data on the socio–demographic, income and wealth characteristics of in-

[31] For the purposes of this analysis, a joint project was established between NBS and the ECB. The project members were J. Klacso (NBS), P. Jurča (NBS), E. Tereanu (ECB), M. Gross (EBC/MMF) and M. Forletta (ECB).

[32] Gross, M. and Población, J. (2017), "Assessing the efficacy of borrower-based macroprudential policy using an integrated micro-macro model for European households", *Economic Modelling*, Vol. 61, Issue C, pp. 510-528.

dividual households, it enables better PD modelling. This analysis allows account to be taken of, for example, the amount of savings that can be used in times of need, or the impact that a potential crisis will have on specific economic sectors in which household members work.

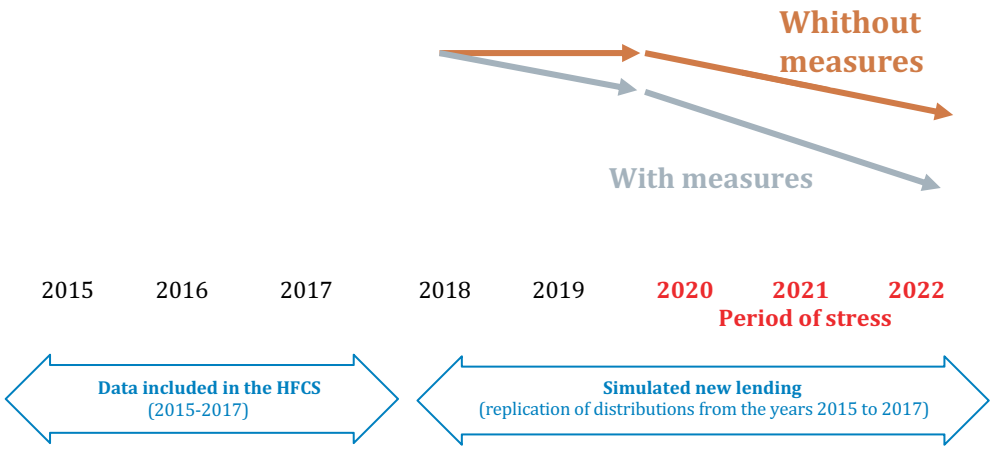
On the other hand, the main disadvantage of the HFCS is the small size of the sample. The only data used in the analysis are for households granted a housing loan within the period 2015–2017, and the sample includes fewer than 100 individual households. Despite the small size of the sample, however, the main conclusions are largely consistent with the previous analysis based on loan-level data.

Ex ante simulation method

This analysis included the simulation of new lending over a period of five years following full phase-in of the NBS measures, with the last three years of that period being a time of economic crisis. In order to allow a full assessment of the impact of the NBS measures, the simulation must capture their impact on loans provided just before a crisis period and the subsequent crisis period. This is because the Slovak banking sector's previous experience shows that the riskiest loans are those provided just before a crisis. To capture this effect, the simulation assumes that the measures are fully phased in from the start of 2018 (i.e. they are in force just as they are due to be as from 1 July 2019). It is further assumed that the following two-year period (2018 and 2019) is a time of favourable economic developments and that the subsequent three-year period (2020 to 2022) is a time of economic crisis.

The simulation of new lending in the years from 2018 to 2022 is based on new loan data included in the HFCS. This simulation is implemented by replicating the distribution of parameters of loans provided in 2015, 2016 and at the beginning of 2017, when the collection of data for the third and most recent wave of the HFCS was completed. This replication is carried out in such a way that the weight of sample households which, according to the HFCS, have a housing loan actually provided during the given period is gradually and proportionally increased so as to correspond to the projection for aggregate new mortgage loans. The model used for this projection is the same as that used in the stress-test simulation of new lending. An overview scheme of the simulation is shown in Chart 51.

Chart 51
Scheme of ex ante simulations of new lending in the years 2018 to 2022 using HFCS data



Sources: NBS and ECB.
Note: HFCS – Household Finance and Consumption Survey.

The outlined scheme enables us to estimate the impact of the NBS measures on the strengthening of banks' and households' resilience to a crisis. For that purpose, new lending is simulated in two variants – including and excluding the impact of the measures. In the simulation excluding the measures' impact, new loans provided in the years from 2018 to 2022 are assumed to have the same characteristics as loans included in the HFCS and provided between 2015 and early 2017. Given the actual schedule for their phasing-in, the NBS measures are not assumed to have had a significant impact on the loans provided during that period. By contrast, the simulation including the measures assumes that the amount of each loan provided will fall so that the limits on the LTV, DTI and DSTI ratios are all met. During the stress period in each type of simulation, income is assumed to decline as stated below.

Methodology and key assumptions of the analysis

The unemployment simulation uses the same logistic regression model as that used in the sensitivity test discussed above. The main assumptions concerning unemployment growth are also in line with that test. The principal difference is that this analysis uses a greater number (10,000) of different scenarios for the unemployment rate. These scenarios are variants of the median scenario in which – as in the sensitivity test – the unemployment rate increases by five percentage points.

Assumptions concerning changes in income are more comprehensive in this analysis than in the sensitivity test. Here it is assumed that borrowers who lose their employment will receive unemployment benefits amounting to 75% of their original income only for a period of six months. Their

income after this period will be zero. It is further assumed that some borrowers who do not lose their job will face a decline in income. This mirrors what happened in the previous crisis, when those employees in the hardest-hit sectors who kept their jobs were often made part-time or had their working hours reduced. We assume that the income of borrowers who do not lose their jobs declines cumulatively during the first five quarters by between 0% and 20%, depending on the cyclicality of the sector in which they work.[33]

In the default simulation, account is also taken of household financial assets. In the case of borrowers whose income has fallen, it is assumed that they will avoid defaulting on their loan if, for up to 1.5 years, they can use savings to cover any shortfall between their income and the sum of their debt-servicing costs and basic living costs (given as half of the minimum subsistence amount); if they cannot do so, the loan is assumed to default. This assumption is also based on experience from the previous crisis, when it was seen that many households who were granted enough time (for example, through forbearance) to resolve their financial difficulties managed to do so without defaulting on their loan.

The loss given default depends largely on the assumption of a decline in property prices. Property prices are assumed to decline by 30% and to do so evenly over the three-year stress period. It is assumed that when loans default, banks will not realise the collateral immediately, but only after the end of a certain period and not before the end of the three-year stress period. The LGD for a given borrower therefore depends on the rate of decline in the value of the property collateral between the provision of the loan and the end of the stress period. For loans provided before the stress period, this loss corresponds to the positive difference between the LTV ratio and 70%. For loans provided during the stress period, the loss is lower, since there is a lower rate of decline in the value of the property between the provision date and the end of the period. As in the sensitivity test, banks are also assumed to have additional administrative costs related to the recovery of the claim (including the auctioning of the collateral), amounting to 10% of the non-performing loan irrespective of the amount of the collateral. The loss calculation takes account of the partial amortisation of loans between the provision date and date of the assumed default.

The main assumptions of the default and LGD simulation methodology are shown in Table 7.

[33] The breakdown of economic sectors by cyclicality is the same as that which has long been used in the macro stress testing of the Slovak financial sector; it is based on the response of loan default rates in the given period to the economic downturn at the time of the previous crisis.

Table 7 Sensitivity test assumptions

Variable	Scenario
Property prices	gradual decrease of 30%
Unemployment	10,000 scenarios, average increase of 5 p.p.
Income following loss of employment	decrease of 25% during first six months, and zero income thereafter
Income when remaining in employment	gradual decrease of between 0% and 20% depending on the cyclicality of the sector in which the borrower works
Loss given default	10% + positive difference between, on the one hand, the loan-to-value ratio and, on the other hand, the percentage ratio between the value of the property collateral at the end of the stress period and the value of the loan at origination
The borrower's age up to which the loan maturity date may be extended	70 years

Sources: NBS and HFCS.

Outcomes and main conclusions of the analysis

The results of the analysis confirm a relatively significant decrease in the riskiness of new loans provided after the effective date of the NBS measures. Credit risk costs related to new loans provided after the measures are fully phased in are estimated to fall by around 39%. It should be noted that this effect is not seen with the entire portfolio of bank loans, but only with those loans provided after the adoption of the NBS measures. Therefore, the downward impact on credit risk losses arising from the retail loan portfolio will appear gradually, after sufficient time has passed since the adoption of the NBS measures.

The most significant factor in reducing losses is the LTV ratio limit, which, as part of the NBS measures, is being gradually tightened quite substantially. As a result, the LGD is expected to fall by around one-third, despite the assumption of a relatively sharp drop in property prices.

After implementation of the NBS measures, the household sector is expected to be somewhat more resilient. Because of the measures (in particular, the DTI and DSTI limits), the non-performing loan ratio is expected to fall by around 0.3 percentage point. This implies a decline in the share of housing loan borrowers who get into difficulty with their loan repayments.

The analysis further confirms that the NBS measures have a moderate downward impact on the volume of new lending. This impact is at the level of around 10% of new housing loans, implying a decrease of around one to two percentage points in the annual growth rate of total housing loans.

A summary of the simulation results at the end of the stress test (cumulative) is shown in Table 8 and the development of the results over the stress period is shown in Chart 52 and Chart 53.

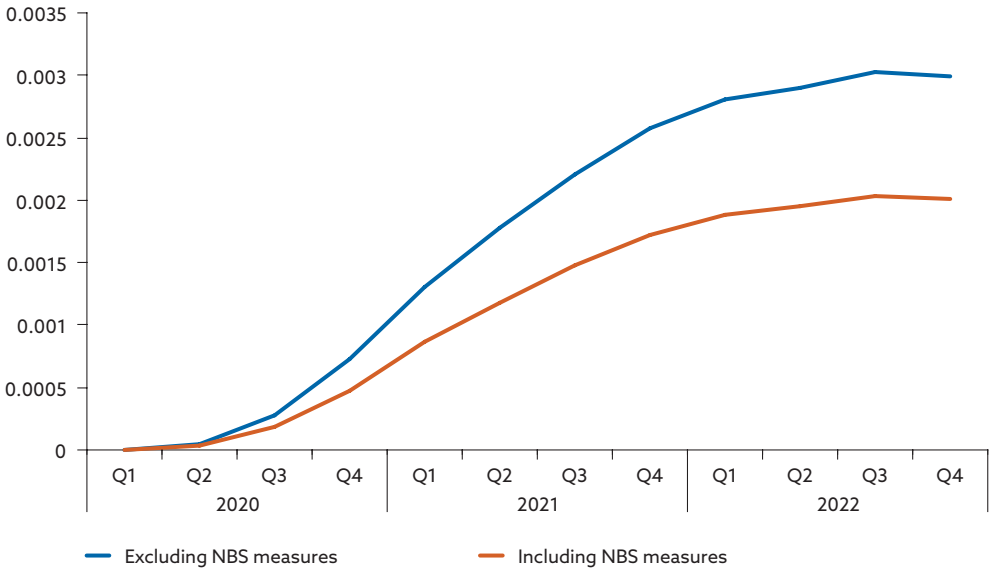
Table 8 Simulation results based on HFCS data

Parameter	Excluding NBS measures	Including NBS measures	Difference
Expected loss (EUR millions)	62	38	-39%
Credit risk cost ratio	0.30%	0.20%	-10 b.p.
Probability of default (PD)	1.68%	1.61%	-7 b.p.
Non-performing loan (NPL) ratio	1.56%	1.52%	-4 b.p.
Loss given default (LGD)	19%	13%	-6 p.p.
Volume of new loans (EUR billions)	20.7	18.7	-10%

Sources: NBS and HFCS.
Note: The values show the median scenario results cumulatively over the whole stress period (2020–2022) for new loans provided in the years 2018 to 2022.

Chart 52

Credit risk cost ratio during the three-year stress period



Source: NBS.
Note: The data are for the median scenario and for simulated new loans provided in the years 2018-2022.

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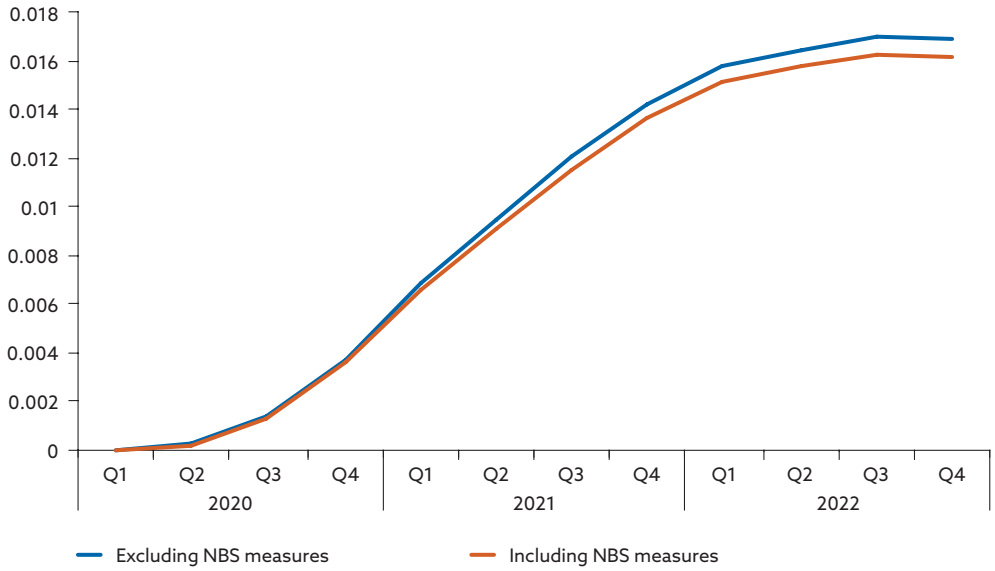
Chart 53
Default rate during the three-year stress period

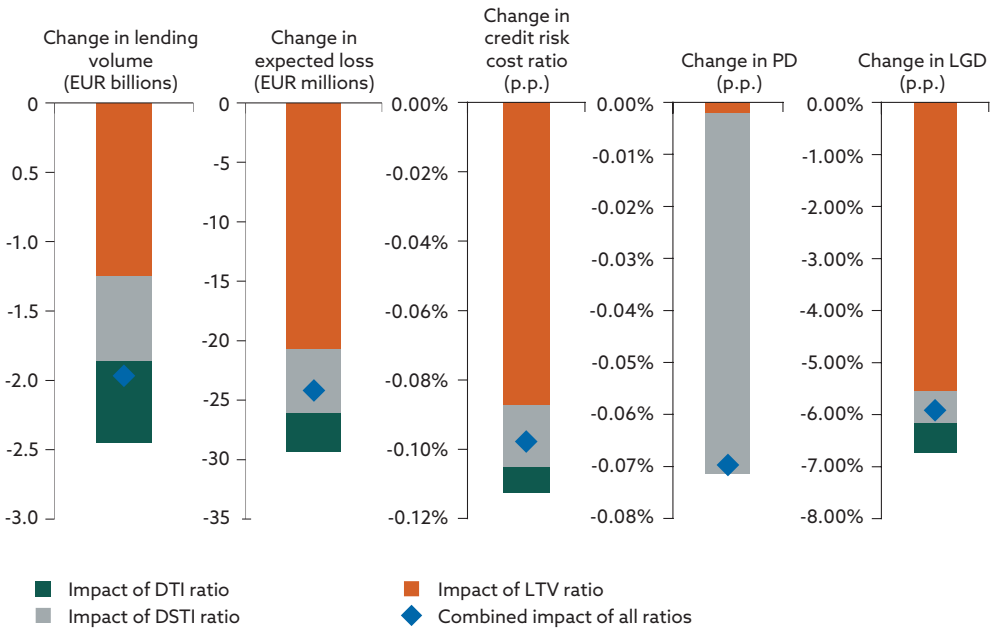


Source: NBS.
Note: The data are for the median scenario and for simulated new loans provided in the years 2018-2022.

The NBS measure that has done most to reduce the riskiness of new loans is the LTV ratio limit. This impact results mainly from a marked decrease in the LGD parameter. Furthermore, the LTV ratio limit is the limit that has been tightened the most, and over a relatively long period. In 2014 one-quarter of the housing loans provided by banks had an LTV ratio of 100%. From July 2019, when the measures have been fully phased in, no more than one-fifth of new loans may have an LTV ratio of more than 80% and none at all may have a ratio exceeding 90%. The results also confirm that the DSTI ratio limit has an impact on new loan riskiness, primarily by reducing the probability of default in the event of a deterioration in economic conditions – which was its main purpose. Of the measures adopted, the DTI ratio limit makes the lowest contribution to reducing loan riskiness. Its impact is, however, seen in a further decrease in the volume of new loans. This is in line with the limit's main purpose, namely to reduce excessive growth in household indebtedness.

Chart 54

Contributions of individual ratio limits to changes in the volume of total new housing loans and to changes in parameters



Source: NBS.
Notes: The data are for the median scenario and for simulated new loans provided in the years 2018–2022. DTI – debt to income; DSTI – debt service to income; LTV – loan to value; PD – probability of default; LGD – loss given default; p.p. – percentage points.

It should be noted that although this analysis is relatively comprehensive in terms of modelling the impact on loan riskiness of changes in households' financial situation, it does not take account of several other factors that may affect the assessment of the overall macroeconomic impact of the measures. The most significant of these channels is the macro feedback effect of changes in the credit market. An easing of loan growth due to the NBS measures may lead to a moderate slowdown in economic growth; given, however, the currently excessive rate of economic growth, this may not necessarily be a negative effect. On the other hand, the increasing resilience of banks and households may mitigate the impact of a potential crisis, in particular its impact on bank lending and household consumption.

The simulation also assumes that if the NBS measures are absent, credit standards remain at the level they were at in the period 2015–2016, before the measures were actually implemented. As experience from the pre-crisis period showed, however, non-adoption of measures may result in even further easing of credit standards. Therefore, the actual impact of the NBS measures on loan riskiness may be even greater than indicated by the simulation outcomes.

NÁRODNÁ BANKA SLOVENSKA
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Abbreviations

CEE	central and eastern Europe
CMN	Property Price Map (Cenová mapa nehnuteľností)
DSTI	debt-service-to-income (ratio)
DTI	debt-to-income (ratio)
EBA	European Banking Authority
ECB	European Central Bank
ECB SDW	ECB Statistical Data Warehouse
EIOPA	European Insurance and Occupation Pensions Authority
EPIFP	expected profits included in future premiums
ESRB	European System Risk Board
EU	European Union
GDP	gross domestic product
HFCS	Household Finance and Consumption Survey
IFRS 9	International Financial Reporting Standard 9
IMF	International Monetary Fund
LCR	liquidity coverage ratio
LGD	loss given default
LTV	loan-to-value (ratio)
MREL	minimum requirement for own funds and eligible liabilities
NAV	net asset value
NBS	Národná banka Slovenska
NSFR	net stable funding ratio
O-SII	other systemically important institution
PD	probability of default
PMI	Purchasing Managers' Index
S&P 500	Standard & Poor's 500 Index
SO SR	Statistical Office of the Slovak Republic
SRB	Single Resolution Board
SSM	Single Supervisory Mechanism
SyRB	systemic risk buffer
TLAC	total loss-absorbing capacity
TLTRO	targeted longer-term refinancing operation
ÚPSVaR SR	Office of Labour, Social Affairs and Family of the Slovak Republic (Ústredie práce, sociálnych vecí a rodiny Slovenskej republiky)

NÁRODNÁ BANKA SLOVENSKA
EUROSYSTÉM

List of charts

List of tables