NÁRODNÁ BANKA SLOVENSKA
EUROSYSTÉM

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Contents

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, in particular 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 not only by financial sector institutions, but also by the behaviour of non-financial corporations and individuals. NBS therefore publishes a biannual Financial Stability Report (FSR), the main purpose which is to identify the principal risks jeopardizing the stability of the Slovak financial sector and to deal with its 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 stability and the financial sector's resilience. The FSR includes a section on the implementation of macroprudential policy in Slovakia.

Overview

The global economy has picked up, with positive trends seen also in the domestic economy

Global economic growth in 2017 surpassed expectations and was higher than in any other year since the financial and economic crisis. This trend was also beneficial for the Slovak economy. At the same time, there are also increasing signs that such a pace of growth may not be sustainable in the long run. As for what factors may cause economic growth to cool, the first is the gradual unwinding of growth-supporting measures, mainly in the area of monetary policy in advanced economies. The second reason is that many economies are close to potential, and so further, sustainable growth is possible only through structural factors, such as, for example, an increase in labour productivity or demographic growth. This is also the case with the Slovak economy, which is gradually beginning to show signs of overheating. The domestic labour market in particular, there are increasing reports of skilled labour shortages. The third reason is the adverse impact of recent protectionist measures, for example in the area of customs policy. If these were to escalate further, they could significantly impair international trade and consequently curb global economic growth. Given its openness, the Slovak economy could be highly vulnerable to these risks.

As regards external effects on financial stability, financial market risks have been mounting for a long time and are now becoming even more apparent

The most significant risk concerns the potential overvaluation of assets in equity and bond markets. This valuation risk applies also to riskier assets, as seen, for example, in the marked drop in credit risk premia on corporate bonds. As was confirmed, however, by financial market developments in February 2018, a sudden change in the stance of investors can quickly trigger a wave of turbulence. Furthermore, there are current aspects of global financial markets that increasingly resemble the situation seen before the Great Recession. In the United States, for example, there has been a sharp rise in lending to highly leveraged, often speculative-grade, borrowers. At the global level, an increasing share of total investments are being placed in investment funds, which, however, are exposed to increasing liquidity risk. At the same time, we are seeing new and innovative financial products that enable considerable leveraging, and also highly speculative investment strategies under which returns are dependent, for example, on the degree of financial market turbulence.

Among the domestic factors affecting financial stability, the most significant is the rapid increase in the indebtedness of households and firms

The current rate of borrowing by Slovak households and non-financial corporations (NFCs) is among the highest in the European Union. This trend is largely explained by falling interest rates, which are stimulating credit demand and simultaneously increasing pressure on financial companies to address their falling margins by stepping up their lending or investment activity. This, however, is making banks and households increasingly vulnerable to potential economic headwinds. As recent developments in the Baltic States have shown, however, the risks accompanying rapidly rising private sector debt can be a major source of instability. This is true even where the actual level of indebtedness is relatively low and even in the absence of other external sources of risk (such as a potential slowdown in the global economy). The significant increase in risks related to rapid household debt growth in conjunction with rising NFC debt is being pointed out by several international institutions, including the European Central Bank, International Monetary Fund, and credit rating agencies.

Excessive household debt growth stems from the prolonged trend of strong household credit growth

For more than six years, annual credit growth has been higher in Slovakia than in any other EU country. In that time, the stock of loans has almost doubled. In all other EU countries, the pace of credit growth was far lower. Although it stabilised to some extent from March 2017, credit growth remains elevated. Debt growth has for a long time been outpacing economic growth by more than two percentage points. Household

debt in Slovakia remains below the EU average in absolute terms, but compared with trends in other central and eastern European countries, and taking into account other economic fundamentals, it appears to be excessive in terms of both its growth rate and level. In Slovakia, unlike in other CEE countries, household debt growth is resulting not only from a high rate of economic convergence, but mainly from the sharp decline in interest rates.

Both current and expected trends in property price determinants point to diminishing scope for further long-term sustainable growth in these prices

Property price growth in recent years has been strongly supported by rising incomes, the increasing availability of credit, and, in particular, by an upturn in the labour market. Given that the labour market is showing signs of overheating, that the credit market is gradually becoming saturated, and that the size of the 25-45 age group is beginning to decline due to demographic trends, it may be expected that the scope for further price growth consistent with economic fundamentals will gradually diminish. Therefore if property price growth continues in double digits, it could start to shows signs of excessiveness. Although that growth slowed in the second half of 2017, there continue to be risks ahead. One indicator of such risks was the accelerating rise in offer prices for new builds during the first quarter of 2018, which was related to a marked drop in supply.

Due to the risks associated with rapid debt growth, changes in regulatory lending requirements are gradually being phased in

Národná banka Slovenska has in the past adopted several measures regulating credit standard limits, and these have contributed significantly to ensuring the prudential provision of retail loans. Given, however, the persisting pressure of low interest rates in the credit market and the signs that continuing rapid debt growth is becoming excessive, there is increasing need for further adjustment of regulatory lending requirements. In international comparison, moreover, the actual settings of some limits remains relatively moderate. This concerns mainly loan-to-value (LTV) ratio limits and the absence of debt-to-income (DTI) ratio limits. Therefore in these two areas there will be a gradual further tightening of regulatory lending requirements from July 2018. The changes will include a prohibition on the provision of loans with an LTV ratio exceeding 90% and, within a period of one year, partial reductions in the share of loans that have an LTV ratio of more than 80% and in the share of loans provided to borrowers whose total debt is more than eight times their annual income.

The adjusted requirements are expected to mitigate the risk of debt growth becoming excessive and to ensure that debt growth is consistent with economic trends. This concerns not only current indebtedness, but also maximum potential indebtedness, whose growth should not be significantly higher than household income growth.

Along with households, NFCs are also increasing their indebtedness

The ratio of total NFC debt to GDP has been increasing almost without interruption since 2014 and has crept above the median NFC debt-to-GDP ratio for central and eastern European EU Member States. A key component of this debt, in addition to bank loans, is the issuance of securities. The NFC credit market trends reflect the low interest rate environment and, even more so, the prolonged period of stable economic growth. Although NFC credit growth slowed slightly in the first quarter of 2018, it remained significantly above the European average.

The commercial real estate (CRE) market also remained in an expansionary phase, evident both in strong demand and in robust activity on the supply side (except in the supply of residential new builds, which fell). In the office space segment, the vacancy rate is still high and many new offices are under development. In contrast to this trend, the rate of growth in lending to the CRE sector fell quite sharply. This may have been due to a decline in the number of new projects unveiled and to increasing utilisation of other sources of financing, in particular the issuance of debt securities.

The banking sector's resilience in terms of solvency increased slightly

The banking sector has in recent years been able to compensate for falling interest margins by significantly increasing lending activity, thus maintaining relatively stable profitability. After adjusting for one-off effects, the sector's aggregate net profit for 2017 was 8% higher year on

year, and its profit for the first quarter of 2018 was 3% higher year on year. The banking sector's profitability and provisioning for non-performing loans continue to be among the highest in the banking union. Strong credit growth, however, is creating increasing requirements for both capital and liquid assets. As regards capital, the trends are favourable. Banks increased their aggregate retained earnings ratio and the sector's total capital ratio increased moderately in 2017, from 18.0% to 18.6%, slightly below the EU median. The fact that banks with lower capital ratios accounted for most of the aggregate rise was beneficial for financial stability.

The countercyclical capital buffer (CCyB) rate will be raised from 0.5% to 1.25% from 1 August 2018, which is still below the current buffer guide levels. If that divergence persists, NBS will consider raising the CCyB rate further.

From the view of liquidity risk, long-running adverse trends have become more pronounced

Compared with the past, liquidity risk has increased to an elevated level. The rapid rise in total loans – assets that are predominantly long-term and illiquid – is to a large extent funded by customer deposits. Banks are therefore still heavily reliant on such deposits remaining stable and not experiencing any significant outflows. Furthermore, the aggregate loan-to-deposit ratio is increasing faster in Slovakia than in any other euro area country. Another factor accentuating liquidity risk is that national liquidity coverage requirements were replaced with a less strict, harmonised EU-wide liquidity coverage ratio at the beginning of 2018. This change has been conducive to a marked drop in bank's liquid assets. Liquidity risk is also increasing in the investment fund sector.

The riskiness of fund portfolios has been increased by the low interest rate environment

In both the pension fund and investment fund sectors, the share of equity investment in funds' holdings has continued to increase owing to the search for yield in the low interest rate environment. In consequence, however, the risk exposure of funds' investment portfolios is increasing. Given that interest rates are expected eventually to rise again, exposure to such increase has been reduced.

Table 1 Principal risks to financial stability in Slovakia

	Area	Risk	NBS regulatory measures and recommendations; references to previous analyses
Risks arising from the external environment	Low interest rates and the impact of accommodative monetary policies	Adverse impact on the business models of banks and insurers; increasing riskiness of pension fund portfolios. Banks' business models becoming much more vulnerable as a result of low interest rates	*The risk to the sustainability of banks' business models in the low interest rate environment was analysed in depth in the May 2017 FSR and November 2017 FSR* *The impact on financial stability of digital innovation in financial services was examined in in the May 2016 FSR*
		Price bubbles forming in riskier assets. Increasing market risks in financial institutions' portfolios	A capital conservation buffer (CCoB) – fully phased in since 1 October 2014 An additional capital buffer requirement applied to O-SII banks on grounds of their systemic importance – being phased in between 2016 and 2018 The introduction of a non-zero countercyclical capital buffer (CCyB) rate of 0.5% from 1 August 2017, rising to 1.25% from 1 August 2018
	Macroeconomic developments in the domestic economy and global economy	Increasing credit risk costs in the event of adverse macroeconomic developments	A CCoB – fully phased in since 1 October 2014 An additional capital buffer applied to O-SII banks on grounds of their systemic importance – being phased in between 2016 and 2018 The introduction of a non-zero CCyB rate of 0.5% from 1 August 2017 in response to growth in both retail and NFC loans, rising to 1.25% from 1 August 2018 An NBS Decree on the provision of housing loans (the 'Housing Loan Decree') – in force since 1 January 2017 An NBS Decree on the provision of consumer loans (the 'Consumer Loan Decree') – in force since 1 January 2018 Amendments to these decrees – DTI ratio limits and tighter LTV ratios – entering into force on 1 July 2018
		Banks' increasing vulnerability to adverse property market developments in the event of an economic downturn	LTV ratio limits for housing loans imposed by the Housing Loan Decree – in force since 1 January 2017 An amendment to the decree (tightening the LTV ratio limit) – in force since 1 July 2018
	EU regulatory environment	In the context of the EU's banking union, potential easing of regulatory rules for bank subsidiaries of foreign banks in the areas of liquidity, capital and large exposures	*These risks were analysed in depth in the May 2016 FSR and May 2017 FSR*
		The risk of the impact of the implementation of the EU minimum requirement for own funds and eligible liabilities (MREL)	*These risks were analysed in depth in the May 2015 FSR and November 2016 FSR* *The general impact of higher costs arising from regulatory changes was examined in the May 2017 FSR*
Risks arising from the domestic financial market development	Household indebtedness	The household sector being weakened by its increasing indebtedness and therefore heightening the banking sector's vulnerability to any deterioration in the macroeconomic situation	The Housing Loan Decree – in force since 1 January 2017 The Consumer Loan Decree – in force since 1 January 2018 Amendments to these decrees – DTI ratio limits and tighter LTV ratios – entering into force on 1 July 2018 The introduction of a non-zero CCyB rate of 0.5% from 1August 2017 in response to growth in both retail and NFC loans, rising to 1.25% from 1 August 2018
	Liquidity	Maturity mismatch between assets and liabilities Decline in the volume of liquid assets Increase in the loan-to-stable deposit ratio	A new legislative framework for the issuance of covered bonds, which may positively contribute to the stability of banks' long-term funding – in force since 1 January 2018 *The risk of maturity mismatch between assets and liabilities was analysed in depth in the May 2015 FSR*
	Concentration, financial market interlinkages, and contagion	Relatively high concentration in (part of) the portfolio, or higher intra-group exposure, in certain institutions or funds	A recommendation that banks take a prudential approach to assessing close economic links between customers and to managing concentration risk in both lending and deposit businesses An additional capital buffer applied to the five largest banks on grounds of their systemic importance – being phased in between 2016 and 2018 *Risks related to the linkages between financial institutions were analysed in depth in the November 2015 FSR*
	Business practices of financial institutions	Potential strategic risk from increasing linkages between financial undertakings and financial brokers	The Housing Loan Act and Consumer Credit Act require financial institutions to take a prudential approach when cooperating with financial brokers
		Potential imbalances resulting from the asymmetric relationship between financial undertakings and their customers In regard to consumer protection, reputational risk is threatened in the banking and insurance sectors	In 2015 NBS assumed responsibility for the supervision of non-bank lenders and, at the same time, its competences and supervisory powers in the area of financial consumer protection were significantly strengthened *The repercussions of these changes were examined in the May 2016 FSR*

Source: NBS.
Note: FSR – Financial Stability Report.

CHAPTER 1

MACROECONOMIC ENVIRONMENT AND FINANCIAL MARKETS

1

1 MACROECONOMIC ENVIRONMENT AND FINANCIAL MARKETS

1.1 GLOBAL ECONOMIC RECOVERY ACCOMPANIED BY CONTINUING BUILD-UP OF RISKS AND IMBALANCES IN FINANCIAL MARKETS

Key trends in the external environment

- The global economic situation is better now than at any time in the past eight years.
- Amid a relatively robust recovery, the monetary policy cycle is slowly turning and interest rates are increasing slightly.
- Financial markets, with equity markets at the fore, experienced turbulence in February and remained somewhat volatile in the subsequent period.
- The recent financial market turbulence simply underlines the fact that the greatest risk to financial stability is a sudden shift in the stance of investors on the pricing of risk and assets.
- Following recent steps taken by the US administration, the risk of protectionism and a retreat from globalisation is becoming more clearly defined.

THE GLOBAL ECONOMIC SITUATION IS BETTER NOW THAN AT ANY TIME IN THE PAST EIGHT YEARS

Global economic activity growth accelerated in 2017. As measured by GDP, global activity increased by 3.8% year on year, its highest rate since 2011. The world economy gradually gained momentum during 2017 and recorded particularly strong growth in the second half of the year. As a result, the actual growth rate surpassed the original projections. An encouraging aspect of this recovery is that it is broad-based, occurring across regions and a majority of countries.

The increase in activity stemmed mainly from investment demand growth in advanced economies, and increasing consumption growth in emerging market economies (EMEs). Compared with the previous year, international trade began to pick up significantly. In several countries, economic activity was also boosted by the rallying of commodity markets. This all took place in the background and resulted in no small part from a relatively growth-supporting mix of economic policies, led by accommodative monetary policies in advanced economies.

The euro area economy also performed better than expected in 2017. The euro area's annual GDP growth in 2017 stood at 2.4%, a rate that was fully one-third higher compared with the previous year and the highest in the post-crisis period. All euro area countries experienced this upward trend, and their growth rates were converging to a greater extent than before. In several countries, GDP growth was higher than originally projected.

Outlooks for the global economy remain bright for the next one to two years, with GDP growth during that period expected to be similar to last year's level. In the near term, the global economy is expected to be borne on the wave of the current increased growth and

Chart 1 Euro area activity and sentiment indicators

Sources: Bloomberg and internet.

confidence, with a further impulse envisaged to arrive in the form of fiscal expansion in the United States. Actual data for the first months of 2018, however, have deviated slightly from such projections. According to monthly statistical data as well as confidence indicators, the current cycle peaked at the end of 2017. This is probably most apparent in the euro area. Whether or not the present situation is a case of short-term seasonal fluctuation, it may be expected that the global economy will cool in the longer term and that growth-supporting cyclical factors will fade, particularly in advanced economies. After their output gaps close, these economies will rely for growth on structural factors such as labour productivity and demographics, which in their case will probably have a quite limiting effect.

In the background of the firm recovery, the monetary policy cycle is slowly turning

The strengthening economy and return, albeit slowly, of inflation rates to target levels is giving central banks in advanced economies a long-awaited opportunity to unwind their unprecedentedly accommodative monetary policies. This is most apparent in the United States, where the Federal Reserve has raised the federal funds rate by a cumulative 150 basis points. All but one of the rate-hiking decisions were taken in the last eighteen months. Furthermore, in October 2017, the Federal Reserve began the process of gradually shrinking its balance sheet. Although the European Central Bank (ECB) is still buying securities under its asset purchase programme (APP), the monthly pace of purchases has been cut to only €30 billion since January 2018, less than half of its erstwhile high of €80 billion. Since, according to its forward guidance, the ECB does not expect any increase in interest rates until well past the horizon of the APP, it is assumed that the key ECB interest rates will not be raised before 2019. This also corresponds to the path of market interest rates, which have bottomed out and are rising – very slowly in the euro area and somewhat faster in the United States.

Financial markets, led by equity markets, have been marked by a return to volatility

The combination of a sound macroeconomic situation and still highly accommodative monetary policy lay behind the exceptional stability observed in financial markets during 2017. Asset prices were free from significant fluctuation and market sentiment was calm, resulting in historically low volatility in all significant asset classes. Equity markets the world over had a successful year in 2017. The major equity indices for the United States, Japan, and a group of emerging market economies climbed by at least one-fifth. European equities also increased, but less markedly. Equity markets also began 2018 with impressive figures. Apparently in response to the stimulus of fiscal measures in the United States and to peaking confidence among investors, equity indices rose in January to an extent not often seen in a single month. In the United States, equities increased by 6%, and in the EME world, by more than 8%.

At the beginning of February, however, the situation in world equity markets changed dramatically. The general consensus is that this turnaround may have been triggered by the news of accelerating wage growth in the United States, which investors interpreted as a risk of inflation growth and monetary policy tightening. After the release of the wage growth data on 2 February, all equity markets fell sharply, with many seeing the gains made since the start of the year wiped out in a few days. For example, between 2 and 8 February, the US S&P 500

Chart 2 US equity market trends

Source: Bloomberg.
Note: Rebalanced index S&P 500 (31 December 2016 = 100).

index fell by 9% and European Eurostoxx index dropped by 6 %. Although equity markets subsequently stabilised to some extent, they were far more volatile than they had been during 2017. On the one hand, this may be seen as a welcome return to a healthier state of affairs, where price formation is confronted by contradictory assessments and there is not simply a prevailing optimistic consensus. On the other hand, it could be interpreted as a sign of market instability and a harbinger of even greater volatility in the future.

Global financial stability depends above all on the shock-absorbing capacity of financial markets, in which imbalances have built up

The recent financial market turbulence simply underlines the fact that the greatest risk to financial stability is a sudden shift in the stance of investors on the pricing of risk and assets. This situation is mentioned mainly in connection with the possibility of an unforeseen rise in inflation, particularly in the United States (stemming from, among other things, the potential procyclical effects of fiscal stimulus). If the inflation outlook were to change, the Federal Reserve would be compelled to respond by tightening monetary policy to a greater extent than it currently envisages doing, probably resulting in decompression of term premiums in the US bond market. Through this risk premia, which shows elevated cross-country correlation, long-term interest rates would be raised in other countries, too. This could lead to a broad reassessment of risk appetite and of exposure to riskier assets, and consequently to a global tightening of financial conditions with potentially adverse repercussions for the real economy.

The downside risks to financial markets have been mounting for a number years owing to the build-up of several imbalances, partly as a side effect of loose financial conditions. The multi-year period of low interest rates and quantitative easing has stimulated large increases in the prices of virtually all financial assets. In the current situation, the main issue is whether the prices of these assets are justifiable and consistent with economic fundamentals. Among the assets most often mentioned in the context of potential price bubbles are US equities, which are on an almost uninterrupted nine-year upward trend. Their most prominent index, the S&P 500, has risen to a level that is 70% higher than its highest pre-Great Recession level, even taking into account its declines at the beginning of this year. That equities are to some extent overvalued is further confirmed by standard metrics for identifying mispricing, such as the CAPE ratio. European equities are more correctly priced, whether in nominal terms or in relation to firms' expected future income. This does not mean, however, that a bearish turn in US equity markets would not spread to European and other markets as a result of heightened market nervousness.

Several excessive factors are appearing in bond markets, too. Although the share of bonds with negative yields has fallen slightly since the onset of monetary policy normalisation in advanced economies, it remains around 15%. In the case of corporate bonds, not only are their yields low, but also their spreads against risk-free benchmarks remain compressed. In all credit-rating segments, whether on US, European or EME bonds, spreads are located in the lower part of their historical distribution. Furthermore, favourable financing conditions have stoked issuance activity, and, important to note, the focus of issuers' credit-rating has shifted to less creditworthy lenders. It is true that default rates are currently low also for speculative-grade bonds, but that could quickly change if interest rates were to begin rising significantly or if macroeconomic conditions deteriorated.

Trends in the leveraged loan market (lending to speculative-grade or highly leveraged borrowers) strongly attest to the build-up of imbalances and increase in risk appetite. In no year since 2012 has the volume of new loans in this segment fallen below USD 500 billion, and last year it stood at almost USD 800 billion, exceeding the previous all-time high set in 2007. Although the majority of leveraged loans are provided in the United States, a significant increase in such lending activity was observed in other regions in 2017. As well as the easy availability of credit to risky borrowers, another indicator of the credit cycle's late phase is that the credit standards for these loans are far more relaxed compared with the standards applied in the period of rapid risk growth that preceded the outbreak of the global financial crisis.

The increasing use of the leverage effect, the rising significance of non-banks' activities, and the application of speculative, synthetic derivative strategies could contribute to the spread of contagion in the financial system

Financial markets are becoming increasingly vulnerable to shocks, partly because use of the leverage effect is again becoming significant. In the past, investors used mainly repo transactions for this purpose, but after regulatory tightening, other ways of establishing the same effect are increasingly being pursued. Examples include margin trading and the use of speculative derivatives in investment funds, both of which, according to statistics, are showing signs of a rising trend.

The increase in financial market imbalances may also be caused by increasing investments in investment funds and in exchange-traded fund instruments. On the liability side, such vehicles provide customers with a high degree of liquidity, while on the asset side, by contrast, they often invest in less liquid instruments. Hence, their balance sheets typically show large maturity mismatches. In the event of sudden customer outflows (in response, for example, to market turbulence), funds would be constrained to fire-sell illiquid assets in large volumes, thereby further exacerbating the original adverse situation.

Furthermore, as was seen in February, financial markets are susceptible to the spread of contagion caused by the presence of highly speculative investment strategies. It does not matter that, compared with the size of the respective markets, the volume of underlying assets directly concerned is virtually negligible. One example is a strategy and the corresponding market products that allowed investors to bet on the continuation of low volatility. The popularity of these products has increased markedly, particularly in 2017. The internal mechanism of the strategy itself explains why on 5 and 6 February the VIX implied volatility index for US equities soared from 15 to 50 points, an increase far larger than the one that would correspond to the size of the decline in the equity index. This is because the initial increase in the VIX, triggered by equity market concerns, forced investors in these products into purchasing large volumes of VIX-linked futures in order to cover open short positions. This in turn, however, set off a further rise in the VIX and consequently a dangerous feedback loop.

Risks related to the implementation of a protectionist agenda in the United States have recently begun to materialise

Following recent steps taken by the US administration, the risk of protectionism and a retreat from globalisation is becoming more clearly defined. On 1 March 2018 it was announced that the United States planned to introduce tariffs on imported steel (25%) and aluminium (10%). Within three weeks these tariffs were in force, although certain trading partners, including the EU, were granted at least a temporary exemption. At around the same time, the US President directed the government agency responsible for trade policy to identify a list of Chinese products on which USD 50 billion worth of tariffs would be imposed. China responded at the beginning of April with countermeasures in the form of tariffs (15% or 25%) on around one hundred products imported from the United States. Shortly afterwards, it emerged that the United States was considering imposing an additional USD 100 billion worth of tariffs on Chinese goods.

The resulting impact of the imposition of trade barriers will depend on how many goods and countries are affected and also on the reactions they trigger among economic agents. The trade barriers mentioned above are not expected to have more than a marginal impact on future economic growth, whether globally or in the euro area. Although it is widely assumed that such constraints on free trade will remain within relatively narrow bounds, the possibility of further protectionist measures and countermeasures being taken and escalating into a full-blown trade war – not only between the United States and China, but also between other countries and groups of countries – cannot at present be entirely ruled out. Regardless of their direct impact, the indirect effects of protectionist price measures and potential non-price measures could be very significant in terms of the measures' overall impact. Indirect effects here mean the extent to which expectations about the primary effects are reflected in financial market sentiment and in the real economy. In two brief periods following the announcement of the tariff measures, bouts of equity sell-offs and a relatively large drop in

equity prices were observed, suggesting that investors are highly sensitive to such developments. In each case, however, equity indices rebounded to their original levels, or higher, within a few trading days.

1.2 THE SLOVAK ECONOMY IS PERFORMING WELL AND ITS GROWTH IS EXPECTED TO ACCELERATE FURTHER, POSSIBLY RESULTING IN ITS OVERHEATING

Key trends in the domestic environment

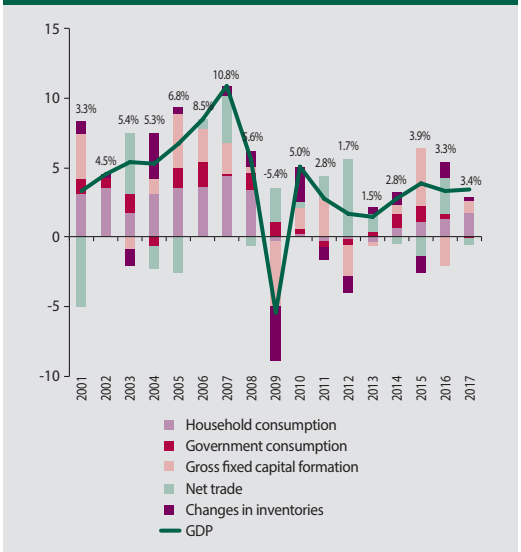
- The Slovak economy has been approaching its potential and its output gap is expected to open gradually in the period ahead.
- However, signs of overheating in the labour market can already be observed, with the unemployment rate down to historical lows and skilled labour shortages gradually beginning to appear.

THE SLOVAK ECONOMY IS EXPERIENCING GOOD TIMES, WITH ANNUAL GDP GROWTH EXCEEDING 3% IN EACH OF THE LAST THREE YEARS. IN THE SECOND HALF OF 2017 GROWTH WAS DRIVEN BY DOMESTIC DEMAND AND, TOWARDS THE YEAR-END, ALSO BY FOREIGN DEMAND. GROWTH IS EXPECTED TO ACCELERATE FURTHER IN THE UPCOMING PERIOD.

In Slovakia and other EU countries, the business cycle was in an expansionary phase in the second half of 2017. All EU countries recorded GDP growth of more than 1% for the period, and Slovakia's growth rate surpassed the average of both the euro area and the EU as a whole (2.4% in each case). A business cycle upswing could therefore be seen both in the domestic economy and in Slovakia's trading partners.

Slovakia's economic growth accelerated moderately in the second half of 2017, and towards the year-end it was supported not only by domestic demand, but also foreign demand. Household final consumption has in recent years been a steadily strengthening component of domestic demand. It is households that are, through their consumption, making a stable and significant contribution to domestic economic growth. Household demand and consumption is being supported by the favourable labour market situation, nominal wage growth, and improving consumer sentiment. As a result, household consumption growth accounted for around half of Slovakia's total GDP growth in the second half of 2017. After its growth slowed in the first half of 2017, the investment component also contributed positively to GDP growth in the second half of the year, with not only private investment rising, but government investment also turning upwards. After falling for the previous year and a half, government investment registered double-digit growth, reflecting the gradual pick-up in the absorption of European Union funds under the current EU programming period. Government consumption had a moderately positive impact on GDP growth at the end of 2017, based mainly on increases in public sector wage expenditure and in purchases of goods and services. The only GDP component that contributed negatively to overall growth in the second half of 2017 was inventories. As for net trade, it made the largest positive contribution to GDP growth in the fourth quarter, after stagnating or declining in the three previous quarters (owing mainly to production overhauls in the car industry and the consequent drop in some carmakers' exports). Therefore, Slovakia experienced balanced economic growth in the last quarter of 2017, driven by both domestic and foreign demand.

Chart 3 Slovakia's annual GDP growth and its components (percentages)



Sources: SO SR and NBS calculations.

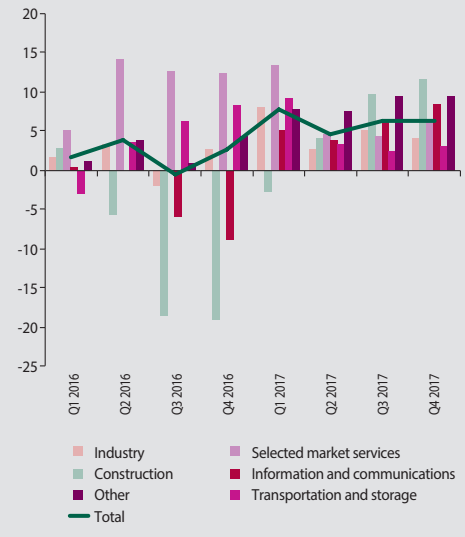
Economic growth is projected to accelerate further in 2018 and to peak in 2019. Slovakia's GDP growth is expected to continue being supported by both domestic and foreign demand, and the economy's potential will also be raised by the upcoming expansion of production capacity in the car industry.

The Slovak economy was approaching its potential in late 2017, which means that its existing production capacity was basically already fully used. The strengthening of economic growth in the upcoming period is expected to result in the opening of a positive output gap and in gradual overheating of the economy. In this scenario there is also an increasing build-up of risks, as part of the economic production and the jobs created will not be sustainable over the long term. These factors affect also the financial and credit markets, given that economic activities are financed in part through borrowing. Any future correction of the upward economic trend may be reflected in falling credit demand as well as in an increase in non-performing loan ratios.

The corporate sector is doing well. Even the construction sector and the information and telecommunications sector have returned to growth, after a year of falling sales

The business cycle's expansionary phase is being reflected in the sales of the non-financial corporate sector, which increased in the second half of 2017 by more than 6% year on year. Sales growth in that period was most pronounced in the sectors of industry and services. At the same time, sales increased across economic sectors, including in the construction sector and information and telecommunication sector, where they had fallen in 2016 following the end of the absorption of EU funds under the previous programming period. Macroeconomic trends in the second half of 2017 stimulated corporate demand for new credit, which rose during the period as firms increasingly required credit for both operating and investment purposes.

Chart 4 Nominal sales in selected economic sectors (annual percentage changes)



Sources: SO SR and NBS calculations.

The labour market is on an upswing, with unemployment at historically low levels. Skilled labour shortages are beginning to appear

The number of people employed in Slovakia at the end of 2017 was higher than at any other time in the country's history. Headcount employment at the year-end was close to 2.4 million. As a corollary, the unemployment rate at the year-end was at an all-time low of 7.6%.[1] Most of the new recruitment in the second half of the year was in the sectors of industry, trade, and services. The only sector reporting a drop in employment has for several years been agriculture, and last year was no exception in that regard. The labour market is beginning to show signs of overheating, with some sectors starting to face the problem of skilled labour shortages. Employers are addressing this situation by, among other things, hiring foreign workers. Last year saw wages continue to rise, with the average wage in the economy increasing by 4% year on year. Increasing labour market pressures and skilled labour shortages will put upward pressure on wages in 2018. These factors are also expected to bolster credit demand among households.

The price level increased notably after three years of decline

Goods and services prices increased notably in 2017, and the inflation rate at the end of the year was close to 2%. The inflation rate excluding energy actually exceeded 2% in the second half of the year. Food and services prices accounted for most of the increase in headline inflation, but other components also had an upward impact. Energy prices, however, remained on a downward trend for a fifth successive year. Inflation was rising in a low interest rate environ-

1 *The unemployment rate based on the Labour Force Survey.*

ment, and therefore, by the end of the year, some loans (in particular housing loans and NFC loans) were being provided, on average, at a negative real interest rate.

Risks to the economic outlook

Risks to the economic outlook are currently quite subdued. Uncertainty surrounding domestic and foreign political developments, and its potential escalation, could weigh on economic sentiment and investment activity, with adverse repercussions for the economy. Another risk to the outlook is that the business cycle may turn downwards earlier than expected, both in Slovakia and abroad, whether as a consequence of softening foreign demand or other factors. Another downside risk to the foreign demand outlook is the potential escalation of certain geopolitical conflicts. As for global demand, a downward risk to the outlook is that some countries may pursue protectionist policies to an increasing extent. Financial market developments earlier in 2018 showed that a sooner than expected monetary policy tightening by the Federal Reserve or ECB could impair sentiment and global demand, and consequently have an adverse impact on the Slovak economy.

CHAPTER 2

FINANCIAL SECTOR TRENDS AND RISKS

2

2 FINANCIAL SECTOR TRENDS AND RISKS

2.1 INCREASING HOUSEHOLD DEBT

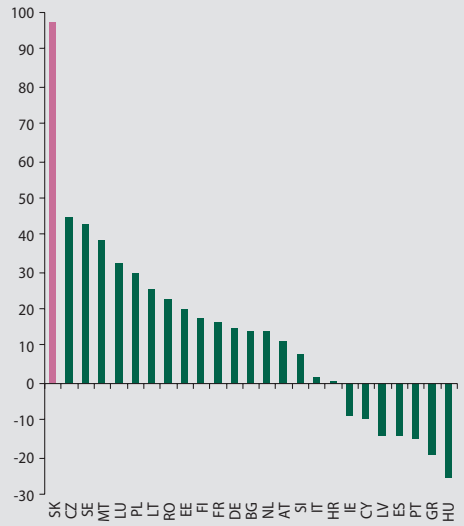
Key trends in regard to household debt

- Housing loan growth in Slovakia remains the highest in the EU, and indebtedness is elevated.
- Household borrowing growth is outpacing economic fundamentals.
- Credit is increasing under upward pressure from several long-term and one-off factors.
- In order to mitigate imbalances, NBS has several times adjusted regulatory lending requirements.

HOUSEHOLD CREDIT GROWTH REMAINED HIGH

The continuing increase in household credit is among the most notable trends from the view of financial stability and also one of the major risks to that stability. Slovakia is the only EU country in which household credit growth is almost constantly in double digits. The stock of loans to households has almost doubled in the past six years. There is a particularly striking gap between household credit growth in Slovakia and in other EU countries, with the rate in Slovakia far higher than the next highest.

Chart 5 Slovakia has had the highest credit growth in the EU for more than six years (percentages)
(relative rate of change in the stock of household loans between February 2012 and February 2018)



Source: ECB SDW.
Note: The chart does not include data for Belgium, which were skewed by housing loan securitisation.

Rapid credit growth has been supported by strong demand and supply factors. Household credit growth in Slovakia has been supported by an exceptionally benign macroeconomic environment, and in particular by the gradual overheating of the labour market. The main factor behind the strong credit growth is obviously the low interest rate environment. This is evident from a comparison of credit growth in Slovakia and in neighbouring countries. Although the macroeconomic environment has been improving in those countries, too, it has not resulted in such high credit growth as that seen in Slovakia. It is in the area of interest rates that the situation in Slovakia has differed, since rates in Slovakia were among the highest in the region in 2010 and now they are the lowest[2].

Banks are playing a key role in the current strong credit growth. As falling interest rates have compressed their interest margins and thus put downward pressure on their profits, banks have sought to respond by stepping up their lending activity, which they have also been encouraged to do by the currently low default rates. Such a stance may, however, turn out to be unduly optimistic, particularly in the event of an economic shock.

Národná banka Slovenska has repeatedly pointed out the risks of rapid credit growth and has also taken measures to mitigate the resulting imbalances. NBS has therefore set limits on several parameters for banks' lending to households. Its primary aim in this regard has been to end undue easing of credit standards, which could pose a risk to borrowers and banks in the future. Nevertheless, the banks themselves continue to bear most of the responsibility for ensuring that loans are repaid even in stress situations.

The measures taken by NBS to date have succeeded in moderating credit growth. A 2014 NBS recommendation had a stabilising impact, particularly on the consumer loan market and to

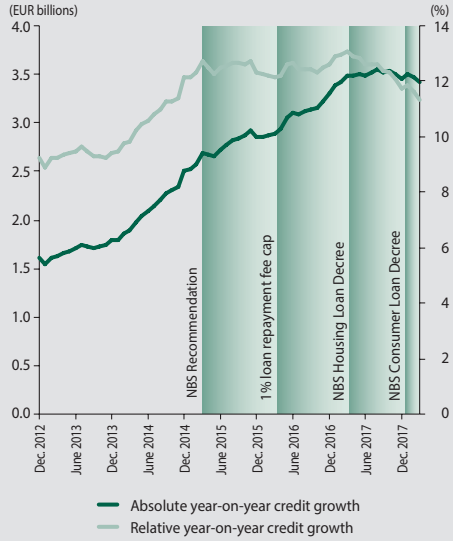
2 *Further information about factors contributing to household indebtedness may be found in the FSR November 2017.*

a lesser extent on the housing loan market. After NBS's Housing Loan Decree entered into force in the first half of 2017, the pace of housing loan growth moderated. That decree also helped stabilise the property market. Most notably, a fall in the share of speculative property purchases had a dampening effect on property price inflation.

At the same time, however, powerful factors continue support strong price growth. As mentioned above, falling interest rates on new loans have had a marked impact within a relatively short period of time. In 2016 a statutory cap on early repayment fees for housing loans was introduced and resulted in major changes in the credit market. Interest rates fell sharply, and credit growth consequently accelerated.

In late 2017 and early 2018, household credit growth stabilised to some degree, but remained elevated. A number of factors may account for this stabilisation. The first factor is NBS's action on regulatory conditions for retail lending, since it is assumed that a gradual tightening of credit standards has a dampening effect on the credit market. The second factor may be gradual saturation of the credit market. Although the share of indebted households in Slovakia is still lower than the EU average, debt penetration among younger age groups is similar to the EU level. Given also the demographic weakening of the younger sections of the population, credit market saturation may begin to appear in the medium term.

Chart 6 Household debt growth was also influenced by legislation
(year-on-year change in household credit growth in EUR billions and percentages)



Source: NBS.
Note: '1% loan repayment fee' – the introduction of a regulatory limit of 1% on the level of early repayment fees for housing loans.

Box 1

SELECTED LIMITS ON CREDIT STANDARDS

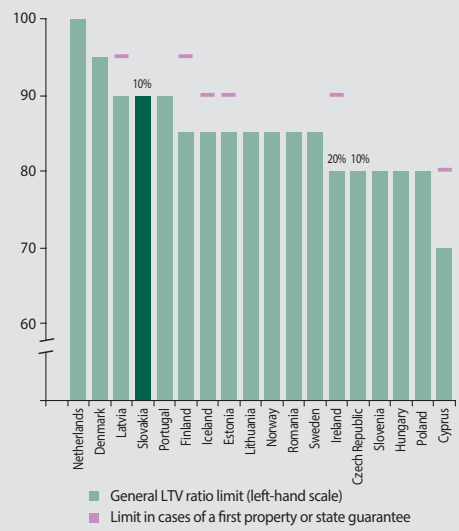
Although Národná banka Slovenska has tightened several regulatory limits on credit standards, credit availability in Slovakia is above average by international standards. The first example of this is the LTV ratio limit, which is set at one of the highest levels in the EU. Hence, the average LTV ratio for new loans in Slovakia is the fourth highest in the euro area.

Table A Financial buffer requirements in selected European countries

Country	Required financial buffer after deducting debt service expenditure from income	Debt service expenditure calculated at a stressed interest rate	Exemption (from new loans)
Slovakia	MSA + 20% of difference between income and MSA	Yes	No
Cyprus	Living expenses + 20% of difference between income and MSA	No	No
Portugal[1)]	50% of income	Yes	25%
Estonia	50% of income	Yes	15%
Lithuania	50% of income	Yes	5%
Slovenia	50% of income	No	No
Hungary	50% of income	No	No

Sources: ESRB and NBS.
Note: 1) In Portugal, the limit enters into force on 1 July 2018. Exemptions must be justified, for example by the existence of risk mitigation instruments. MSA – minimum subsistence amount.

Chart A LTV ratio limits in European countries (percentages)



Sources: ESRB and national central banks.
Notes: The chart shows the limits currently in force. In the cases of Portugal and Finland, the limits enter into force on 1 July 2018.
The chart does not show limits for specific loan categories (such as, for example, foreign currency loans and property investment loans).
The percentages in the chart show the share of loans that may exceed the limit.
In Belgium, Malta and Luxembourg, no LTV ratio limits have been set, but loans with high ratios attract a more stringent capital charge.
1) As regards LTV ratios in Finland, the collateral element may include assets other than only immovable property.

Turning to debt service-to-income (DSTI) ratios, the DSTI ratio limits applied in Slovakia are similar to those in other EU countries. The regulation of these limits in Slovakia is virtually alone in the EU in that takes account of the composition of households – in line with market practice. As a result, the regulation focuses effectively on higher-risk, mainly low-income, sections of the population.

Looking at the regulation of total debt-to-income ratio, the due to enter into force in Slovakia is relatively moderate by international standards. Compared with the DTI ratio limits applied in other European countries (so far only a few), the Slovak limits are the most moderate. Examples of more stringent limits are to be found in Ireland (4), the United Kingdom (5.7) and Norway (6.7). Exemptions from the ratio limit are typically applied to 10% of loans, while in Ireland the exemption for loans to young people extends to a further 20%.

On the other hand, however, the limits now adopted in Slovakia have the advantage of constituting a comprehensive framework of limits in different areas (income, collateral, term, regular servicing), which means they cannot be circumvented and they create a set of standards to ensure prudential lending.

Table B Slovakia's incoming DTI ratio limit that is relatively moderate by international standards

	Definition	Limit	General exemption	Exemption for young people
Ireland	Housing loan / income	4	10%	20%
Norway	Total debt / income	6.7	20%	-
Slovakia	Total debt / income	8	5%	5%
United Kingdom	Housing loan / income	5.7	10%	-

Sources: ESRB, Eurostat and own calculations.
Note: The data show the averages of the individual countries recalculated using the Slovak methodology for different family sizes and different incomes. LTI ratio – loan-to-net annual income ratio. DTI ratio – total debt-to-income ratio.

Table C Summary of parameters for the provision of housing loans and their riskiness

Loan parameters		Figure for Slovakia	Trend
LTV ratio	Average	76%	
	Share of new loans with an LTV ratio > 80%	33%	
DTI ratio	Average	6.2	
	Share of new loans with a DTI ratio > 8	21%	
Average term of new loans		26.4 years	**Increasing** (by 0.9 in 2017)
Share of loans mediated by brokers		61%	**Increasing**

Source: NBS.
Note: Data are for the fourth quarter of 2017.

Rising indebtedness remains the greatest risk to financial stability

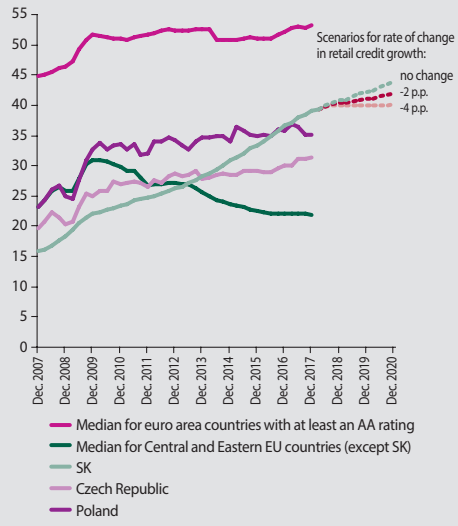
The principal risk is the continuing rise in household debt, which, moreover, accelerated significantly in 2016 and 2017. The household credit-to-GDP ratio rose continuously between 2002 and 2017, by an average of 2.1 percentage points per year, and by March 2018 it stood at 39.3%. As Chart 7 shows, this rate of increase was far higher than that observed in most EU countries. Household debt is higher in Slovakia than in any other country in central and eastern (CEE) Europe (including the Czech Republic, Poland and Hungary, which border Slovakia). Slovakia's household debt-to-GDP ratio is gradually approaching the ratio levels in some western European countries (in Italy, for example, the ratio stands at 41.8% of GDP). The Slovak ratio's average annual increase was notably exceeded in 2009 (when the rapid pre-crisis rise was compounded by a slump in GDP resulting from the emerging crisis), and in 2016 and 2017 (even though GDP growth in these years was robust). In 2016 the household credit-to-GDP ratio climbed by 3.5 percentage point.

The long-running upward trend in household debt is increasing the vulnerability of the Slovak household sector. Rising household debt is making households more vulnerable to a potential deterioration in the macroeconomic situation. This risk is particularly acute in countries such as Slovakia, where macroeconomic trends are relatively volatile. Furthermore, interest rates are at historical lows and the terms of new loans are relatively long. Hence there is little scope for rescheduling the debt of borrowers who get into financial difficulty.

The vulnerability of the Slovak household sector is further accentuated by its financial assets-to-liabilities ratio, which is the lowest in the EU. This is reducing the capacity of distressed households to use their reserves for loan repayments.

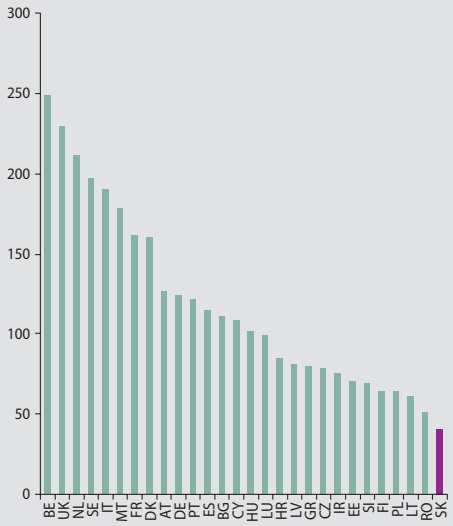
Household debt growth may create risks for the financial system and also for future macroeconomic developments. The IMF[3] points out that excessive household leverage could amplify the decline in GDP in the event of a financial crisis. It could, moreover, increase the likelihood of such crisis and so reduce economic growth.

Chart 7 Household credit-to-GDP ratios in Slovakia and other countries – trend and simulation (percentages)



Sources: NBS and Eurostat.
Note: The most recent data are as at March 2018. The simulation of the future path covers the period from April 2018 to December 2020. The GDP assumption used in the simulation is based on NBS's March 2018 Medium-Term Forecast.

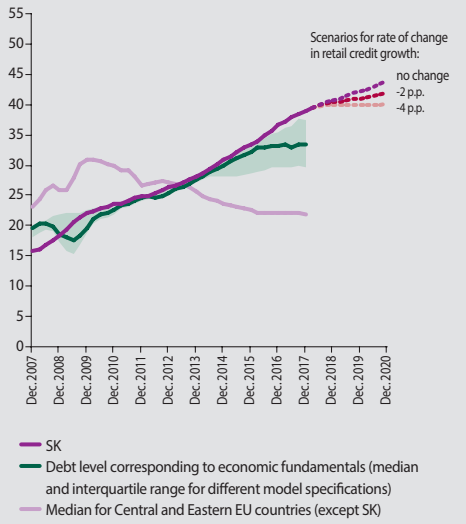
Chart 8 Slovakia has the lowest financial assets-to-liabilities ratio in the EU (percentages)
(difference between households' financial assets and financial liabilities as a ratio to GDP)



Source: Eurostat.

3 *Valckx, N. et al., 'Household debt and financial stability', Global Financial Stability Report, IMF, October 2017.*

Chart 9 Household debt-to-GDP ratio compared with a ratio level corresponding to economic fundamentals – trend and simulation (percentages)



Sources: NBS and Eurostat.
Notes: The most recent data are as at March 2018. The simulation of the future path covers the period from April 2018 to December 2020. The GDP assumption used in the simulation is based on NBS's March 2018 Medium-Term Forecast.
The ratio corresponding to economic fundamentals was estimated on the basis of a cointegration relationship obtained using a panel cointingration regression on data from 11 Central and Eastern EU countries.

According to the IMF's analysis, household sector debt begins having a negative impact on economic growth when it is at relatively low levels, exceeding 30% of GDP. The ratio in Slovakia is already above 40% and continues to increase rapidly. According to the IMF, a household debt-to-GDP ratio of more than 60% should have seriously negative implications.

The risks stemming from debt growth have been the subject of repeated warnings by international institutions, including the ECB and the IMF. In a press release issued on 26 January 2018, the credit rating agency Standard & Poor's warned that it may have to consider downgrading Slovakia if retail credit remained on its strong growth path, which is creating imbalances detrimental to financial stability.

In previous years, moreover, household debt growth was significantly higher than the rate corresponding to economic fundamentals. That rate was estimated using a panel cointegration regression on data from 11 CEE EU countries[4] (Box 3). In other words, household debt growth was far higher in Slovakia in the years 2014 to 2017 than it was in other CEE countries, which had similar economic fundamentals. As Chart 9 shows, the long-running upward trend in household debt growth has been excessive in recent years and has significantly heightened the systemic nature of risk related to household debt. In order to stem the build-up of such risk in the future, it is essential to reduce the pace of household debt growth, at least to the level found in neighbouring countries.[5] Even then, however, the above-mentioned risks arising from the excessive debt growth to date will remain present.

A simulation of the future situation indicates that any reduction in debt growth must be predicated on a reduction in retail credit growth. In relative terms, retail credit growth eased moderately during the period between March 2017 and March 2018 (from 13.1% to 11.4%). If, despite that slowdown, the credit growth rate remained at the March 2018 level and nominal GDP growth matched the NBS Medium-Term Forecast (i.e. averaging 7% year on year over the next three years), the debt-to-GDP ratio would stay relatively high, at around 1.5 to 2.0 percentage points, and rise to around 44% by the end of 2020. In order to stabilise the debt-to-GDP ratio, meaning to bring its growth down to the level of neighbouring countries (for example, the Czech Republic and Poland), credit growth must come down to between 7% and 9%. Even then, however, the rate would still be among the highest in the EU.

These estimates are contingent on GDP growth being in line with the NBS Medium-Term Forecast. If GDP growth were lower than projected, the debt-to-GDP ratio would increase even at that slower rate of credit growth.

4 *The long-run relationship between total retail loans and selected macroeconomic and financial factors is examined in 11 CEE countries.*
5 *In the Czech Republic, for example, the average increase in year-on-year household debt growth in the years from 2014 to 2017 was 1.1 percentage point, and in Poland it was 0.2 percentage point.*

Box 2

THE RISKS OF EXCESSIVELY INCREASING DEBT – THE EXAMPLE OF THE BALTIC STATES

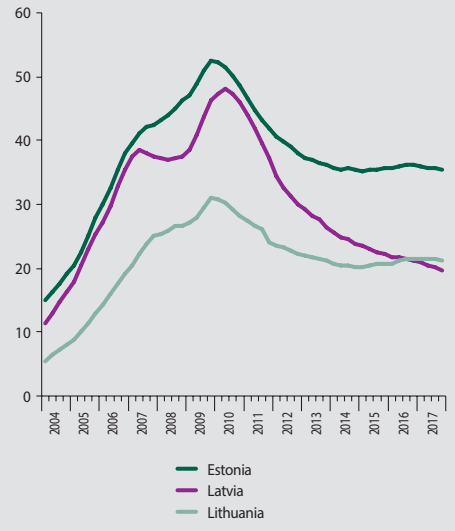
In the pre-crisis period, the Baltic States experienced rapid debt growth

The high levels of credit and debt growth that accompany rising property prices in economic booms result in a build-up of imbalances and increase in cyclical systemic risks. After going too far to some extent, such trends can reverse and cause losses in both the financial sector and the real economy. A number of European countries have experienced this situation in recent times. From the view of Slovakia, however, the Baltic States represent a particularly important example, as they entered the 2007–2009 financial crisis with low debt ratios but rapidly rising household credit growth. The build-up of domestic imbalances in the financial sector, together with the headwinds from the global financial crisis, brought on significant difficulties for the whole banking sector as well as the domestic economies.

After 2000 the Baltic States went through a period in which their economic growth ranged from stable to excessive. Between 2000 and 2007 private sector sentiment improved significantly on the back of stable economic good times and the countries accession to the EU. Domestic and international institutions regularly raised their GDP growth estimates for the Baltic States,[6] while the prevailing consensus was that economic growth is sustainable and could continue over the long term. In the pre-crisis period, the government debt ratios of the Baltic States were the lowest in Europe (at the end of 2007, the government debt-to-GDP ratios of Estonia, Latvia and Lithuania stood at, respectively, 3.7%, 8% and 15.9%, while the aggregate ratio for the EU was 57.5%); at the same time, however, private sector debt in these countries was rising sharply. At the beginning of the millennium, household debt-to-GDP ratios in the Baltic States were running at or close to single-digit levels, but between 2004 and 2008 they more than tripled. Especially Estonia and Latvia saw the most pronounced increase in private sector debt, which increased almost to the level of their GDP (Chart). The build-up of risks in the Baltic States was therefore primarily related to the increase in private sector debt. In Slovakia, too, there has also been a prolonged upward trend in household debt, and the current household debt-to-GDP ratio is similar to the levels recorded in Latvia and Estonia, and far higher than the level in Lithuania, before the trend reversals in these countries.

It was in the 2004–08 period that property prices began to rise sharply. Their year-on-year growth rate peaked in 2006 and was already easing in 2007, before the slump in 2008. Thus the value of both collateral and assets was increasing, and, as a consequence, the private sector's borrowing capacity increased. This was accompanied by a marked rise in construction sector activity.

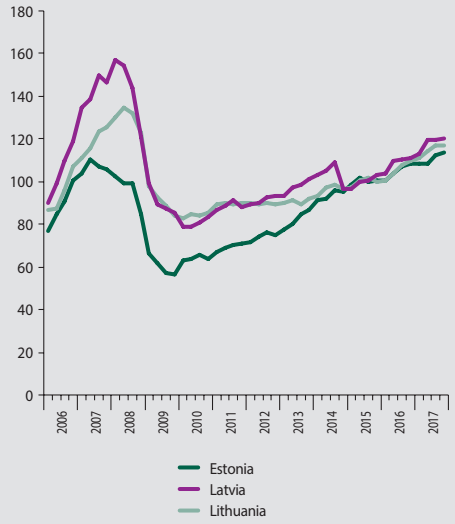
Chart A Household debt-to-GDP ratios in the Baltic States (percentages)



Source: Eurostat.

6 *See the stability and convergence programmes of the individual countries at http://ec.europa.eu/economy_finance/economic_governance/sgp/convergence/programmes/index_en.htm. Examples from among international institutions include the IMF (see https://www.imf.org/external/pubs/ft/weo/data/changes.htm) and the European Commission (see its Economic Forecasts since 2004).*

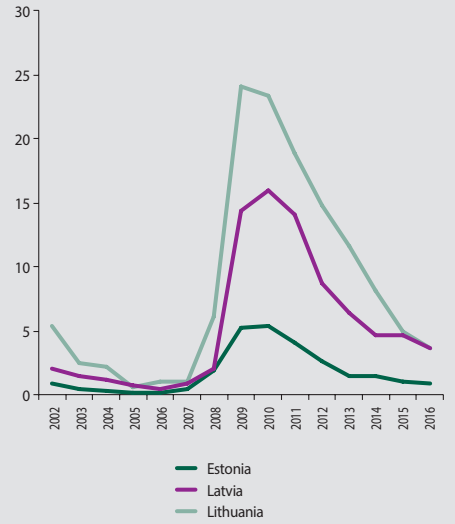
Chart B Property price indices in the Baltic States



Source: Eurostat.
Note: Index: 2015 = 100.

Non-performing loan (NPL) ratios reached historically low levels. The low NPL ratios supported positive perceptions of credit market developments and reduced risk aversion among financial institutions, resulting in the easing of credit standards. In the pre-crisis years, credit growth was stoked by strong demand predicated on negative real interest rates and relatively relaxed credit standards.

Chart C NPL ratios in the Baltic States (percentages)



Source: World Bank and Federal Reserve.

Significant impact of the financial crisis on the Baltic States

It appears that an excessive increase in debt (even though the debt was low) caused by the interlinked impact of the real economy and financial sector resulted in financial institutions, in 2007, recognising that residential property prices, at least in certain segments, were running ahead of economic fundamentals. At the same time, attention was also focused on the increasing external and internal imbalances. As a result, credit standards were tightened and there was a reversal of the upward growth trends in investment and private consumption, leading to a shift in income and profit expectations. In other words, the period of excessive growth in the Baltic States probably stopped even before the effects of the global economic and financial crises hit these countries.[7]

On the other hand, in the wake of developments after 2000, the crisis caught the Baltic States in relatively vulnerable positions, as their private sector debt was rapidly increasing, real property prices were overvalued, balance of payments deficits were substantial, and economies were quite heavily exposed to cyclical risks. The onset of the global crisis in financial markets resulted in a sudden drying-up of foreign capital inflows. The Baltic States' fixed exchange-rate regimes limited the countries' scope of response, as the principal means of maintaining competitiveness lay in 'internal' sources – in other words, reducing production costs, of which wages are the main component. This was reflected in the countries' unemployment rates, which spiked to levels of around 20%. These factors and deteriorating sentiment had a substantial downward impact on investment and household consumption, which up to then had been the drivers of growth but which quickly became the components primarily responsible for bringing the annual rate of change in GDP down to -15%.

7 *Martin, R. (2010), 'Boom and Bust in the Baltic Countries – Lessons to be Learnt', Intereconomics, Vol. 45, No 4, July/August, pp. 220-226.*

The Baltic States saw their GDP fall to levels last seen at the turn of 2004-05. In these worsening conditions, the countries' banking sectors came under pressure. Banks significantly reined in their lending activity, and liquidity difficulties appeared in both domestic and foreign markets. Leveraged households and firms began to struggle to service their debts, and a considerable share of total loans defaulted. As a result, non-performing loan (NPL) ratios went from historical lows to historical highs within the space of two years. NPL ratios were lower than 1% in the pre-crisis period, but in Latvia the average ratio increased to almost 16%, and in Estonia it increased to 24% (Chart). In Latvia, the difficulties led to a run on deposits, and consequently the country had to seek international financial assistance from the EU and IMF. Faced with having to restore their competitiveness, the Baltic States were compelled to make extensive savings in the area of labour costs, to pursue fiscal consolidation and structural measures (especially in the labour market), to reduce private sector debt, and to adopt financial stability measures.[8] It took a long time for the Baltic States' credit markets to recover from the materialization of risks related to excessive debt growth and from the unsustainable pace of lending growth in the pre-crisis period. Household debt-to-GDP ratio for the countries has fallen by one-third, and the ratio in Latvia by more than one-half; even now, ten years on from the crisis, the ratio is falling moderately. It must also be noted that the slumps experienced by the Baltic States occurred even though the national authorities had taken various measures to mitigate systemic risks (in Latvia, for example, the base interest rate was increased several times, a real property transaction tax was introduced, a 90% upper limit was imposed on loan-to-value ratios, and income verification requirements were tightened).[9]

The crisis revealed the risks and weakness of the Baltic States' previous economic growth, i.e. the unsustainable increase in private sector debt, the overvalued property prices, and the inadequacy of measures in the area of financial stability.

Box 3

LENDING TO HOUSEHOLDS VIS-À-VIS ECONOMIC FUNDAMENTALS – AN ECONOMETRIC ANALYSIS

The November 2017 Financial Stability Report included an econometric model of trends in the stock of retail loans; this edition provides an update of that model, which continues to indicate that the growth rate of these loans since 2014 has been excessive.

The updated model differs from the November 2017 model in that the time series runs until the end of 2017[10] and that the explanatory variables are expanded to include the Harmonised Index of Consumer Prices. Therefore the updated analysis of lending to households in 11 countries[11] uses the following variables: GDP; the effective exchange rate; inflation; residential real estate prices; employment and unemployment rates; income; and interest margins.

A panel cointegration estimation was again used to examine whether a long-run relationship existed between loans and a selected trio or quartet of economic factors across the reviewed countries. More or less all the factors were shown to be suitable for explaining credit trends. Based on the updated data, it was possible to estimate 11 possible cointe-

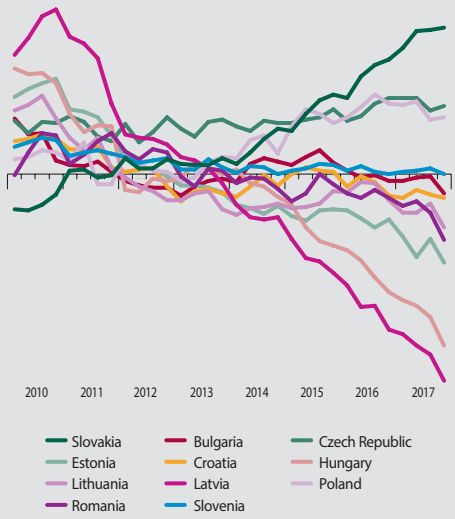
8 *'The experience of macroeconomic adjustments in the Baltic states', Monthly Bulletin, Box 2, ECB, Frankfurt am Main, June 2011.*

9 *Staehr, K. (2013), 'Austerity in the Baltic States during the Global Financial Crisis', Intereconomics, Vol. 48, No 5, September/October, pp. 293-302.*

10 *Data were also imputed retrospectively for certain indicators which are not available for a sufficiently long period for all countries in the harmonised databases (Eurostat, SDW ECB).*

11 *Slovakia, Bulgaria, the Czech Republic, Estonia, Croatia, Hungary, Lithuania, Latvia, Poland, Romania, Slovenia.*

Chart A Difference between the actual and estimated stock of retail loans in each of the countries under review



Source: NBS, ECB SDW, Eurostat and NBS calculations.
Note: The chart shows the difference for each country calculated as a simple arithmetic average from the outputs of the individual estimated cointegration relationships.

gration equations, again using the fully modified ordinary least squares (FMOLS) method and the dynamic ordinary least squares (DOLS) method.

The outcomes of the cointegration equation estimates confirm, at least in qualitative terms, the outcomes reached in the November 2017 Financial Stability Report. Lending to households in Slovakia is shown to be running ahead of economic fundamentals, and that gap has widened since the beginning of 2017.

2.2 NBS HAS TIGHTENED RULES ON LENDING TO HOUSEHOLDS

CHANGES TO REGULATORY LENDING REQUIREMENTS

Summary of changes to regulatory lending requirements

- Reduction in the share of loans provided to borrowers whose total debt is greater than eight times their annual income.
- Introduction of a complete prohibition on the provision of loans with an LTV ratio greater than 90%.
- Phased reduction in the share of loans with an LTV ratio of between 80% and 90%.

The changes encompass a reductions in the shares of loans provided to borrowers who, given their income, would be excessively indebted and loans with high LTV ratios. The first change consists of phasing in a reduction in the maximum share of loans provided to highly leveraged borrowers, meaning a borrower whose total debt (including the loan applied for) is greater than eight times the borrower's net annual income (this is the debt-to-income ratio, or DTI ratio). The second change is a phased reduction in the maximum share of new loans that have an LTV ratio greater than 80%. Both changes will commence from 1 July 2018. As Table 2 shows, they will be phased in over a period of one year so as to avoid having a significant one-off impact on the credit market. In addition,

Table 2 Phased implementation of changes to regulatory lending requirements from 1 July 2018

	Maximum share of new loans with a DTI ratio > 8	Maximum share of new loans with an LTV ratio in the range 80% to 90%
Q3 2018	20%	35%
Q4 2018	15%	30%
Q1 and Q2 2019	10%	25%
From 1 July 2019	5% + 5% upon meeting additional conditions[1)]	20 %

Source: NBS.
Note: 1) The volume of loans with a DTI higher than 8 may exceed 5% of the total volume of new loans (up to 10%) only if the loan is a housing loan, the borrower is not older than 35 years, and the borrower's income does not exceed 1.3 times the average wage; in such a case, the debt-to-income ratio may not be greater than 9.

a prohibition on the provision of loans with an LTV ratio of more than 90% will be introduced from 1 July 2018.

Relationship between the DTI ratio limit and existing limits

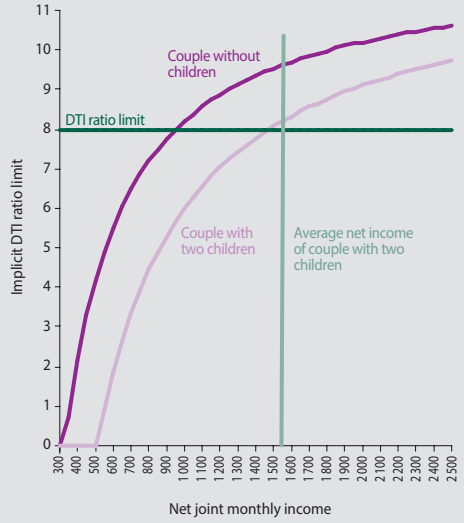
The current financial buffer requirements and loan term limits are already setting an implicit DTI ratio limit.[12] This limit is strictest for low-income households and increases as household income rises. This is largely because the financial buffer is intentionally stricter for low-income borrowers, who represent the highest risk. This stems from the fact that the minimum subsistence amount, which must be deducted from income in the financial buffer calculation, is set uniformly, regardless of income level, and therefore it becomes relatively less significant as income levels rise. The current measures are therefore sufficient to prevent low-income households from becoming overleveraged.

Therefore, under the current regulatory lending requirements, middle- to high-income households may also become quite highly leveraged. As Chart 11 shows, in the case of a two-child household with an average income, the implicit DTI ratio limit is around 8, which is the same as the regulatory limit. Hence, the impact of the DTI ratio limit of 8 on two-child households is greater on those that have above-average income. In the absence of the DTI ratio limit, the current applicable limits would not by themselves be sufficient to reduce the risk of middle- to high-income households becoming overleveraged.

The limit on a borrower's total debt at eight times the borrower's net annual income is not an absolute cap. Some loans may still be provided to borrowers whose DTI ratio exceeds that limit. As mentioned above, there will be a phased reduction in the share of such loans in new loans. From 1 July 2018 their share may not exceed 20%. In the fourth quarter of 2017, the share of new loans provided to borrowers with a DTI ratio of more than 8 was 19%, and so the introduction of the DTI ratio limit is not expected to have a significant impact. The maximum share of new loans provided to borrowers with a DTI ratio exceeding 8 will be reduced to 15% from 1 October 2018 and to 10% from 1 January 2019. From 1 July 2019, part of this exemption will only be applied to loans provided to young people.

The primary role of the DTI ratio limit is to mitigate the risk of excessive debt growth at a time when interest rates are continuing to fall and income is growing in conjunction with increasing risks of overheating in the labour market and economy. The need for such limit is apparent from a simulation of household income growth based on the projections contained in the current NBS Medium-Term Forecast (MTF). If wages grow as projected, the measures currently in place will be increasingly less effective and the maximum potential debt will gradually increase (Chart 11). Such an increase in borrowing capacity is, however, deemed to be excessive, since the maximum potential debt will increase faster than income (the implicit DTI ratio limit will rise and therefore become increasingly less effective). In 2011, for example, under current limits, a borrowing couple with an average income would be able to borrow an amount up to six times their annual income, but in the period up to 2020 their borrowing capacity will increase to around 10 times their annual income. Therefore, the DTI ratio limit will go a long way to curbing the accumulation of risks in the future.

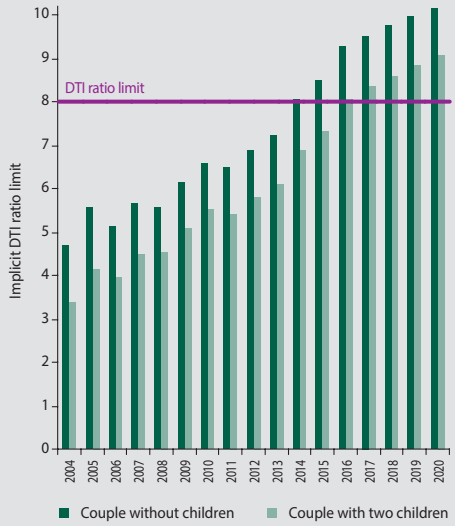
Chart 10 The DTI ratio limit affects mainly middle- to high-income households



Source: NBS.
Note: The chart shows the implicit DTI ratio limit under limit settings as of 1 July 2018, i.e. an LTV ratio limit of 90% and a financial buffer requirement of 20%. It assumes that a housing loan constitutes no more than 90% of the borrower's total debt and that other sources make up the remaining 10%.

12 The implicit limit for the DTI ratio is calculated on the basis of the maximum amount of debt under the restrictions imposed by the LTV ratio limit (90%), the financial buffer requirement (20%), and the maximum term of the loan. Account is also taken of the current level of interest rates on new loans. Looking at the LTV ratio limit, it is assumed that a housing loan constitutes no more than 90% of the borrower's total debt and that other sources make up the remaining 10%.

Chart 11 The implicit DTI ratio limit will become increasingly looser owing to rising incomes



Source: NBS and SO SR.
Note: The chart shows the implicit DTI ratio limit for average-income households. The simulation of developments in the period 2018 to 2020 is based on the projections of NBS's March 2018 Medium-Term Forecast.

Impact analysis of changes in regulatory lending requirements

The impact of the tightening of regulatory lending requirement depends not only on the settings of the new limits, but on how borrowers respond to them. It may generally be assumed that after limits are tightened, the majority of applications for loans exceeding these limits will be approved, but subject to a reduction in the amount applied for. As regards some of these loans, however, the loan applicant will decide not to take out the loan at the reduced amount. This effect is assumed to be more pronounced under the application of LTV ratio limits than DTI ratio limits. The DTI ratio limit can be met by selecting a cheaper immovable property collateral, while meeting the LTV ratio limit requires some additional financing regardless of the value of the collateral. On the other hand, some borrowers affected by the tightening of the LTV ratio limit may partly offset the reduction in the loan amount with additional sources of financing. For the purposes of this analysis, the additional source of financing is assumed to be a consumer loan. Assuming that the total instalment remains the same as it would have been under the higher LTV ratio, a consumer loan may be used to cover around one-third of the amount by which the housing loan was reduced on grounds of LTV ratio tightening. The extent to which borrowers will avail themselves of this option is, however, dependent on their preferences and is difficult to estimate in advance. This impact analysis is therefore based on three scenarios that differ in the extent to which borrowers respond to tighter credit standards (Table 5). It is further assumed that there is certain overlap, extending to around half of the loans provided, between loans affected by the tightening of LTV ratio limits and loans affected by the tightening of DTI ratio limits.

The tightening or regulatory lending requirement is expected to cause a retail credit growth to moderate by between 0.5 and 1.4 percentage points. That slowdown stems mostly from falling growth in housing loans. Consumer loans will be affected only insofar as they are provided to highly leveraged borrowers, but such loans account for a low share of total consumer loans. Nevertheless, the limit tightening will also be important for consumer loans, since in its absence there would be risk of such loans being used to circumvent the regulatory restrictions. It should also be added that consumer loans have already been affected to far greater degree by the tightening of financial buffer requirements under NBS Decree No 10/2017.

Table 3 Scenario parameters of the impact analysis of changes in regulatory lending standards

		Low-impact scenario	Probable scenario	Higher-impact scenario
Share of loan applicants who would decide not to take out the loan under tighter credit standards	due to LTV ratio restrictions	0%	15%	30%
	due to DTI ratio restrictions	0%	10%	20%
Share of borrowers who use a consumer loan to offset the amount by which the loan was reduced due to LTV ratio tightening		30%	15%	0%

Source: NBS.

Table 4 Estimated impact of changes in regulatory lending requirements

	Low-impact scenario	Probable scenario	Higher-impact scenario
Impact on retail credit growth (after full phase-in, i.e. at the end of 2019)	-0.5 p.p.	-0.9 p.p.	-1.4 p.p.
Impact on household debt-to-GDP ratio (cumulative impact by 2020)	-0,4 p.p.	-0.8 p.p.	-1.1 p.p.

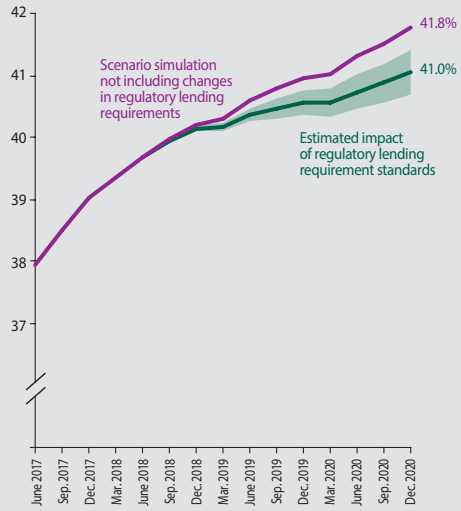
Source: NBS.

The tightening of regulatory limits is expected to partly reduce year-on-year credit growth also in absolute terms. These increases reached historical highs in the first half of 2017, contributing to a marked acceleration in household debt growth. As mentioned above, the year-on-year change in the household debt-to-GDP ratio climbed to 3.4 percentage points in this period. Although absolute credit growth has moderated somewhat recently, the simulation suggests that in the years ahead, rapid economic growth could result in it picking up, even while relative credit growth decreases. As Chart 9 shows, however, the measures aimed at tightening lending requirements are expected to gradually mitigate the risk of any significant pick-up in absolute credit growth.

Chart 12 Impact of the tightening of regulatory lending standards on the year-on-year increase in the stock of retail loans (EUR billions)

Source: NBS.
The fan shows the range of impacts between the low-impact scenario and higher-income scenario. The most recent data are as at 31 March 2018. The scenario simulations cover the period from April 2018 to December 2020.

Chart 13 Estimation of the impact of the tightening of regulatory lending requirements on the household debt-to-GDP ratio (percentages)



Source: NBS.
Notes: The fan shows the range of impacts between the low-impact scenario and higher-income scenario. The most recent data are as at 31 March 2018. The scenario simulations cover the period from April 2018 to December 2020. The GDP growth assumptions are based on the projections in NBS's March 2018 Medium-Term Forecast.

The measures taken are putting downward pressure on debt growth. In a baseline stress test scenario based on NBS's current Medium-Term Forecast, the simulation of the household debt-to-GDP ratio indicates that it could rise to 42% by the end of 2020. As a result of the measures adopted to date, the rate of increase in that growth rate is expected to moderate by between 0.4 and 1.1 percentage point. An important aspect is that the slowdown in the ratio's growth rate will be most pronounced after

full phase-in of the measures, thus bringing the pace of debt growth more into line with the situation in neighbouring countries. On the other hand, the simulation indicates that, despite the tightening of credit standards, household debt growth will be higher than GDP growth, although such a situation is to some extent natural for an economy gradually converging towards western EU levels.

Owing to the measures taken, the increase in the maximum potential debt is expected to come into line with income growth. Household indebtedness in Slovakia is gradually catching up with levels in western European countries, with credit penetration and household debt increasing. In time, however, credit penetration will reach the levels in other countries and the debt-to-GDP will stand at a steadier (maximum potential) level.[13] The simulation indicates that in the absence of additional measures, the increase in maximum potential household debt would be around one-half times greater than income growth. This is due mainly to the above-described gradually falling impact of the measures adopted to date on debt growth in conjunction with wage growth. At the same time, however, the simulation shows that additional measures will ensure consistency between households' maximum potential debt growth and their income growth. Borrowing capacity will increase faster among lower-income households, while debt concentration among middle- and higher-income households will be more limited.

2.3 THE SCOPE FOR FURTHER LONG-TERM SUSTAINABLE PROPERTY PRICE GROWTH IS FALLING

Risk assessment summary

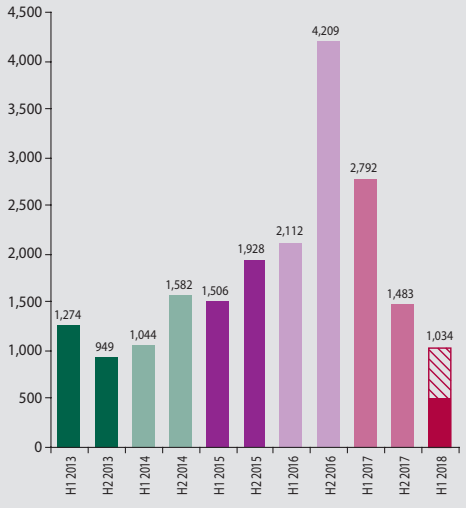
- Flat prices continue to rise, while showing signs of stabilising.
- The current level of flat prices is slightly higher than the fundamental price.
- Further growth in the fundamental price of flats is being curbed by demographic trends and rising household debt.
- The commercial real estate (CRE) remains in an expansionary phase.

THE FIRST QUARTER SAW BOTH NEW-BUILD FLATS AND EXISTING FLATS INCREASE IN PRICE

New-build prices maintained their strong growth trend during the first three months of 2018. The year-on-year increase in selling prices stood at 6.6%, and although that figure was slightly below the average for 2017, the rate of change in asking prices increased quite sharply (to 9%, from 6.3% in 2017). The acceleration in new-build asking prices may have resulted in buyers gravitating towards cheaper flats, and therefore the growth trend in selling prices has moderated slightly.

The weakening of supply-side dynamics in the new-build market continued in 2018. The contribution of new builds to supply and the total number of new builds for sale began to fall in the second half of 2017, and these trends continued in the first quarter of 2018. The result was a substantial drop in supply: the number of new builds coming on to the market was only half of the number sold. It may therefore be seen that property developers are taking a highly cautious approach by placing mostly smaller projects on the market or rolling out projects in several stages or in 'packages'. The limited supply of new builds could, however, add further upward pressure to prices.

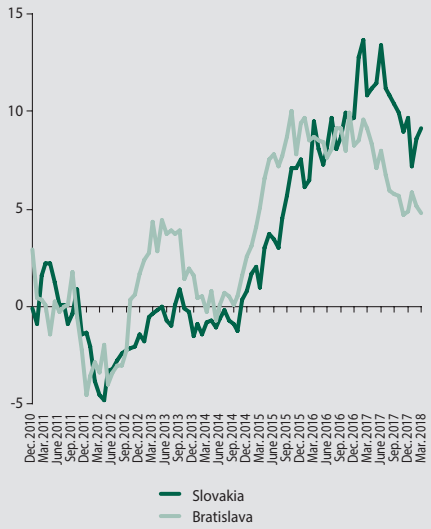
Chart 14 Supply trends in the new-build market in Bratislava (number of flats)



Source: Lexxus.
Note: The number of new-build flats that came on to the market in the first half of 2018 was estimated by doubling the figure for the first quarter of 2018 (the estimated part is indicated by hatching).

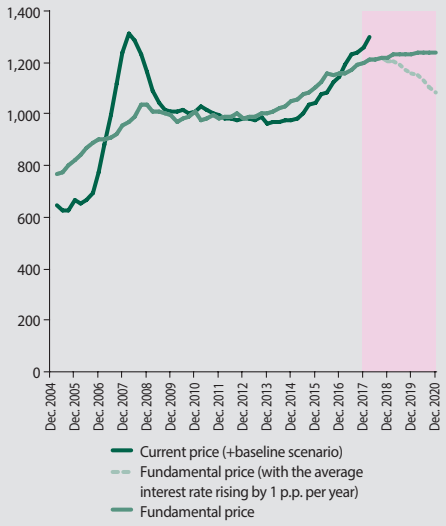
13 The estimation of the impact of the DTI ratio limit on household debt was based on granular data on the income structure and socio-demographic characteristics of individual households. The data were obtained from the European Union Statistics on Income and Living Conditions (EU-SILC) for 2016, based on a representative sample of 5,738 households. The maximum debt for each household was determined on the basis of supply-side and demand-side factors. On the supply side, households to which a loan could be provided were identified. As for the demand side, the underlying factors were the approximate average penetration of household loans in the EU, with households broken down by income and age structure. The demand-side simulation was therefore based on the assumption that the share of loans in different types of household will reach levels corresponding to the European average.

Chart 15 Flat price growth stabilised (percentages)
(year-on-year rate of change in prices of existing flats in EUR/m²)



Source: CMN.

Chart 16 Development in fundamental price of flats (EUR/m²)



Sources: NBS, CNM, SO SR, ÚPSVaR SR and own calculations.
Note: The input fundamentals are deemed to be the following: the number of workers; the average wage, the average interest rate; and the stock of loans.

Prices of existing flats maintained their rising trend in the beginning of 2018. The average year-on-year increase in these prices was slightly more moderate in the first quarter of 2018 (8%) than in 2017 as a whole (11%). The growth trend continued in all regions, although in some, including the capital city, there were signs of it stabilising. Prices also continued to rise across virtually all sizes of flats.

THE CURRENT GROWTH IN FLAT PRICES IS BEING STOKED TO A LARGE EXTENT BY THE BENIGN ECONOMIC SITUATION, BUT THERE ARE OPPOSING PRESSURES IN THE FORM OF INDEBTEDNESS AND DEMOGRAPHIC TRENDS

On the one hand, the current growth in flat prices reflects several factors that can be considered as fundamentals. These primarily include the improving labour market situation and continuing upward trend in average wages. A simple comparison of the average flat price and the average wage implies that, by historical standards, there remains scope for further flat price growth.

On the other hand, in the context of rising indebtedness and worsening demographic trends, the number of households that have the financial capacity to buy a flat is increasing at an ever slower pace. Since most flats are purchased with loans, the main source of demand for flats is among households in the age group 25-40 which do not yet have a housing loan. Rising indebtedness among younger age groups and an incipient demographic decline in the number of 25- to 45-year-olds are therefore weighing on potential future demand.

If flat prices continued to increase at their current pace, they would gradually deviate from the fundamental price.[14] A simulation of credit growth in the context of demographic projections indicates that the growth potential for the fundamental price will diminish in the period 2018-2020. Were flat prices to continue rising at their current pace, they would be supported to a gradually lessening extent by fundamentals.

The future path of the fundamental price of flats will be affected by several factors. The price potential of flats could, however, increase due to such causes as further strengthening of the labour market, accelerating average wage growth, or Slovak citizens returning to Slovakia from employment abroad. The price potential

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

could be also raised by a further drop in lending rates. At the same time, however, an increase in rates could be the main cause of a decline in demand and, by extension, in the fundamental price of flats. Also, the price is naturally affected to a large degree by the size of supply and its responsiveness to changes in demand.

THE COMMERCIAL REAL ESTATE (CRE) MARKET AT THE TURN OF 2017-18 CONTINUED TO BE SHAPED BY THE BENIGN ECONOMIC SITUATION AND THE LOW INTEREST RATE ENVIRONMENT. THE MARKET'S EXPANSIONARY PHASE IS EVIDENT FROM THE STRENGTH OF DEMAND AS WELL AS FROM THE ELEVATED ACTIVITY ON THE SUPPLY SIDE

Trends in the residential segment of the CRE market have been driven largely by the improving macroeconomic conditions. Robust economic performance underpinned the continuation of strong demand for new builds, even despite downward pressure from such factors as rising prices, increasing constraints on residential property financing, and a relatively sharp drop in the supply of new builds. The easing of supply-side activity is indicative of property developers' increasing caution in rolling out new projects. The combination of strong demand and subdued supply pushed up prices in the first quarter of 2018 (for further details, see the section on residential real estate).

Other segments of the CRE market remained in an expansionary phase. Demand for CRE properties is robust, against a backdrop of good economic times and a low interest rate environment. Confidence is high among both end-users and investors, and vacancy rates are therefore at historical lows. The vacancy rate for office space has fallen below 6%, owing partly to the fact that no new office space came on to the market in the first three months of 2018. Subsequent months are expected to see a significant volume of office space arrive on the market, but much of that property has already been pre-sold. Although investment activity was lower in 2017 than its historical high in 2016, several major property development transactions are expected to be completed in the first half of 2018 and it is expected that the prime yields on these investments will continue to decrease. The upswing is also apparent in the substantial number of properties under development, which is slightly higher than the 2017 level.

2.4 ALTHOUGH LENDING TO THE NON-FINANCIAL CORPORATE SECTOR HAS LOST SOME MOMENTUM, CORPORATE INDEBTEDNESS IS INCREASING

Key trends concerning NFC credit growth

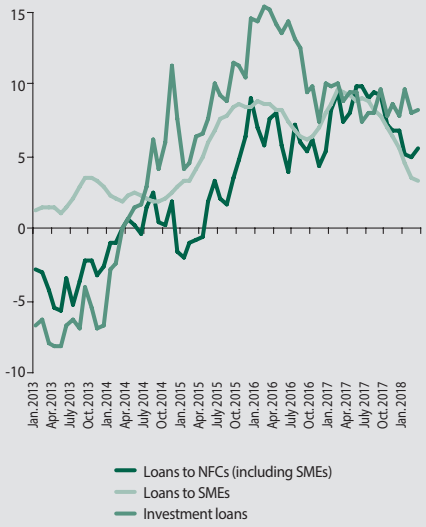
- The beginning of 2018 brought a correction in the growth rate of loans to non-financial corporations (NFCs), with lower growth recorded across several categories of such loans.
- In Slovakia, the NFC debt-to-GDP ratio has been rising almost continuously during the past three years, while among other countries its prevailing trend has been downward.
- The non-performing loan (NPL) ratio for NFC loans fell to a new post-crisis low in February 2018, before increasing slightly in March.

THE INDEBTEDNESS OF THE NFC SECTOR HAS INCREASED AGAINST A BACKDROP OF FAVOURABLE ECONOMIC CONDITIONS AND THE LOW INTEREST RATE ENVIRONMENT

The year-on-year rate of growth in total NFC loans corrected in the first quarter of 2018; it amounted to 5.3% for the period, almost half of the historically high rate of 10% recorded in 2017. At the same time, however, this represented a continuation of a moderating dating back to the beginning of the second half of 2017. In the ranking of NFC credit growth rates among EU countries, the rate in Slovakia came down gradually from its leading position, but still remained far above the European average.

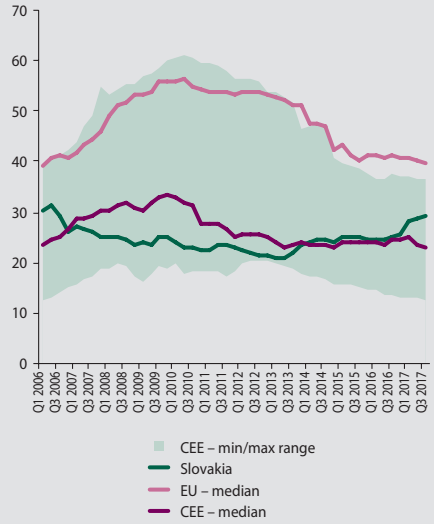
Credit growth eased in several categories of NFC loans in 2018. A notable change in corporate credit dynamics was observed in the annual growth rate of total short-term NFC loans (with a maturity of up to one year), which was sizeable for 2017 as a whole but only marginal for the first quarter of 2018. At the same time, however, this loan category historically has the highest volatility. The growth rate of loans to SMEs also fell sharply, from 9.3% for the first quarter of 2017 to 3.9% for the first quarter of 2018. The main drivers of NFC credit growth continued to be loans to private NFCs and investment loans.

Chart 17 Stock of NFC loans (annual percentage changes)



Source: NBS.

Chart 18 Comparison of NFC debt-to-GDP ratios among EU countries (percentages)



Source: ECB SDW, EUROSTAT.
Note: The debt calculation is based on domestic banks loans to NFCs and on NFCs' issuance of debt securities.

The situation in the NFC credit market reflected mainly the continuing period of stable economic growth. Macroeconomic conditions remained conducive to credit growth in the first months of 2018. Annual growth in corporate sector sales was similar to its level in early 2017, amid favourable trends in both domestic and foreign demand. As reported by banks, the main factors on the supply side of the market were favourable perceptions of the economic situation and the persisting strength of market competition. This situation was not, however, reflected in substantial changes in credit standards, with the only change being a further compression of interest margins. This compression was not passed on to interest rates on new loans, which remained largely unchanged during the period under review.

Corporate indebtedness[15] as measured by the NFC debt-to-GDP ratio has been rising almost without interruption since 2014. Besides loans from domestic banks, an important source of NFC financing is the issuance of debt securities. Their stock has risen sharply in the last three years, and consequently NFC debt growth in Slovakia has been among the highest in the European Union. But while the indebtedness of domestic NFCs has increased over the last three years, median NFC indebtedness has fallen almost continuously over the same period in both the EU as a whole and the central and eastern European (CEE) region. It should also be noted that even if other components of corporate debt were included in the calculation, NFC debt growth in Slovakia would still be among the highest in the EU. Due to these trends, the NFC debt-to-GDP ratio in Slovakia exceeded the median for CEE countries. The rapid increase in its indebtedness is making the domestic NFC sector increasingly vulnerable to any future economic headwinds.

NFCs' debt servicing capacity continued to be supported by the benign economic situation, although the non-performing loan ratio for NFC loans increased moderately in March

The credit quality of the NFC loan book improved further at the beginning of 2018, given in particular the impact that the economic

15 *On grounds of data reliability, the NFC sector debt calculation included only debt in the form of loans from domestic banks and total securities issues. Loans from non-residents and intercompany loans were excluded due to the lower reliability of the data. Loans from other financial intermediaries and from the general government sector were excluded in order to allow an international comparison.*

upswing and relatively low debt servicing costs had on NFCs' debt servicing capacity.

The aggregate NPL ratio for loans to non-financial corporations maintained its marked downward trend in the first two months of 2018. In February the ratio fell to 4.8% (40 basis points below its end-2017 level). This drop was supported by continuing long-term trends, specifically the increasing aggregate stock of NFC loans and the falling stock of non-performing loans. The fall in total NPLs was due to the continuing low default rate, continuing level of repayment of defaulted NPC loans, and also the writing-down/off of NPLs.

In March the NPL ratio increased after two years of an unabated downward trend. It rose only slightly, however, by 8 basis points, to 4.88%. The main cause was a relatively large increase in the volume of newly defaulted loans in certain banks' books of loans to the retail trade sector. However, loan books for other economic sectors or market players also saw a levelling-off or slight increase in the stock of NPLs, which attested to a broad increase in default rates across economic sectors.

2.5 LIQUIDITY RISK IN BANKING SECTOR HAS CONTINUED TO INCREASE

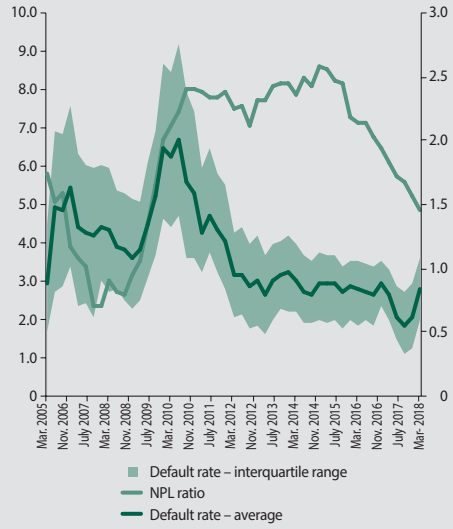
Risk assessment summary

- The maturity mismatch between assets and liabilities reached an all-time high in early 2018.
- The stability of short-term liabilities is increasingly important for the banking sector, but the most stable liabilities (deposits) are increasing more slowly than loans.
- Current trends in the area of liquidity could potentially increase domestic banks' dependence on their parent groups.

THE GROWING MATURITY MISMATCH IS PLACING INCREASING IMPORTANCE ON THE STABILITY OF DEPOSITS

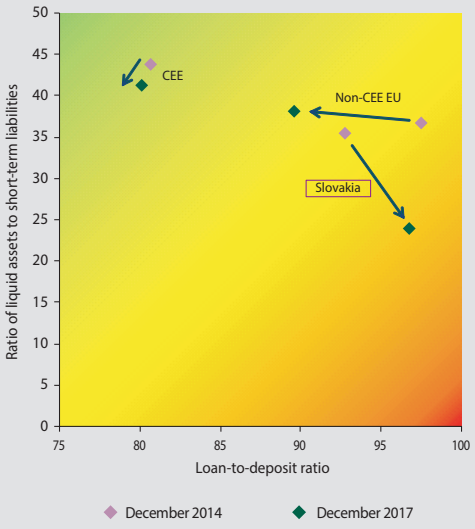
The ratio of the 12-month liquidity gap to total assets in the banking sector has been increasing for a prolonged period, and in the first quarter of 2018 it reached new historical highs. The trend of strong growth in long-term loans and its primary role in amplifying the difference between the average residual maturity of assets and liabilities continued at the beginning of 2018. As a share of the banking sector's total

Chart 19 The NPL ratio and default rate for loans to NFCs (percentages)



Source: NBS.
Note: The right-hand scale shows the three-month moving average of the default rate for NFC loans, measured on the basis of the number of loans. The chart shows the average and interquartile range across economic sectors.

Chart 20 Deterioration in selected liquidity ratios in the Slovak banking sector (percentages)



Source: ECB and CBD.
Notes: The data are for consolidated banking sectors. CEE – central and eastern European countries.

assets, long-term illiquid loans with a maturity of more than five years increased to almost 40%, and in some banks these loans constituted more than half of the balance sheet.

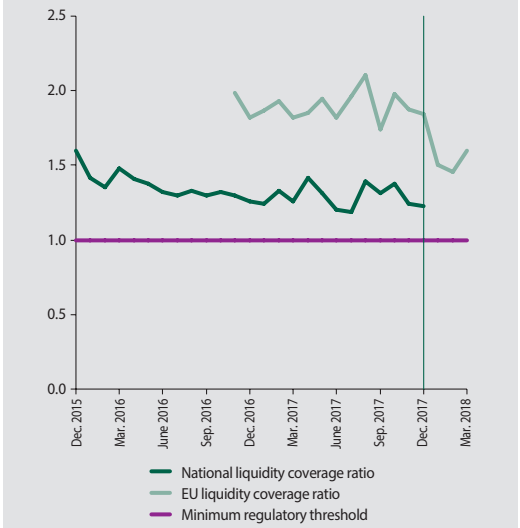
The rapid increase in long-term loans has also been a leading cause of the rise in the loan-to-deposit (LTD) ratio and of the relative decline in the liquidity buffer. Compared with banking sectors in other EU countries, the sector in Slovakia is in a relatively fragile position in terms of systemic liquidity. This stems from a combination of two risks. The first is the low ratio of liquid assets to short-term liabilities. The limited extent to which short-term liabilities are covered by liquid assets is increasing the importance of the stability of these liabilities. The more stable the short-term assets, the less likely will be the need to use liquid assets. In other words, if the banking sector has ample, stable, albeit short-term, deposits at its deposal, the liquid asset ratio may be lower. The second risk, however, is a decline in deposits (i.e. the most stable, short-term deposits) relative to loans. In 2017 the increase in the LTD ratio in Slovakia was the highest in the euro area and the third highest in the EU as a whole. The declining extent to which deposits are used to fund lending is increasing the need for largest liquidity buffers.

This risk may be partly reduced in future by the impact of the new regulatory framework for covered bonds, which is expected to facilitate the issuance of these longer-term sources of funding. This issue was addressed in greater detail in the November 2017 Financial Stability Report.

On the other hand, the worsening of liquidity ratios could result in domestic banks becoming increasingly dependent on their parent banks for liquidity.

An increasing LTD ratio is not only an indicator of mounting cyclical risk, but is also a factor making crises more severe. Several studies[16] have identified relative changes in LTD ratios as being among the best leading indicators of systemic banking crises. In recent years, the increase in this ratio in Slovakia has been among the highest in the EU. At the same time, however, experience shows that an elevated LTD ratio has been one of the obstacles to economic recovery in the post-crisis period.

Chart 21 Decline in retail banks' liquidity ratios in the first quarter of 2018



Source: NBS.

Liquidity buffers in domestic banks fell in the first quarter as a result of regulatory changes

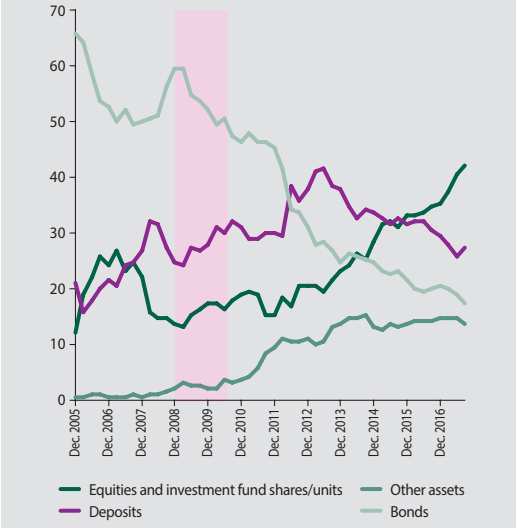
As of 1 January 2018 the national liquidity coverage ratio in Slovakia was superseded by the full phase-in of an EU-wide harmonised liquidity coverage ratio (LCR). Not only did the harmonised LCR completely end the obligation of foreign bank branches to comply with the national ratio, it also became the only binding liquidity ratio for other banks in Slovakia. The liquidity rules under the new ratio are significantly more relaxed than those under the national ratio.

The vulnerability of investment funds to liquidity risk has increased

Developments in the investment fund sector must also be monitored in regard to systemic liquidity. The experience from 2009 of the impact of the crisis on investment funds in certain European countries confirmed that there is liquidity risk associated with wide-scale redemptions. In this regard, there are two key factors which suggest that investment funds are becoming more vulnerable to liquidity risk. The first is the increasing share of real estate funds investing in less liquid assets. The second is the increasing share of investments in equities and investment fund shares/units; the liquidity of these investments is similar to that of bonds, but their volatility is greater and could be a factor

16 For example, Laina, P. et al. (2015), 'Leading indicators of systemic banking crises: Finland in a panel of EU countries', Working Paper Series, No 1758, ECB, Frankfurt am Main, February; Le Leslé, V. (2012), 'Bank Debt in Europe: Are Funding Models Broken?', Working Papers, Vol 12, No 299, International Monetary Fund.

Chart 22 Increasing vulnerability of domestic investment funds to liquidity risk, expressed by the share of different asset types in NAV (percentages)



Source: NBS.

that amplifies redemption risk related to falling prices in financial markets.

2.6 IN ASSET MANAGEMENT SECTORS, THE SHARE OF EQUITY INVESTMENTS CONTINUES TO INCREASE

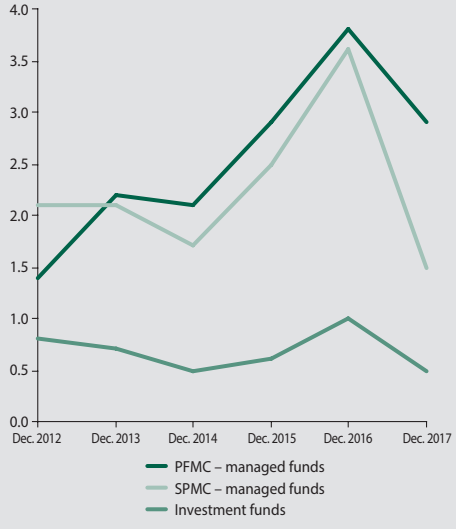
Equity investment growth in asset management sectors

In 2017 two notable common trends emerged in the asset portfolios of pension funds in the second and third pillars of the pension system[17] and in the asset portfolios of domestic investment funds.

The first trend was an increase in investments in equities and investment fund shares/units, which raised the share of these assets in the aggregate net asset value of both pension funds and investment funds. This increase was a natural continuation of the longer-term increasing trend in equity holdings, which dates back to 2012 and is likely to be closely related to the low interest rate period. In this period, fund management companies and their customers have been constrained to seek higher-yielding investment opportunities, as offered by investments in equities and investment funds. In 2017 the increase in the equity component of total assets was highest in the sector of SPMC-managed funds, not only because these funds recorded the largest year-on-year growth, but because there was a clear strategy to increase the equity component of SPMC funds that have a balanced investment policy. In PFMC-managed funds, however, the increase in equity holdings reflected not portfolio rebalancing, but rather increasing demand among savers for index funds, which invest solely in equity-oriented investment funds. Likewise in the investment fund sector, the equity component rose mainly because investors were switching from bond funds to mixed funds and, in addition, because mixed funds increased their exposure to equities.

The second trend observed in all three sectors was a decline in the duration of fund portfolios. The year 2017 therefore saw an end to the prolonged upward trend of the duration variable, which reflected the demand for higher-yielding bond instruments. This reversal is most likely explained by fund management companies' expectations for a turn in monetary policy and therefore greater probability of future interest rate increases. A smaller duration means that the downward repricing of interest rate-sensitive assets in the event of an interest rate increase should be more moderate. The funds most affected by this trend reversal were

Chart 23 Duration of the aggregate portfolio (years)



Source: NBS, Bloomberg and internet.

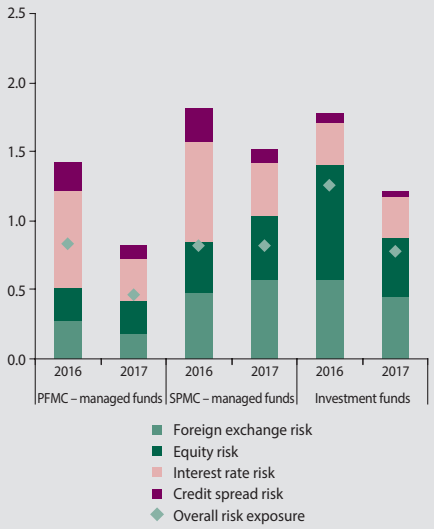
17 The second pillar of the Slovak pension system – the old-age pension scheme – is a largely compulsory defined-contribution scheme operated by pension fund management companies (PFMCs). The third pillar – the supplementary pension scheme – is a voluntary defined-contribution scheme operated by supplementary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

again SPMC-managed funds (the third pillar of the pension system). The average aggregate duration of these funds' portfolios fell by more than one-half in 2017. This was the result of a targeted reduction in the duration of debt securities and a relatively large drop in the bond component of the funds' total assets. In the other two sectors, the duration of debt securities did not fall directly, but only stopped increasing. Given, however, the fall in the share of bond holdings, this levelling-off was enough to bring down the aggregate duration of portfolios in each sector.

Decrease in funds' riskiness as measured by Value-at-Risk (VaR)

In all three fund management sectors, the average overall risk exposure of funds fell in 2017 on a year-on-year basis. This decrease stemmed largely from the low volatility that was observed in all segments of the financial market in 2017 (volatility reached historically low levels towards the end of the year). The subdued VaR also reflected the above-mentioned decrease in funds' duration, which had the effect of reducing the sensitivity of interest rate instruments to interest rate movements. As a result, interest rate risk fell across all three reviewed sectors. Overall VaR came under upward pressure from equity holdings in both pillars of the pension system. In these cases, the increase in equity investments more than cancelled out the impact of low volatility in equity markets. It should be noted that the early part of 2018 saw a combination of higher equity exposure and a sharp rise in volatility, which will have had a considerable upward impact on these funds' equity risk and overall risk.

Chart 24 VaR in fund management sectors (percentages)



Source: NBS, Bloomberg and internet.
Note: The left-hand scale shows the percentage share of total assets (or NAV). VaR was calculated as the highest expected loss over a period of ten working days at a confidence level of 99%.
Interest rate risk and foreign exchange risk include indirect interest rate and foreign exchange risks, i.e. the risk to which individual institutions or funds are exposed through investments in investment fund shares/units and in exchange-traded funds.

CHAPTER 3

FINANCIAL SECTOR RESILIENCE

3

3 FINANCIAL SECTOR RESILIENCE

3.1 SOLVENCY AND FINANCIAL POSITION OF THE FINANCIAL SECTOR

3.1.1 FINANCIAL POSITION OF THE BANKING SECTOR

Key trends in banks' profitability

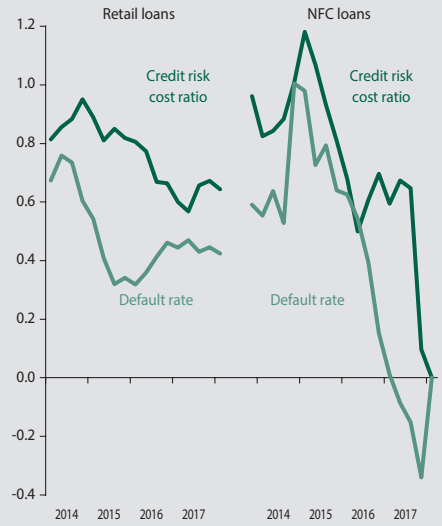
- Leaving aside the impact of extraordinary income in 2016, banks' profit for 2017 increased slightly.
- The main factors offsetting the impact of interest margin compression have been robust lending activity and low credit risks costs.

LEAVING ASIDE ONE-OFF EFFECTS, THE BANKING SECTOR'S AGGREGATE PROFIT INCREASED YEAR ON YEAR

Disregarding one-off effects,[18] the banking sector reported an increase in its aggregate profit in 2017. The net profit for 2017 was higher year on year by 8.1%.[19] Leaving aside extraordinary income, the sector has been able to avoid any significant decline in profitability over a prolonged period, even in an environment of interest margin compression. The net profit for the first quarter of 2018 extended this trend, showing a year-on-year increase of 2.8%. It should also be noted that measured against the 2016 profit including extraordinary income, banks' net profit for 2017 is lower by 20%.

The main factor behind the profit growth was robust lending activity and a slowdown in interest margin compression. Compared with 2016, the highest acceleration of lending growth was in loans to NFCs. Retail credit growth also remained strong in 2017, albeit slightly lower than in the previous year. Furthermore, after falling significantly in 2016, interest rates on retail loans and NFC loans fell further, but more moderately, in 2017. In the retail loan book, returns on the housing loan portfolio almost stopped declining, while returns on consumer loans continued on their downward path. Interest income from consumer loans, which in 2016 was the only interest income to maintain growth, levelled off in 2017 as banks were no longer able to offset the decline in returns on these loans, not even with the continuing rapid growth of their consumer loan books.

Chart 25 The credit risk cost ratio and net default rate (percentages)



Source: NBS.
Note: The most recent data are as at 31 March 2018. The credit risk cost ratio is calculated as the ratio between, on the one hand, net provisioning for loan losses and net costs of write-offs/downs and sales of loans for the previous 12 months and, on the other hand, the average stock of loans for that period. The default rate denotes the net increase in non-performing loans as a share of the aggregate average stock of loans over a 12-month period, before deducting write-offs and sell-offs of NPLs. The default rate for the first quarter of 2018 for retail loans is adjusted for the impact of one-off factors (the acquisition of a non-bank company's portfolio; the confirmed impact of IFRS 9 implementation).

Banks' profitability was also supported by a further decline in credit risk costs. The most marked fall in credit risk costs in 2017 was observed in those costs attached to NFC loans. The decline was related to a fall in the net default rate. By contrast, retail credit risk costs increased moderately, after a long downward trend. This increase stemmed largely from the fact that consumer loans accounted for most of the increase in the overall net default rate in 2016. The positive impact of the low credit risk cost ratio continued in the first quarter of 2018; however, due to the fall in the rate of change in the NFC credit risk cost ratio, aggregate credit risk costs increased marginally year on year.

Among the national banking sectors in the EU banking union, the sector in Slovakia continues to report one of the highest profit rates. In terms of

18 *The most significant one-off effects were the sale of holdings in VISA Europe company in June 2016 and extraordinary income from dividends in December 2016.*
19 *The sector's net profit for the year also includes the financial results of entities that ceased operation in 2017.*

aggregate return on equity (ROE), banks in Slovakia ranked third in the banking union. The Slovak sector is also in the good position of having one of the highest levels of provisioning for NPLs, with an NPL ratio that is slightly above the median. Its operational efficiency is around the median.

3.1.2 Profitability in other financial market segments[20]

The insurance sector increased its annual profit in 2017. The sector's aggregate net profit for 2017 increased by 13.1% year on year, while its gross profit net of one-off items increased by 15.1%. Going forward, the extent to which insurers' investment income covers returns guaranteed under life insurance contracts remains an area of risk after diminishing for a prolonged period.

In both the second and third pillars of the pension sector, the aggregate profit of fund management companies increased in 2017, while in the investment fund sector the aggregate profit fell. The increase in profits of PFMCs (second pillar) and SPMCs (third pillar) stemmed mainly from an increase in the number of scheme participants. Income from pension fund performance fees was also an important factor in the profit growth of SPMCs, but not among PFMCs, which recorded a modest drop in this item. The decline in the aggregate profit of investment fund management companies reflected a drop in extraordinary income, in particular their income from dividends and from the reversal of provisions.

3.1.3 Solvency and leverage

Key trends in banking sector solvency

- Banks' solvency increased moderately in 2017.
- Cross-bank differences in solvency diminished.
- The Slovak banking sector's total capital ratio remains slightly below the median ratio for national banking sectors in the EU.
- Going forward, there will have to be further tightening of dividend policy.

Solvency and leverage ratios in the banking sector have increased slightly

The aggregate total capital and leverage ratios of banks in Slovakia increased moderately in 2017. This resulted mainly from an increase the sector's retained earnings ratio. The last quarter of 2017 saw a further positive development in that banks with the lowest solvency ratios increased their own funds. On the other hand, some banks with higher total capital ratios focused on capital optimisation and therefore did not further increase those ratios, with the result that, given the environment of strong credit growth, their solvency fell. Thus the cross-bank range of total capital ratios narrowed in 2017. The aggregate total capital ratio for less significant banks in Slovakia increased to 18.4%, drawing closer to slightly higher ratio for significant banks (18.6%). Nevertheless, the aggregate solvency ratios for the sector as a whole remain slightly below the EU median.

As part of their capital optimisation measures, several banks are continuing to increase the share of lower-quality items in their capital structure. Banks' capital structure was in the past centred on the highest-quality component: common equity Tier 1 (CET1) capital. Under regulatory requirements, however, CET1 capital may be to some extent replaced by lower-quality components, and banks – especially the largest ones – have been gradually replacing part of their CET1 capital in this way. From the end of 2014 to the end of 2017, the aggregate share of CET1 in total capital for the largest banks in Slovakia fell from 90.6% to 80.5%.

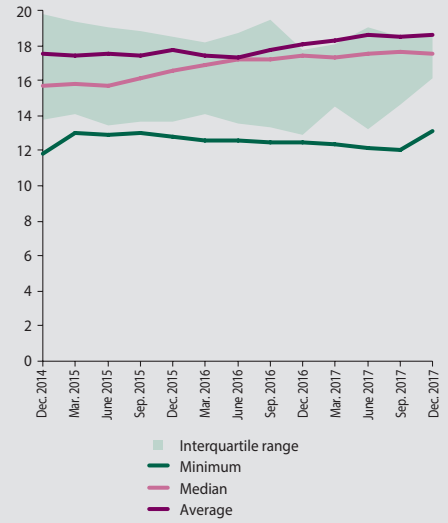
Table 5 Solvency and leverage ratios (percentages) for the Slovak banking sector

	2016	2017
Common equity Tier 1 capital ratio	15.8	16.2
Tier 1 capital ratio	16.2	16.6
Total capital ratio	18.0	18.6
Leverage ratio	8.1	8.3

Source: NBS.

20 Further details on the capital structure of the insurance sector are provided in the November 2017 Financial Stability Report.

Chart 26 Total capital ratio increases were recorded mainly in banks with the lowest solvency levels (percentages)



Source: NBS.

Chart 27 Solvency ratios are slightly below the EU median

Sources: NBS and ECB.
Note: Data are as at September 2017.

In coming years, banks will need to continue trimming their dividend payout ratios. This is largely because banks are gradually nearing the regulatory limit for this ratio, as they come under increasing capital charges due to the continuing strength of their lending activity.

In the Slovak insurance sector, insurers' aggregate solvency fell year on year, but remained sufficient to meet the regulatory minimum capital requirement

The insurance sector's solvency capital requirement (SCR) coverage ratio fell in the first quarter of 2017, but then remained stable to reach 211% in September. The decline occurred mainly because some insurers that had previously been reporting above-average solvency made sizeable returns of capital to shareholders.

The EU's new Solvency II regulatory framework (in force since 1 January 2016) has not had a significant impact on solvency ratios in the Slovak insurance sector; it has, however, had a notable impact on the solvency ratio requirement and on the meeting of the requirement. In order to meet the much higher capital requirement, several insurers have begun to include the following item in their capital: expected profits in future premiums (subject to certain contract duration restrictions). This capital component entails risks, however, including the risk that these profits will not be realised or that any losses arising before the realisation of these profits will not be covered. From the perspective of the insurance sector, these risks are systemic in nature.

3.2 INTEREST MARGIN COMPRESSION HAS INCREASED BANKS' VULNERABILITY TO FUTURE HEADWINDS

Key trends in banks' vulnerability to headwinds

- Robust lending activity is offsetting much of the impact of falling interest margins.
- Less significant banks, however, have far less capacity to offset interest margin compression.
- At the same time, the fact that loan books are growing rapidly without interest margins rising means banks are increasingly vulnerable to potential headwinds, particularly in regard to the credit quality of their lending portfolios.

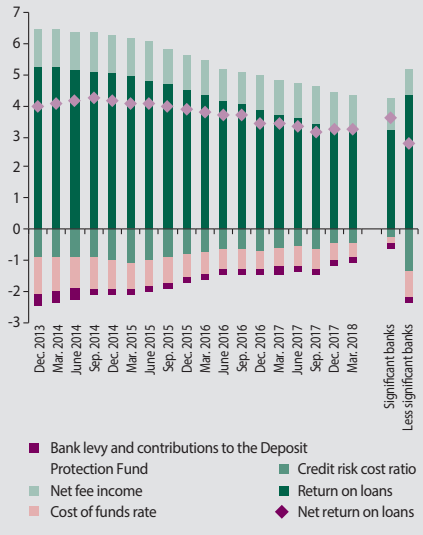
Lending growth is closely related to interest margin compression

The banking sector remains under significant pressure from falling interest margins. In the

low interest rate environment, the average interest margin in the Slovak banking sector continued its gradually declining trend in 2017, falling from 2.57% to 2.34%. The trend moderated at the end of the year, and then the margin fell only slightly in the first quarter of 2018, to 2.32%. A 0.1 percentage point drop in the net interest margin implies a decline of around 10% in banks' net profit. Banks have therefore been seeking to offset the impact of interest margin compression by stepping up their lending activity. In March 2018 the aggregate net return on loans was 3.2%. At this level of return on new loans, to offset the impact of a 0.1% fall in the interest margin, it would be necessary to increase the stock of loans by o 4.5%.

The impact of interest margin compression is more pronounced among less significant banks. Although significant banks and less significant banks have the same interest margins, it is more difficult for less significant banks to offset the impact of margin compression by increasing lending activity. This is due largely to their higher credit risk costs and higher funding costs. Less significant banks have a higher interest return on their loan books, which, however, means that their competitive position in the new loan market is worse. As a result of these factors, the aggregate net return on loans in 2017 was only 2.8% among less significant banks, compared with 3.6% among significant banks. And whereas significant banks would have been able to offset the impact of a 0.1 percentage point drop in their interest margin with a 4.0% increase in their loan book, less significant banks would have required an increase of 6.4% (more than half as much higher) to do the same.

Chart 28 The net return on loans is on a long-term downward trend (percentages)



Source: NBS.

The medium-term outlook indicates that, at the current robust level of credit growth, the banking sector as a whole could experience a slight drop in profitability. In a macro stress test covering the years 2018 to 2020, the future path of banks' profitability was simulated under a baseline scenario based on NBS's March 2017 Medium-Term Forecast. The simulation results show that the level of future profit growth is primarily conditioned by credit risk cost trends. In the baseline scenario, it is assumed that the NPL ratio for consumer loans increases moderately over the simulation period (from 8.1% to 9.8%), while the NPL ratios for other types of loan remain largely unchanged. It is also assumed that credit growth remains relatively strong, although the assumption for retail credit growth takes into account the expected impact of changes in regulatory lending conditions. In this scenario, the banking sector's average annual net profit over the period 2018-20 is estimated to be 8% lower than its profit for 2017.

Sensitivity test results point to the favourable impact of credit standard regulation in crisis situations

The increasing vulnerability of banks to potential headwinds is adding to the importance of credit risk cost trends. The fact that banks are stepping up their lending in order to compensate for interest margin compression is significantly increasing their vulnerability to potential headwinds. Under the macro stress test simulation, adverse economic trends make banks more vulnerable to losses on their retail loan books than their NFC loan books. This highlights the importance of the measures taken by NBS to support prudential lending to households.

The extent to which the credit quality of the banking sector's aggregate loan book may affect the sector's profit under negative economic conditions was tested by sensitivity tests using different aggregate levels of the default rate and loss given default.

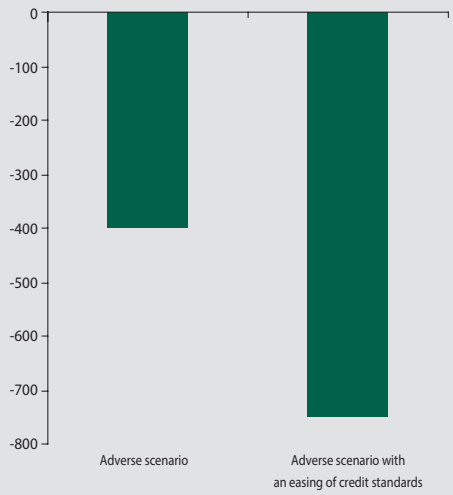
Credit standards affect two core parameters of loan books – the default rate and the loss given default. The aggregate default rate is affected, among other things, by the debt service-to-income (DSTI) ratio, debt-to-income (DTI) ratio, and the obligation on lenders to reassess borrowers against a significant top-up of the loan or a stressed lending rate. The loss given default has been mostly affected by the introduction of an LTV ratio limit for housing loans. The default rate is affected in the case of both housing loans and consumer loans, but the LTV ratio has a direct impact only on housing loans.

A sensitivity analysis of the banking sector's resilience to external shocks under different credit quality parameters for retail loans was carried out using an adverse stress test scenario.[21] The aim was to estimate what impact the scenario would have in the absence of NBS's limits on credit standards. It is therefore assumed that if these limits had not been introduced, credit standards would be easier and consequently there would be higher default rates and higher losses given default. Since the NBS measures basically capped LTV ratios at 90%, the scenario assumes that if the LTV ratio were unlimited, the banking sector's aggregate LGD would be higher by 10 percentage points. The scenario also assumes that default rates for both housing loans and consumer loans would be higher by 1.5 percentage point.

In general, the banking sector's profitability and total capital ratio are both expected to be affected more by an increase in the default rate than by an increase in the loss given default. This is probably because the change in the default rate from its original level is assumed to be greater than the change in the loss given default and also because the change in the default rate affects consumer loans as well.

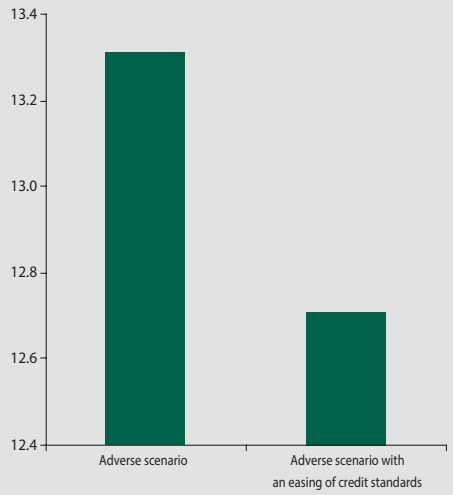
In the adverse scenario, the banking sector's total loss for the three-year stress test period is estimated to be €400 million. That loss increases by €90 million under a 10-percentage point increase in the aggregate loss given default and by more than €200 million under a 1.5 percentage point increase in the default rate. In combination, these increases in the default rate and loss given default are estimated to increase the overall loss by €350 million ('the combined impact'), almost doubling the loss estimated under the adverse stress test scenario.

Chart 29 Under an easing of credit standards, the banking sector's aggregate loss for the period 2018-20 is estimated to increase (EUR millions)



Source: NBS.
Note: Compared with the original adverse scenario, the adverse scenario with an easing of credit standards assumes that the banking sector's aggregate default rate is higher by 1.5 percentage points and that the loss given default is higher by 10 percentage points.

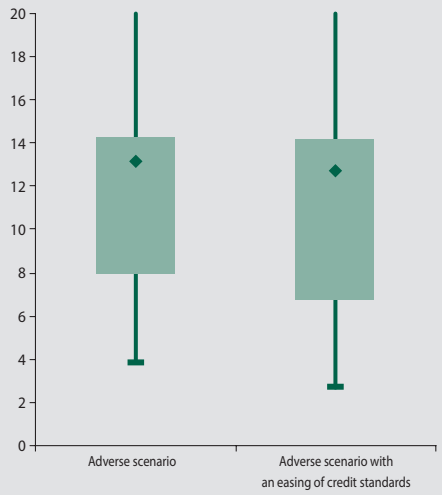
Chart 30 Under an easing of credit standards, the banking sector's total capital ratio is estimated to fall significantly by the end of 2020 (percentages)



Source: NBS.
Note: Compared with the original adverse scenario, the adverse scenario with an easing of credit standards assumes that the banking sector's aggregate default rate is higher by 1.5 percentage points and that the loss given default is higher by 10 percentage points.

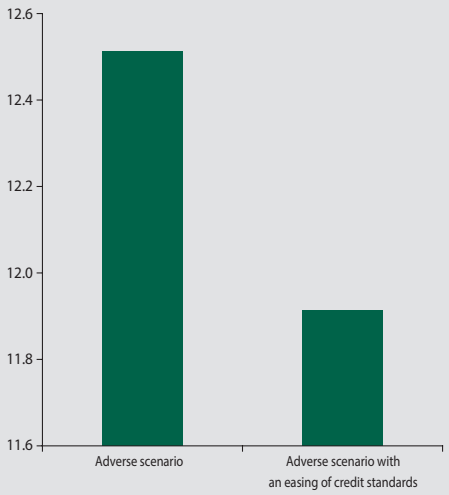
21 The scenario assumes a relatively substantial and long-lasting decline in GDP, low inflation, a large increase in the unemployment rate, and uncertainty in financial markets.
A detailed description of the stress test exercise is provided in the Analysis of the Slovak Financial Sector – 2017.

Chart 31 Under an easing of credit standards, the decline in the total capital ratio by the end of 2020 is estimated to be greater among small and medium-sized banks (percentages)



Source: NBS.
Note: Compared with the original adverse scenario, the adverse scenario with an easing of credit standards assumes that the banking sector's aggregate default rate is higher by 1.5 percentage points and that the loss given default is higher by 10 percentage points.
The chart shows the first and third quartile, minimum, and average for Slovak banks.

Chart 32 Impact of the sensitivity analysis on the banking sector's total capital ratio at the end of 2020 under the assumption of a reduced total capital ratio at the end of 2017 (percentages)



Source: NBS.
Note: Compared with the original adverse scenario, the adverse scenario with an easing of credit standards assumes that the banking sector's aggregate default rate is higher by 1.5 percentage points and that the loss given default is higher by 10 percentage points.

Under the combined impact, the banking sector's total capital ratio is estimated to fall to 12.7% by the end of 2020. Although the aggregate decline is not significant, the decline in the total capital ratios of certain individual banks – especially small and medium-sized banks – is estimated to be more pronounced. That is because small and medium-sized banks are estimated to make a loss under the adverse scenario, whereas larger banks are estimated to continue making profits (albeit modest). Thus in the case of larger banks, the combined impact is absorbed by profit, while in the case of small and medium-sized banks it is absorbed directly by capital.

In addition to the borrower-based measures, capital buffers constitute a key part of macroprudential policy

Besides taking borrower-based regulatory measures, NBS has recently increased banks' capital requirements by introducing different capital buffers. The buffers applied across the sector are the capital conservation buffer (CCoB, set at 2.5%) and the countercyclical capital buffer (CCyB, to be raised from 0.5% to 1.25% from 1 August 2018). The purpose of these capital buffers is to increase banks' resilience to potential stress situations. Given that several banks have changed their dividend policy following the introduction of these capital buffers, it may be supposed that some banks would now have lower total capital ratios if the buffers had not been introduced.

Capital buffers are also important from the perspective of banks' sensitivity to potential adverse developments in the real economy. According to stress test results, the impact of lowering the banking sector's 'input' solvency by 1 percentage point is relatively direct. In the adverse scenario not including an increase in the default rate or in the loss given default, the banking sector's total capital ratio is estimated to fall from 13.3% to 12,5%. In the adverse scenario in which the loss given default is increased by 10 percentage points and the default rate by 1.5 percentage points, the sector's total capital ratio is estimated

to fall to 11.9%. The impact is greater on small and medium-sized banks, which are not able to generate sufficient profit over the stress test period to compensate for their capital shortfall.

The NBS measures related to consumer lending and the raising of capital buffers in the banking sector are essential for maintaining financial stability at a time of strong credit growth

It is important that the NBS measures related to the provision of housing loans and consumer loans serve to ensure that banks' loan books are more resilient in times of stress. Given that recent years have seen substantial loan refinancing in an environment of falling interest rates, these measures are believed to be playing a major role in ensuring that the impact of potential future economic headwinds on banks' loan books will be more moderate than it would be if the measures had not been taken. The measures are also mitigating the rising risk related to the pressure that brokers are prone to use easier credit standards. This impact should also be viewed in the context of the current steps being taken to reduce risk in the EU's banking union, with European Commission focusing attention on the issue of non-performing loans. The Commission stresses the need both to reduce the stock of NPLs and to prevent their possible accumulation. These issues are addressed by a comprehensive package that the Commission presented in March 2018.[22] It may be concluded, in general, that although the NBS measures' impact on the credit quality of retail loan books cannot be quantified precisely, even a moderate increase in credit risk, in the current environment of credit growth and high levels of refinancing, could have a significant impact on the banking sector's resilience to an external shock affecting the domestic economy.

3.3 MACROPRUDENTIAL POLICY RESPONSIVENESS

Countercyclical capital buffer (CCyB)

- The current setting of the CCyB rate is below buffer guide levels.
- If this divergence persists in the next quarter, NBS will consider raising the CCyB rate.
- Pre-approved loans are exempted from NBS's regulatory limits.

The CCyB is due to be raised from its current level (0.50%) to 1.25% as from 1 August 2018

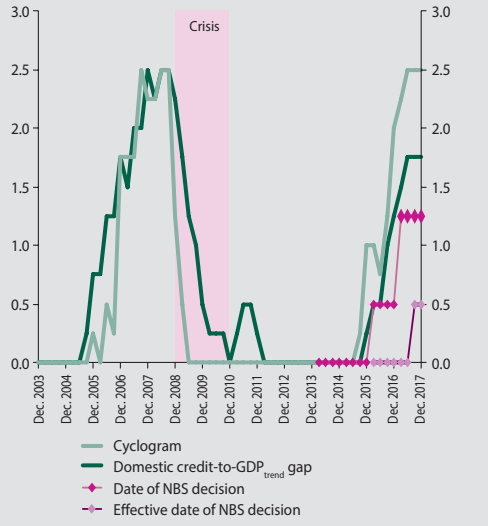
The main purpose of the CCyB is to build-up the resilience of the banking sector as a whole. The entire concept is based on the principle that banks should use 'good times', when risk is usually underpriced and credit growth is excessive, to build up their capital buffers. These capital buffers may then be used in 'bad times' to absorb extraordinary losses. The expected result is that banks will be better placed to overcome periods of stress caused by cyclical factors. As well as having greater capacity to absorb extraordinary losses (the primary objective), banks will then be able to survive periods of stress without suffering capital shortfalls such that would curb their lending activity (a positive side effect).

Table 6 CCyB rates for Slovak exposures

Period of application	Rate
1 August 2017 – 31 July 2018	0.50%
1 August 2018 –	1.25%

Source: NBS.

Chart 33 Rising buffer guides for the CCyB rate, and the CCyB rate decisions of the NBS Bank Board (percentages)



Source: NBS.

22 http://europa.eu/rapid/press-release_IP-18-1802_sk.htm

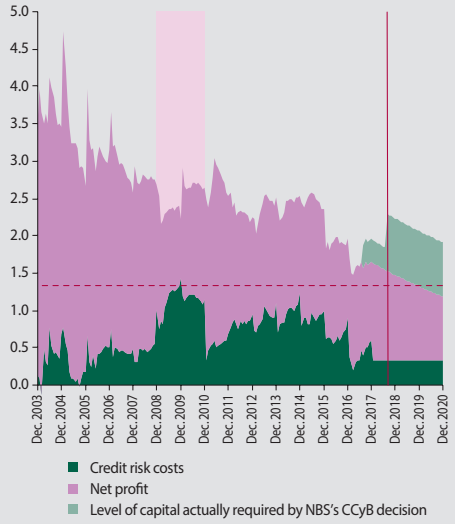
At a meeting in April 2018, the NBS Bank Board confirmed its existing stance on the CCyB rate and pointed out that if the difference between the rate and the buffer guides persisted, it would consider raising the rate further. Since the strong credit growth trend continued in late 2017, the main guides for the setting of the CCyB rate were unchanged in December 2017. The buffer guides based on the domestic credit-to-GDP_{trend} gap and the Cyclogram stood at, respectively, 1.75% and 2.50 %. Under the current NBS Decision on the CCyB rate, the rate is lower than these buffer guides.

In setting the CCyB rate, account is taken not only of the size and duration of the excessive credit growth, but also of banks' loss-absorption capacity. It is therefore important to consider both the banking sector's profit and its current trends, and at the same time the further decline in gross income that will arise during times of stress as result of subdued lending activity. Gross income[23] generated in the given year is the first line of defence in absorbing losses. In other words, a bank will only actually use its capital if it makes a loss. Credit risk costs (costs related to provisioning, to the creation of reserves, and to the sale and write- down/off of claims) naturally reduce banks' profits.

The importance of profit to banking sector stability was clearly demonstrated, for example, during the Great Recession. The extraordinary losses recorded by banks in the years 2008 to 2010 amounted on average per year to 1.26% of the loan portfolio. Gross income, however, was averaging almost 3% of total loans, therefore ensuring that the banks had an adequate buffer. Thus, thanks to high interest margins, the banking sector managed to come through the 2008-10 period without experiencing any significant decline in its total capital ratio.

In recent years, however, the banking sector's gross income relative to its total loans has been falling, largely owing to interest margin compression. In 2003 the aggregate ratio of gross income to total loans stood at 4%, while in 2017 it fell to around 1.4%. The recent setting of the countercyclical capital buffer rate reflects the fact that banks' profit-generating capacity has diminished since the financial crisis and that this first line of defence against potential crises has been significantly weakened. Furthermore, current profit trends in the banking sector imply that the aggregate ratio of profit to total loans will continue to decrease moderately in the period 2018-20. This principally means a decline in the first line of defence against losses, and it could be partly offset by capital buffers (Chart 34). This fact should also be taken into account for the calibration of the CCyB rate.

Chart 34 The banking sector's profit, credit risk costs, and CCyB as a ratio to its total loans (percentages)



Source: NBS.
Note: Credit risk costs comprise costs related to provisioning, to the creation of reserves, and to the sale and write off/down of claims. They are adjusted for one-off losses unrelated to cyclical factors.

23 Gross income is deemed to be net interest and non-interest income less operating costs and regulatory levy costs.

Box 4

THE POSSIBILITIES FOR REDUCING OR FULLY RELEASING THE COUNTERCYCLICAL CAPITAL BUFFER (CCYB)

The question of reducing or fully releasing the CCyB is relatively new. Given that the use of the CCyB as a macroprudential policy instrument has only recently been introduced under EU law, there is as yet no experience of reducing or releasing the CCyB in response to banks making excessive losses in times of stress. Hence, the literature on this issue is based entirely on theory and is being continuously supplemented and updated.

The NBS Bank Board may by law reduce the CCyB rate with immediate effect. The primary purpose of the CCyB is to absorb extraordinary losses in times of stress. Unlike the decisions that NBS has taken to increase the CCyB rate, any future decisions to reduce or release the CCyB will have immediate effect. This is because the core task of this capital buffer is to absorb extraordinary credit risk losses.

Recommendation No ESRB/1/2014[24] provides a set of variables that should be referred to when deciding whether to reduce or release the CCyB. The ESRB recommends that, for their decisions on the CCyB rate, Member States' competent authorities monitor both quantitative and qualitative information. The ESRB further recommends that they monitor measures of stress in bank funding markets (e.g. the LIBOR-OIS spread, credit default swap premia) or measures that indicate general systemic stress (e.g. a composite indicator measuring stress in the national or EU financial system). Given the nature of the business model followed in the Slovak banking sector, these indicators are neither available nor relevant, and therefore cannot be referred to when deciding to reduce or fully release the CCyB. The effectiveness of financial stress indicators outside traditional banking sector models is also questionable. In the case of the dot-com bubble, for example, banks were not recording credit risk loss on their NFC and household loan books, despite the exceptional stress in financial markets.

The Slovak banking sector is being stressed not by market indicators, but by losses on loans to households and NFCs. Therefore any decision to reduce or fully release the CCyB must be based on current loss trends in the banking sector. This refers in particular to credit risk costs, i.e. net provisioning and the expenses and income related to the sale and write-off/down of claims. Any decision to reduce or fully release the CCyB before the incurrence of extraordinary credit risk losses would be contrary to the reasons for which the buffer was established.

The CCyB should therefore not be reduced or released if excessive credit growth is moderating without the incurrence of extraordinary credit risk losses. Even in this scenario there remains the legacy risk of excessive credit growth. In other words, even if credit standards for new loans are tightened, banks' loan books will still include riskier loans provided during the time when standards were easier. This risk can only diminish with the repayment of the riskier loans.

This is why the core indicators used for decisions to raise the CCyB rate (the domestic credit-to-GDP_{trend} gap and the Cyclogram) will not be used for decisions to reduce or fully release the CCyB. A similar position was advanced in a BIS Working Paper,[25] which stated that the credit-to-GDP gap is not a suitable indicator for the release phase of the buffer. The ESRB also recommends that the indicators used for increasing the CCyB rate should be different from those used for reducing it.[26]

Regarding the question of whether to reduce or fully release the CCyB, NBS is closely mon-

24 Recommendation of the European Systemic Risk Board of 18 June 2014 on guidance for setting countercyclical buffer rates (ESRB/2014/1) — Recommendation D.

25 Drehmann, M. et al. (2011), 'Anchoring countercyclical capital buffers: the role of credit aggregates', BIS Working Papers, No 355, Bank for International Settlements, November.

26 Recommendation of the European Systemic Risk Board of 18 June 2014 on guidance for setting countercyclical buffer rates (ESRB/2014/1) — Recommendation C a Recommendation D.

itoring items related to credit risk costs (the sum of expenses related to provisioning, to the creation of reserves, and to the sale and write-off/down of claims), and also default rates trends. Whereas the indicators used for increasing the CCyB rate describe the financial cycle, these indicators point to the emergence of those losses that the increase in CCyB rate in good times was intended to protect against.

Chart A The banking sector's credit risks costs as a ratio to its total loans (percentages)

Source: NBS.

Chart B Aggregate annual default rate for loans to NFCs (percentages)

Source: NBS.

Pre-approved loans are exempted from NBS's regulatory limits

The Consumer Credit Act exempts 'pre-approved' loans from NBS's regulatory limits. These are loans whose amount is approved by the bank even before the loan is applied for. The loans are offered to customers based on their financial situation, with particular regard to current account movements and the servicing of other debts. The offers are binding or almost binding. Such loans are exempted from having to comply with DSTI and DTI ratio limits. Given the tightening of regulatory lending requirements for standard consumer loans and housing loans, pre-approved loans are becoming increasingly attractive to both banks and borrowers. There is also the risk that in order to maintain lending activity levels, banks will ease credit standards for pre-approved loans. The aggregate NPL ratio for these loans was 4.4% at the end of March 2018.

Risk related to the lack of regulation on compensation for non-financial damage under motor third party liability insurance

Recent years have seen an increasing number of lawsuits in which a party injured in a motor vehicle accident claims compensation for non-financial damage under MTPL insurance. In such cases, compensation is claimed for loss of dignity or social standing (through health injury, death, etc.), in addition to any compensation claimed for direct property damage or health-care costs. Current legislation, however, does state explicitly whether or how compensation for non-financial damage should be included in the payment of claims under MTLP insurance contracts. Judicial practice in this area shows various approaches

both in determining whether to award compensation and in determining how much compensation to award.

This situation is creating legal uncertainty for the insurance sector. Given the inconsistency in judicial practice and the lack of statutory regulation, insurers do not have the information necessary to produce accurate technical provisions and then to set premiums at an appropriate level. This is giving rise to unforeseeable costs in the insurance sector.

Abbreviations

CAPE	cyclically adjusted price-to-earnings (ratio)
CMN	Real Estate Price Map / Cenová mapa nehnuteľností
DOLS	dynamic ordinary least squares (methodology)
DSTI	debt service-to-income (ratio)
DTI	debt-to-income (ratio)
EBA	European Banking Authority
ECB	European Central Bank
ESC SDW	ECB Statistical Data Warehouse
EU	European Union
EU-SILC	European Union Statistics on Income and Living Conditions
FMOLS	fully modified ordinary least squares (methodology)
FSR	NBS Financial Stability Report
GDP	gross domestic product
IFRS 9	International Financial Reporting Standard 9
IMF	International Monetary Fund
LCR	liquidity coverage ratio
LTV	loan-to-value (ratio)
MREL	minimum requirement for own funds and eligible liabilities
NAV	net asset value
NBS	Národná banka Slovenska / National Bank of Slovakia
NFC	non-financial corporation
NPL	non-performing loan
MTPL	motor third party liability insurance
PFMC	pension fund management company
ROE	return on equity
SCR	solvency capital requirement
SSM	Single Supervisory Mechanism
SO SR	Statistical Office of the Slovak Republic
SPMC	supplementary pension management company
ÚPSVaR SR	Office of Labour Social Affairs and Family of the Slovak Republic / Ústredie práce, sociálnych vecí a rodiny Slovenskej republiky

List of charts

List of chart in boxes

List of tables

List of tables in boxes