Periodical Part

Financial stability review / Lietuvos Bankas ; 2017

LIETUVOS BANKAS
EUROSISTEMA

FINANCIAL STABILITY REVIEW

2017

The financial sector is developing at a sustainable pace, yet the continuing shift of the financial cycle into the growth phase brings out the need for careful monitoring – market participants should get ready for potential challenges

The BANKING SECTOR is generating profits and is resilient to potential shocks

Imbalances in the Nordic countries pose risks to the Lithuanian financial system

Smaller banks need to strengthen their capital

Underpinned by growing economy and income, the financial health of HOUSEHOLDS AND BUSINESSES showed improvement

LENDING is growing at a rapid pace, which is one of the fastest across Europe

A spurt in credit growth brings out the need for prudent and responsible lending policies

Persistent rapid growth of the RE market and credit would magnify risks to stability

The RE market is warming up

The threat of cybercrimes poses a significant challenge to the financial system participants

The INSURANCE SECTOR followed a rapid growth path, its solvency ratios were high

FinTech

The intensification of financial innovation and the activities of Fintech businesses will enhance competition

The reform of the CREDIT UNION sector is progressing successfully, but it is important to maintain legal certainty

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ABBREVIATIONS AND OTHER EXPLANATIONS

BIS	Bank for International Settlements
CIS	Commonwealth of Independent States
CRD IV	Capital Requirements Directive IV
CRR	Capital Requirements Regulation
DSTI ratio	debt-service-to-income ratio
ECB	European Central Bank
EIOPA	European Insurance and Occupational Pensions Authority
ESRB	European Systemic Risk Board
EU	European Union
EURIBOR	euro interbank offered rate
GDP	gross domestic product
GS	government securities
G-SII	global systemically important institution
IMF	International Monetary Fund
IT	information technology
LCCU	Lithuanian Central Credit Union
LCR	liquidity coverage ratio
LTV ratio	loan-to-value ratio
MFI	monetary financial institution
OECD	Organisation for Economic Cooperation and Development
O-SII	other systemically important institution
p.p.	percentage points
RE	real estate
RLR	Responsible Lending Regulations
SMEs	small and medium-sized enterprises
SRB	systemic risk buffer
STI	State Tax Inspectorate
UAB	private company
UK	United Kingdom
USA, US	United States of America

The Review was prepared by the Economics and Financial Stability Service of the Bank of Lithuania.
The Review is available in PDF format on the Bank of Lithuania website (http://www.lb.lt/en/).

The Review is based on the data available before 1 May 2017, unless specified otherwise.
The periods specified in chart subheadings include the data of the cut-off date of a respective period (year, quarter, etc.).
Consolidated data of the banks operating in Lithuania, including foreign bank branches, is used to analyse the banking sector, unless specified otherwise.

The publication *Financial Stability Review* is available in the EBSCO Publishing, Inc., Business Source Complete database (https://www.ebscohost.com/titleLists/bth-journals.pdf).

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SUMMARY

The Lithuanian financial sector is moving forward on a sustainable development path and is resilient to potential shocks of a systemic nature. However, the situation requires close monitoring as the country's financial cycle is entering the growth phase. Despite a prolonged low interest rate environment, the country's banking sector still manages to earn profits whereas its capital and liquidity reserves exceed the required levels by a safe margin. The growth of domestic economy, the rapid rise in household income and the improvements in the financial well-being of the private sector fuelled demand for loans in 2016. As a result, the growth of credit and the RE market gained momentum, reaching one of the fastest rates in Europe. If such a pace of development drags on, the rapid growth of lending activity and the RE market may magnify systemic risks and lead to imbalances.

The top systemic risks faced by the domestic financial sector include the accelerating growth of the RE market and credit in Lithuania as well as imbalances in the Nordic countries. The country's RE market saw a high level of activity in 2016. The number of home transactions across the country came closer to pre-crisis peaks, whereas activity in the capital city even surpassed the highest levels recorded before the crisis. Even though this development has been justified by fundamental factors thus far, systemic risks to the stability of the country's financial sector might increase within a year or two, if this growth were to persist at the current pace or were to accelerate even further. This would enhance the need to take steps to strengthen the resilience of the financial system, for example, by introducing tighter capital requirements for banks or by reviewing the RLR, if the main imbalances were to stem from unsustainable development in the RE market.

The banking sector in Lithuania is highly concentrated and dominated by Nordic banks. Hence substantial shocks to the economy or financial stability in the Nordic countries might also have repercussions for Lithuania. The impact would possibly mainly work through the decision of the parent banks to reduce risks and lending at the level of their respective groups as well as through the withdrawal of their funds from Lithuania. This might result in a decrease in credit supply in Lithuania. The levels of housing prices in Sweden and Norway remained particularly high and kept growing in 2016, as were the levels of leverage of Swedish and Norwegian households. Moreover, the parent Scandinavian banks raise a substantial share of their funding in financial markets, which makes them susceptible to a snapback in risk premia.

The ever increasing scale of electronic delivery of financial services and the adoption of IT innovations to provide such services create more space for cyber incidents, which necessitates proactive action on the part of national authorities and private institutions with a view to enhancing cyber security. It is essential to ensure that, in the event of an incident of systemic nature, there is an appropriate exchange of information between institutions and timely actions taken by respective bodies with the aim to help prevent significant consequences. A survey carried out in May 2017 has shown that the threat of cyber attacks is regarded by the financial market participants as a risk of paramount importance for the domestic financial system.

Despite record low interest rates, the banking sector demonstrated solid profitability and had sufficient buffers to withstand liquidity and other systemic shocks. However, the results of stress testing show that smaller banks need to continue strengthening their capital. The risk posed by the prolonged low interest rate environment remains a matter of concern to the country's banks. However, its relevance has decreased as lenders have substantially reduced their funding costs and administrative expenses. In 2016, the sector, as a whole, saw an increase in profits while banks recorded higher interest income. Moreover, the sector's assets capped the year with the biggest rise since 2008. Even though banks do not confirm any easing of lending standards, they exhibit increasingly more signs of a growing appetite for risk. For instance, the surveys of various businesses reveal a decrease in loan rejection rates, whereas the data available shows growth in the proportion of smaller loans granted to businesses. Even though the banking sector has become more profitable in recent years, banks should remain vigilant to emerging challenges. For instance, as lending activity is gaining momentum, banks must pursue a prudent and responsible lending policy so as to ward off the imbalances related to the excessive growth of indebtedness or housing prices. New market participants relying on financial technologies (i.e. FinTech companies) will drive changes in the competitive environment. Banks will also have to adapt to such changes by increasing investment in the development of new products and technologies. The Lithuanian insurance market continued its rapid advance in 2016, its solvency ratios were high. Decreasing share of guaranteed interest products made the country's insurance undertakings less vulnerable to the risk posed by low interest rates. Nevertheless, in the long term, the Lithuanian life assurance segment must be genuinely effective and profitable without being excessively reliant on tax incentives.

Positive forecasts for the country's economic development hold out the prospect of further growth in the loan portfolio. However, the pace of increase may slow down, which can also be seen from the funding plans drawn by commercial banks. Commercial banks estimate that the portfolio of loans granted to the private sector should increase by slightly less than 6 per cent in 2017. This would mark a slowdown from the recent pace of lending growth. At the same time, there are a number of factors which can promote further growth of lending and the housing market. Household income is projected to grow at a rather rapid pace in 2017. Moreover, the interest rates remain low, the demographic situation in the capital city is still favourable, whereas businesses and consumers hold high expectations. Nevertheless, the worsening demographics in the country will have an ever-greater effect on the development of both lending and the RE market in the medium term as the decrease in younger population will inevitably lead to a decline in demand for housing and loans.

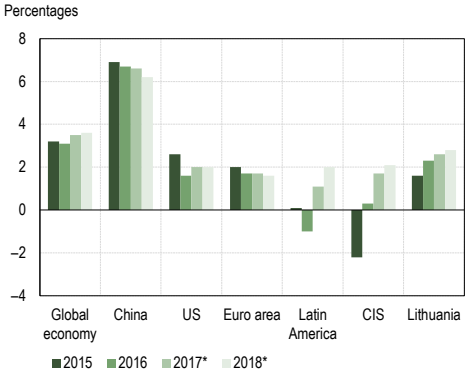
The Bank of Lithuania stands ready, if necessary, to be proactive in taking macroprudential policy measures aimed at mitigating risks and building the sector's resilience. However, market participants must also place a strong emphasis on responsible risk management. Additional capital buffer requirements for systemically important banks came into effect in Lithuania at the end of 2016. The Bank of Lithuania carries out an assessment of the countercyclical capital buffer rate on a quarterly basis, taking into account the developments in credit and the RE market (this rate has been kept at 0% thus far). It has also performed an assessment of the need for a systemic risk buffer – a macroprudential policy instrument aimed at boosting the resilience of the banking system to structural systemic risk. The Bank of Lithuania has decided not to apply this measure at this stage and carry out a comprehensive reassessment of its need in 2018.

Given the ongoing reform of the credit union sector, it is important to maintain legal certainty. Any unforeseen or unexpected regulatory changes reduce clarity, which, inter alia, should also be pursued by credit unions. In addition, such changes can lead to delays in the necessary resolution of the problems bogging the sector. An independent comprehensive review of the asset quality of credit unions was finalised in 2016. Credit unions substantially improved the quality of their assets and accumulated sustainable capital successfully by April 2017.

I. STATE OF THE FINANCIAL SYSTEM AND ITS OUTLOOK
FINANCIAL MARKET AND ECONOMIC DEVELOPMENTS

Chart 1. Annual real GDP growth in Lithuania and major global economies and its forecasts

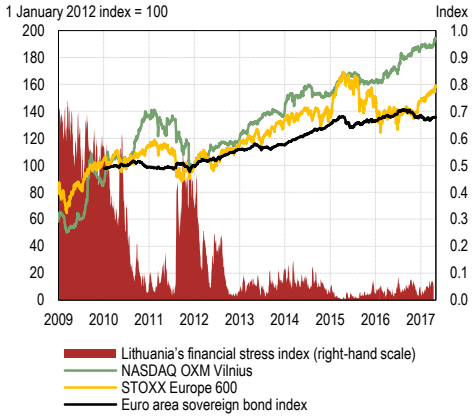
(2015–2018)



Sources: IMF, Statistics Lithuania and Bank of Lithuania.
**Lithuania's forecasts are those provided by the Bank of Lithuania, and forecasts for other countries and regions – by the IMF.*

Chart 2. Lithuania's and Europe's stock indices, euro area sovereign bond index and Lithuania's financial stress index

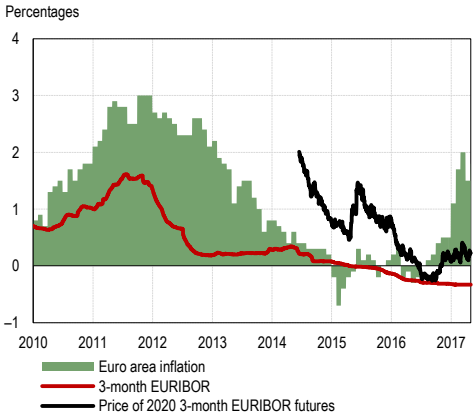
(1 January 2009–1 May 2017)



Sources: SNL and Bank of Lithuania calculations.

Chart 3. Euro area inflation, 3-month EURIBOR and price of its 2020 future

(1 January 2010–1 May 2017)



Source: ECB.

The Lithuanian economy gathered speed in 2016 and the private sector was in robust financial health. The growth of the country's exports accelerated in 2016 and early 2017 as the domestic enterprises had adapted themselves to the changed environment following the introduction of economic sanctions by Russia and the economic downturn in CIS countries. Profit-making enterprises continued to increase in number while the ranks of undertakings in financial difficulties continued to thin. This was accompanied by rapid growth in average wage (+7.9% in 2016) and a decrease in the unemployment rate, which led to gains in household consumption and improvements in household financial well-being. Higher exports and household consumption expenditure fuelled the growth of the country's GDP, which rose by 2.2 per cent in 2016 (see Chart 1), before accelerating to 4.1 per cent in the first quarter of 2017. Next year, the recovery of CIS economies, the growth of domestic consumption and the resumed inflows of EU assistance funds should provide an even bigger spur to the growth of Lithuania's economy. Nevertheless, potential shifts in economic policy stances of major countries, a high level of geopolitical uncertainty in the world, the wave of emigration that shows no signs of abating and demographic challenges faced by Lithuania will persist as sources of concern.

Advanced economies experienced a slight slowdown in 2016. Still, the pace of their expansion should get traction next year, despite lingering political uncertainty. In 2016, the rates of real GDP growth declined, in year-on-year terms, in both the euro area and the US, to 1.7 and 1.6 per cent respectively (see Chart 1). Economic growth in the euro area countries continued to be held back by the legacy of the crisis (such as high unemployment rates and a heavy burden of non-performing loans), as well as negative sentiment and the uncertainty over the exit from the EU planned by the UK. These factors will continue to exert downward pressure on the region's economy, which is why the pace of its growth is projected to remain unchanged next year. On the other hand, the pause in US economic growth proved to be short-lived. Already in 2017, the country's economy should pick up steam, supported by growing industrial investment that is buoyed by stronger demand expectations, which moved higher following the presidential elections in the US. It is true, however, that the current economic growth assumptions may change, given the lingering uncertainty regarding US fiscal and trade policy. The recovery in commodity prices, which was observed in 2016, brought in the much needed respite for recession-hit commodity-exporting emerging economies. Latin American economies, as well as Russia's and CIS economies, which are important for Lithuania's exports, all have started showing signs of recovery after the downturn. Decelerating economic growth in China gains some support from government investment. However, the growing mountain of debt of the country's private sector and soaring property prices continue to feed the risk of an economic shock.

Global financial markets experienced a number of shocks brought by political developments in 2016 and early 2017. However, the Lithuanian financial sector managed to avoid a substantial increase in the level of stress. For instance, the UK's vote to exit the EU[1] hammered the pound and weakened the euro in June 2016. The outcome of the US presidential elections, which took place in November 2016, had an even more profound effect on financial markets, in particular as investors fled stocks in favour of government bonds in the aftermath of the vote. This led to a spike in bond yields in the US and Europe, a rise in the US dollar rate and a bounce in the world's top stock indices, with even the stocks of embattled European banks recording gains (see Chart 2). Crude oil and other commodities markets last year exhibited a moderate growth pace, which also got a boost following the elections in the US. The yield on Lithuania's 10-year government bonds remained low. Nevertheless, it climbed to 0.8 per cent, from 0.4 per cent, in the period between the elections in the US and early May 2017. The Lithuanian stock market showed virtually no response to political developments abroad. In particular, the NASDAQ OMX Vilnius followed a continuous growth path throughout 2016, gaining 14.9 per cent by the end of the year. Overall, the financial stress indicators adapted to Lithuania's context recorded marginal growth last year, despite heightened volatility in global financial markets.

Monetary policy remained accommodative in the euro area last year. However, the financial markets upped the odds for an increase in interest rates. In late 2016, the ECB chose to extend its expanded asset purchase programme until the end of 2017[2] and leave the key interest rates at historic lows. As a result, banks' liquidity reserves continued to increase, whereas the EURIBOR went deeper into the negative territory across all maturities (see Chart 3). On the other hand, a surge in optimism in financial markets in the aftermath of the US presidential elections and a pick-up of inflation in the euro area in late 2016 fuelled market expectations for rising interest rates in the region. As of late April 2017, the 3-month EURIBOR was expected to turn positive in

[1] On 23 June 2016, the UK held a referendum, which resulted in a small majority of voters voting in favour of leaving the EU.
[2] The ECB originally planned to wrap the programme up in March 2017. However, in December 2016, it opted to extend the scheme until the end of 2017 and reduce monthly purchases to EUR 60 billion, from EUR 80 billion, starting from March 2017.

September 2019. Still, the level of inflation in the euro area is not yet sustainable enough and is dependent on the region's current monetary policy stance, which should not undergo any alterations in the near future. In contrast to the ECB, the US Federal Reserve System has raised its benchmark interest rate twice since late 2016, to a target range of 0.75–1 per cent, and planned to lift it further up in 2017. The tightening of monetary policy will, *inter alia*, push up the interest rates on US Treasuries, which will act as an incentive for diverting capital flows towards the US and away from other parts of the world, in particular the emerging markets. This may also lead to higher volatility in financial markets.

The cost of loans originated by the euro area and Lithuanian banks continued to decrease. As the ECB maintained its accommodative monetary policy stance, interest rates on loans disbursed to both households and corporates followed a downward path in the euro area countries in 2016. The cost of taking up smaller business loans fell more substantially, compared to the cost of large loans (see Chart 4.). In Lithuania, interest rates on new business loans decreased as well last year, albeit at a more moderate pace, and remained virtually unchanged in the first half of 2017. With lower interest rates, borrowers can save money on their loan payments and, therefore, improve their financial health. In general, a prolonged period of low interest rates serves as a stimulus that makes businesses more willing to take loans for expansion and thus contribute to job creation.

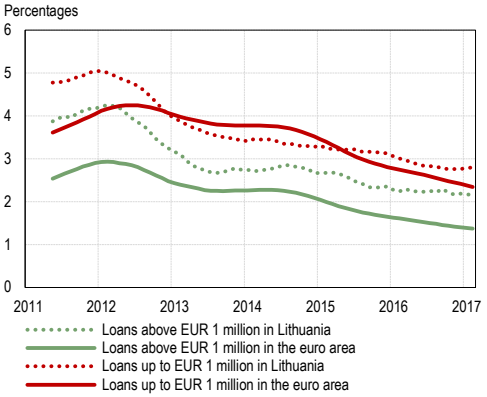
The euro area has moved into the growth phase of the credit cycle, as has Lithuania. The annual pace of growth in the portfolio of loans originated by credit institutions in the euro area countries kept accelerating in the course of 2016 and reached 1.8 per cent by the end of the year, which was the highest rate from 2011, when Europe was hit by a sovereign debt crisis (see Chart 5). This was accompanied by a pick-up in growth of housing prices in the single currency area. In particular, home prices in the region rose by 3.7 per cent in the twelve months to the end of 2016. It should be stressed, however, that growth rates continued to vary greatly across individual countries. The recovery of credit supply should render support to the euro area economy, with its full growth potential still unlocked and its unemployment rate still running high. Lithuania has experienced similar trends in credit supply of lately. What is more, the move into the phase of growth in credit supply and RE prices, which the country saw in 2016, was even more manifest.

Low profitability and a heavy burden of non-performing loans remain a major headache for the European banks. Despite a decrease in the aggregate level of non-performing loans of EU banks, which was recorded in 2016, as many as one third of the EU countries still reported levels over and above 10 per cent (see Chart 6). Failure to recover bad loans leaves the banks shouldering the losses by themselves. For some of them, this leads to operating losses and the erosion of capital, which, simultaneously, heightens the threat to the stability of national financial systems. For instance, concerns over the asset quality of banks in certain Southern European countries in 2016 and early 2017 pushed up the yields on their government bonds. In general, a deterioration in investor sentiment towards Southern European banks drives up the costs of bank funding in other countries in the continent. It also leads to a higher risk of contagion spreading to other European countries. With this situation in the background, the European authorities last year chose to look into possibilities to reduce the stock of bad loans at EU level (for details, see Box 1). On the other hand, with interest rates staying persistently low, profitability challenges for banks emerge even in those countries that are not plagued by bad loans. In 2016, the aggregate return on assets of European banks decreased marginally once again, to 0.2 per cent, falling further below the 2005–2008 average of 0.8 per cent.[3] At the same time, the above mentioned profitability ratio of the Lithuanian banks was as high as 1.2 per cent last year (for details, see 'Banking sector developments').

The mounting political uncertainty and resurgent geopolitical tensions continue to pose risks to the European financial system. The next couple of years will be spent on negotiating the withdrawal of the UK from the EU and this process may affect the Community's economic development. The rising wave of populism in Europe may undermine political support for major economic reforms in certain European countries. The trade policy approach that will be eventually adopted by the US is also surrounded by a high degree of uncertainty. Growing protectionist stances may have negative repercussions for high-trading nations and stir tensions in global financial markets. In addition, relentless geopolitical tensions caused by Russia's aggression in Ukraine and the ongoing conflict in Syria continue to cast uncertainty over potential new economic sanctions, which, if imposed, might have a direct impact on, *inter alia*, Lithuania's businesses and its financial system.

Chart 4. Interest rates on newly-originated MFI loans to non-financial corporations in the euro area and Lithuania by loan size

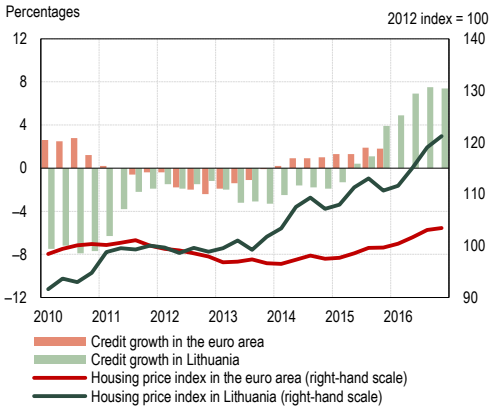
(January 2011–February 2017)



Note: The curves show the 12-month moving average of interest rates.
Source: ECB.

Chart 5. Annual pace of growth in the portfolio of MFI loans to the private non-financial sector and in housing prices in the euro area and Lithuania

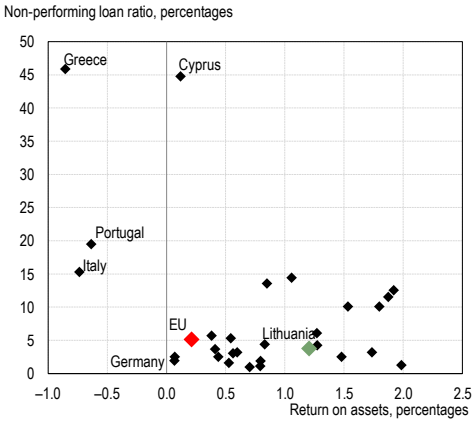
(January 2010–January 2017)



Sources: ECB, StatisticsLithuania and Bank of Lithuania.

Chart 6. Non-performing loan ratios and return on assets in banking sectors of selected EU countries

(1 January 2015–1 April 2016)



Source: European Banking Authority.

[3] Based on the weighted average return on assets of the banks that are part of the SNL European Bank index.

Box 1. Problems of non-performing loans in Europe and possible solutions

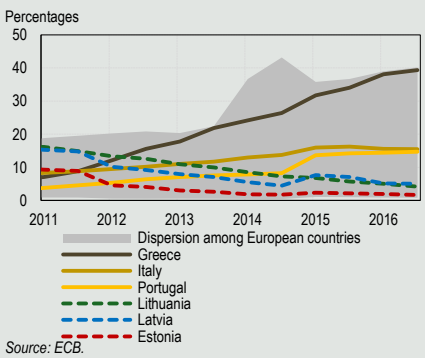
The issue of Europe's bad loans started getting more severe after the sovereign debt crisis, which rattled the euro area in 2011 and 2012. In recent years, this problem has become even more acute in certain economically troubled Southern European countries. For instance, bad loans in Greece and Cyprus accounted for nearly half of the loan portfolio of those countries' banks in late 2016. In recent years, rapid growth of non-performing loans has been observed in Italy and Portugal (see Chart A). Overall, non-performing loans still accounted for more than one-tenth of total banking sector loans in as many as one-third of European countries in late 2016, whereas the total amount of bad loans held by EU banks last year exceeded EUR 1 trillion, accounting for 7.5 per cent of this community's GDP. The high level of non-performing loans undermines the banks' ability to supply credit to viable undertakings. At the same time, it limits the possibility of fully exploiting the growth potential of the EU economy and adversely affects the efficiency of the monetary transmission mechanism. For instance, lending to SMEs has decreased substantially (and more substantially than in other segments) partially because the highest level of bad loans has been recorded in the portfolio of loans extended to this particular category of undertakings. Moreover, the high level of non-performing loans darkens the profit outlook for banks and exacerbates pressure on solvency due to growing spending on provisions, loan recovery and funding. Also, it leads to higher capital needs. The long-standing issue of bad loans would also pose risks to the stability of the entire EU financial system, if the systemic effect of the high level of non-performing loans in the EU were to spill over through interconnections between banks or if the funding costs of EU banks were to creep even higher.

The growth in non-performing loans in Europe was driven by economic downturn, reckless lending policies pursued by banks and complicated asset recovery procedures. Over the past decade, the economic downturn, which started in 2008, and the euro area sovereign debt crisis, which began in 2011, have dealt a heavy blow to many European countries. These factors led to higher unemployment and a rise in corporate bankruptcies in the EU, which rendered some of bank debtors incapable of paying their loan instalments. Moreover, the fall in property prices eroded the value of loan collateral. A key role in triggering the growth of non-performing loans was also played by irresponsible lending policies that, until that time, were pursued by banks, which issued loans on way-too-easy terms as they sought to maximise their returns in the short term. Currently, the decrease in non-performing loans is held back by lengthy and inefficient legal proceedings and congestion in courts in certain EU countries. Debtors' asset recovery or bankruptcy proceedings often last several years, during which the banks keep non-performing loans on their balance sheets as they hope to recover at least a fraction of the amounts lent. Thus the problem of non-performing loans becomes chronic (see Chart A).

The European institutions are contemplating the kinds of measures, which could help reduce the stock of non-performing loans at the EU level. In March 2017, the ECB presented guidance to major euro area banks on the reduction of non-performing loans. The purpose of this guidance was to set out supervisory expectations and provide recommendations as to how the banks should handle their existing portfolios of bad loans. In July 2016, the European Council established a subgroup on non-performing loans of the Financial Services Committee, which, with the involvement of the Community's member states and international institutions, is considering a complex set of measures to reduce the levels of non-performing loans in EU countries. These proposals can be divided into four main strands. The first strand is related to the implementation of structural changes. Inefficient legal systems have a profound effect on the level of non-performing loans in certain countries, which implies the need to improve insolvency regulatory frameworks in EU countries by providing greater protection for lenders that lend against collateral and increasing the speed of foreclosure. The second strand is the strengthening of bank supervisory powers. Banks tend to keep non-performing loans on their balance sheets for far too long, until the fair value of those loans becomes doubtful. Meanwhile, supervisory authorities, if granted greater powers, could force banks to write down their portfolios of non-performing loans more rapidly. The third strand deals with the promotion of bank restructuring. Some of EU countries have large numbers of inefficient small banks, which find it difficult to manage non-performing loans. Therefore, the speeding up of consolidation among such banks would also increase economies of scale as regards the resolution of bad loans. And the fourth strand relates to the development of the secondary market for non-performing loans in the EU. A liquid secondary market would enable banks to reduce the level of bad loans by selling them to investors, which implies the need for measures aimed at increasing the liquidity of this market. **The Bank of Lithuania supports the above mentioned proposals, which, however, should be implemented without resorting to state aid or violating the fundamental principles of banking regulation, and the priority should be to implement reforms related to inefficient national regulatory frameworks on bankruptcy and recovery.**

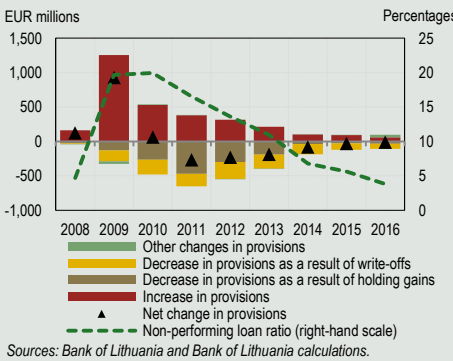
Following a substantial increase recorded in 2009, the level of non-performing loans in the Lithuanian banking sector went on a steady decline thereafter, which was driven by improvements in debtors' financial health, the write-offs made by banks and the recovery of the RE market. The level of bad loans, which rose in Lithuania after the economic downturn, reached its peak (of 20.4%) in 2010 and the increase in such loans was the most pronounced in the portfolio of loans issued to non-financial SMEs. Since then, this level had been decreasing steadily, until it reached 3.8 per cent at the end of 2016. This decrease was driven, in almost equal parts, by improvements in debtors' financial health and an increase in the value of collateral as well as the write-offs made by banks (see Chart B). The country's major banks became strongly involved in policies aimed at reducing the stock of non-performing loans, which were facilitated by capital injections from parent Scandinavian banks. Moreover, these banks established asset management vehicles in Lithuania, which bought auctioned-off properties, foreclosed by the banks operating in the country, at higher than market prices. Such a strategy enabled banks to reduce their non-performing loan exposures and avoid more substantial losses. Still, the decrease in non-performing loans could have progressed more rapidly had it not been for an inefficient insolvency regulatory framework, as a result of which lenders cannot move quickly to foreclose on collateral and legal proceedings continue for long periods of time while the value of property being foreclosed is diminishing. According to the World Bank, Lithuania ranks 26th in the EU in terms of the efficiency of its insolvency regulatory framework (see Chart C). On average, bankruptcy proceedings drag on for 2.3 years in Lithuania (vs the EU average duration of 1.5 years), whereas the average recovery rate is 45 per cent (vs the EU average rate of 65%).

Chart A. Non-performing loan ratios in selected European countries



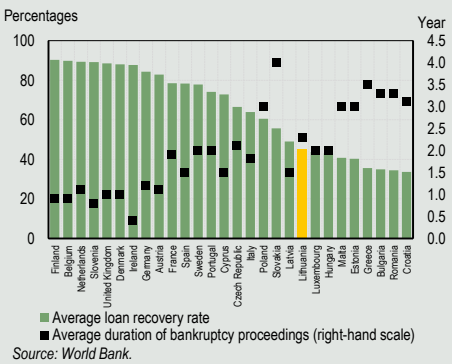
Source: ECB.

Chart B. Reasons for the decrease in non-performing loans in Lithuania, as reflected by changes in bank provisions



Sources: Bank of Lithuania and Bank of Lithuania calculations.

Chart C. Average recovery rate for loans and average duration of bankruptcy proceedings in EU countries



Source: World Bank.

BANKING SECTOR DEVELOPMENTS

The profit of banks operating in Lithuania has increased significantly in 2016, which further improved the already robust financial health of the banking sector. The combined profit of the Lithuanian banking sector rose by 17.1 per cent in 2016, to EUR 252.2 million, and return on assets increased to 1.03 per cent, from 0.94 per cent. In fact, since the restoration of independence, the banks operating in Lithuania have managed to rake in a larger profit only twice – in 2007, i.e. at the peak of economic activity, and in 2011, when the banks recovered some of the losses booked in the previous year (see Chart 7). This rise of profit mainly came from net interest income, which increased by 9.4 per cent. Banks in particular managed to cut their interest spending substantially (–23.1%), thanks to a decrease in residents' fixed-term deposits (which are paying interest), lower contributions to the deposit insurance fund and the increased flow of cheaper financing from parent banks. The acceleration in lending also led to a modest increase (+1.6%) in banks' interest income, which was a first since 2008. Moreover, banks achieved an improvement in their efficiency ratio (the ratio between administrative costs and income) over the year, which placed the Lithuanian banking sector among the most efficient banks in Europe. At the same time, banks saw a 3.5 per cent rise in their net fee and commission income. Against this backdrop, banks recorded increases in both their net interest margin (see Chart 7) and return on assets in 2016.

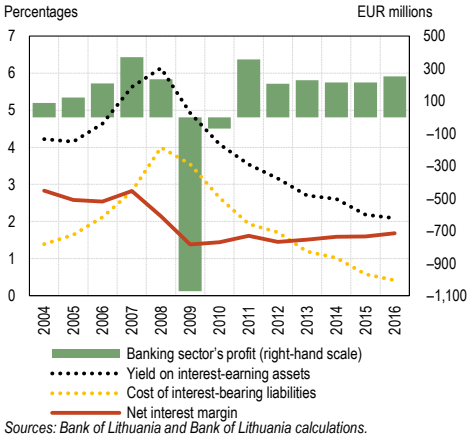
The risk posed by the prolonged low interest rate environment remains a matter of concern to the country's banks. However, its relevance has decreased as they have adapted their business models to this new environment. Still, commercial banks identified this risk as the most important in the Survey of Risks to Lithuania's Financial System carried out by the Bank of Lithuania in November 2016. On the other hand, the continuous growth in banks' net interest margin since 2013 and their return on equity, which, at a 14.0 per cent level, was among the highest in Europe at the end of 2016, demonstrated the resilience of banks to the low interest rate environment. In recent years, banks in Lithuania have managed to reduce their funding interest rates and administrative costs substantially. Also, they started to rely more on their fee and commission incomes. It is worth mentioning that negative EURIBOR interest rates have eroded the profitability of many loans issued by banks. In the survey carried out by the Bank of Lithuania in April 2017, commercial banks indicated that the so-called EURIBOR floor of 0 per cent, instead of a negative rate, applied to approximately 55.8 per cent of loans granted to businesses and households (see Chart 8).[4] Still, this proportion will decrease in the coming years, amid the recovery of demand for credit and the pick-up in new lending. In addition, negative EURIBOR rates are currently offset by the banks' net interest margin, which is sufficiently high.

As lending picked up steam, banks' assets grew by 9.9 per cent in 2016, which was the strongest increase since 2008. The rise in assets was recorded by 11 out of 13 banks operating in the country. Growing demand for lending prompted banks to substantially increase their portfolios of loans issued to both businesses and households (for details, see 'Credit developments'). On the other hand, banks' holdings of debt securities continued to decrease (–12.5%) as the yields on low-risk financial instruments remained depressed. Also, banks reduced their cash holdings with the central bank (–14.5%). The growth in banks' loan portfolio went hand in hand with increases in deposits by residents and parent banks, which rose by an annual 10.0[5] and 48.3 per cent respectively. It must be noted, however, that increased financing provided by parent banks in the form of deposits partly offset the decrease (–14.2%) in funds, which they make available in the form of capital instruments, following the payment of dividends. As the credit cycle has entered its faster growth phase, banks' assets should continue growing in 2017.

In 2016, banks developed a greater appetite for risk. With lending gaining momentum, banks appeared more inclined to provide loans to SMEs. As a result, their portfolio of loans to SME borrowers grew by 5.3 per cent year on year (vs. 2.8% in 2015). An increase in newly originated smaller (up to EUR 0.25 million) loans provided further evidence of the pick-up in lending to small businesses (see Chart 9). The amount of such loans provided by the Lithuanian credit institutions in 2016 soared by an annual 52.1 per cent and their share in the total portfolio of loans issued to all corporate customers over that year rose to 18.1 per cent, from 11.8 per cent. Moreover, the amount of loans without collateral (which are mainly meant to supplement the working capital of undertakings) issued in 2016 grew by a substantial 38.4 per cent. As compared to the total amount of loans granted to corporate customers in the course of the year,

Chart 7. Net interest margin of the banking sector and its determinants

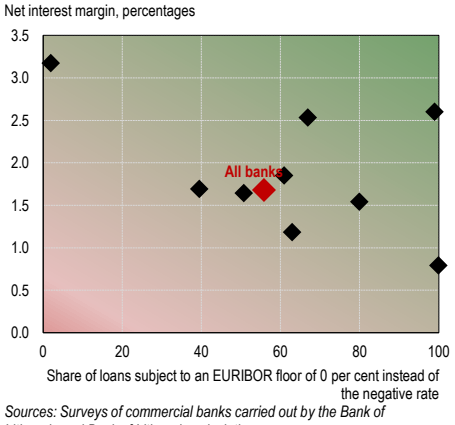
(2004–2016)



Sources: Bank of Lithuania and Bank of Lithuania calculations.

Chart 8. Net interest margin and the share of loans, subject to an EURIBOR floor of 0 per cent instead of a negative rate, in individual banks

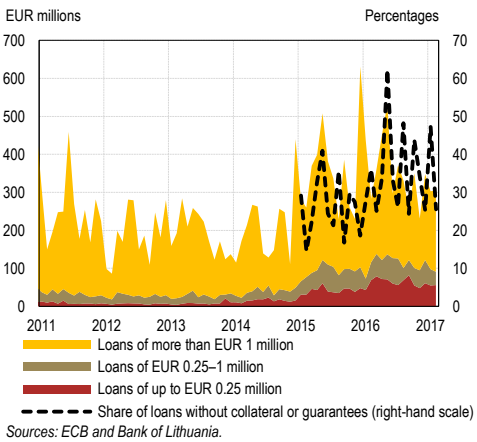
(Q4 2016)



Sources: Surveys of commercial banks carried out by the Bank of Lithuania and Bank of Lithuania calculations.

Chart 9. New loans to undertakings originated by MFIs

(January 2011–February 2017)



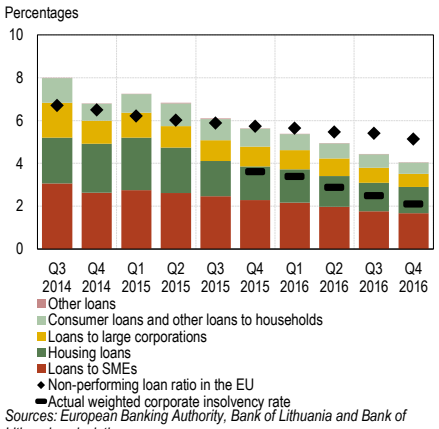
Sources: ECB and Bank of Lithuania.

[4] In most cases, banks operating in Lithuania charge a borrower-specific margin plus the 6-month EURIBOR rate for their loans. The latter put a squeeze on the borrower's margin after falling into the negative territory, which is why banks added a clause, setting a zero EURIBOR instead of a negative rate, to their new loan agreements.

[5] Adjusted to take account of a portion of the loan portfolio being divested by Danske Bank A/S Lithuania branch.

Chart 10. Non-performing loans in Lithuania broken down by type of loans and insolvency rate of corporate borrowers of banks that have adopted IRB approach for credit risk

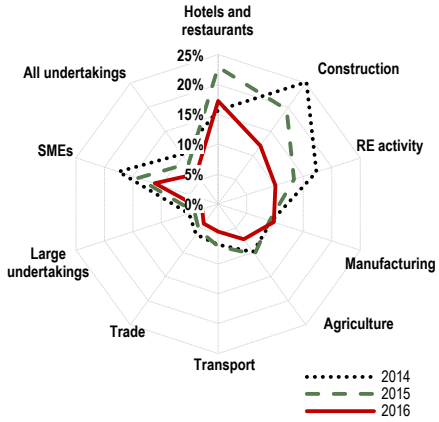
(Q3 2014–Q4 2016)



Sources: European Banking Authority, Bank of Lithuania and Bank of Lithuania calculations.

Chart 11. Non-performing loans as a share of total loan portfolio broken down by type of undertakings and sector

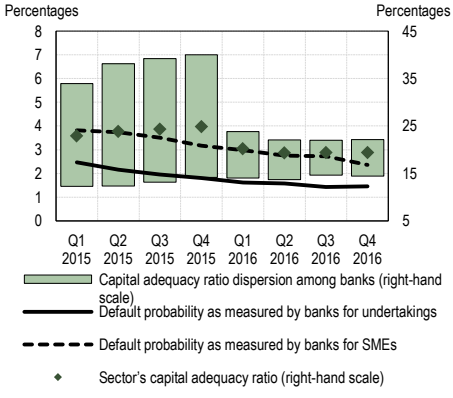
(2014–2016)



Source: Bank of Lithuania.

Chart 12. Capital adequacy ratio of the banking sector and the estimates of default probabilities by bank that adopted IRB approach for credit risk

(Q1 2015–Q4 2016)



Sources: European Banking Authority and the Bank of Lithuania.

the share of such loans grew to 36.2 per cent, from 26.0 per cent. Hence, such tendencies expose the growing appetite for risk-taking among banks, even though they do not mention any easing of lending standards during surveys. It should be noted, however, that the pick-up in lending to smaller businesses may also be fuelled by improvements in their financial standing. As shown by the figures made available by the biggest banks, the actual insolvency ratio of their existing corporate borrowers went down to 2.1 per cent, from 3.6 percent, in the course of 2016 (see Chart 10).

The continuing steady decline in non-performing loans put the banking sector on a healthier footing. The asset quality of banks, which is gauged by the ratio between non-performing and total loans, has been showing sustained improvements since as early as 2010. In 2016, this ratio narrowed to 3.8 per cent, from 5.6 per cent, falling below the euro area average (see Chart 10). The latter decrease resulted from two factors, which produced a similar effect, i.e. the write-offs made by banks and improvements in borrowers' financial health. Another helping hand in coping with bad loans comes from increased activity in the RE market, which offers better chances to sell collateral taken over from insolvent borrowers. Overall, non-performing loans decreased in practically all segments of bank borrowers in 2016, but the most substantial decline was among SMEs. It should be noted, however, that the loans of these undertakings continue to comprise the highest proportion (approx. 40%) of total non-performing loans still burdening banks. With the country's economic performance getting stronger, the level of non-performing loans should continue approaching the level that existed prior to the 2008 downturn, i.e. of approximately 1 per cent.

The highest levels of bad loans continue to be recorded in accommodation, catering and construction industries, as well as activities related to RE (see Chart 11). This can be viewed as the legacy of the past economic downturn. For that reason, banks continue to assign higher risk profiles to the undertakings involved in these sectors and, therefore, are more cautious with lending to such entities. In fact, commercial banks tend to specify these sectors in particular when asked in the Bank of Lithuania surveys about the industries subject to the highest credit restrictions. On the other hand, the level of non-performing loans of above mentioned undertakings (in particular those related to the RE market) has been decreasing at the fastest pace in recent years and, therefore, banks are likely to become more inclined to lend more, considering that the current trends remain unchanged (in fact, the portfolio of loans granted by credit institutions to RE and building businesses showed the largest increase in 2016; see 'Credit developments').

Despite a decrease in the capital adequacy ratio of the banking sector, which was recorded in 2016, all banks complied with their respective capital adequacy requirements. The decrease in the aggregate capital adequacy ratio of the banking system was mainly due to Swedbank, AB and, to a somewhat lesser degree, SEB Bankas, or, more specifically, their decision to pay dividend to shareholders made early in 2016. As a result, the aggregate capital adequacy ratio of the country's banks decreased to 19.4 per cent in 2016, from 24.9 per cent (see Chart 12), while the financial leverage (the ratio between assets and equity) rose to 11.6, from 9.0. Excluding the above mentioned factors, the resilience of the country's banking sector remained strong (for details, see 'Stress testing' in Chapter II of this review). It should be noted, however, that banks employing internal risk-based approach models were also able to increase their capital adequacy thanks to improvements in the risk profiles of their corporate borrowers. For instance, the average default probability of banks' corporate obligors, as measured by such models, decreased to 1.5 per cent, from 1.8 per cent, over the year (see Chart 12). On the other hand, banks' capital adequacy ratio may decrease in 2018, after the coming into effect of the new International Financial Reporting Standards, which will encourage banks to be more conservative in their assessment of expected loan losses.

Banks' liabilities remained stable in their structure and the ratio between loans and resident deposits, which have become established in recent years, reached 96.3 per cent at the end of 2016. Funding stability should be further enhanced by irrevocable term deposits – a new type of deposits introduced in 2016 (for details, see 'Strengthening of the financial system'). Overall, banks had a strong liquidity position, as evidenced by the liquidity coverage requirement, which, at 266.3 per cent in 2016, was complied with by a wide margin.

Even though the banking sector has become more profitable and resilient in recent years, banks should remain vigilant to emerging challenges. With lending activity gaining momentum, banks must pursue a prudent and responsible lending policy so as to ward off potential imbalances related to the excessive growth of indebtedness or house prices. With the financial cycle moving into the upswing phase, it is essential for banks to strengthen their buffers so as to remain resilient to potential future changes of the cycle. During the last few years, the prolonged low interest rate environment has forced banks to increasingly rely on fee and commission income, instead of interest income, which implies that the success of operations, which banks will pursue further ahead, will depend *inter alia* on the sustainability of their changed business models.New market participants relying on financial technologies, namely the FinTech companies (for details, see Box 3), will lead to intensified competition in the market for banking services and, therefore, banks will have to adapt and direct their investment towards the development of new technologies and products.

Box 2. Concentration in the banking sector and its links with the stability of the financial system

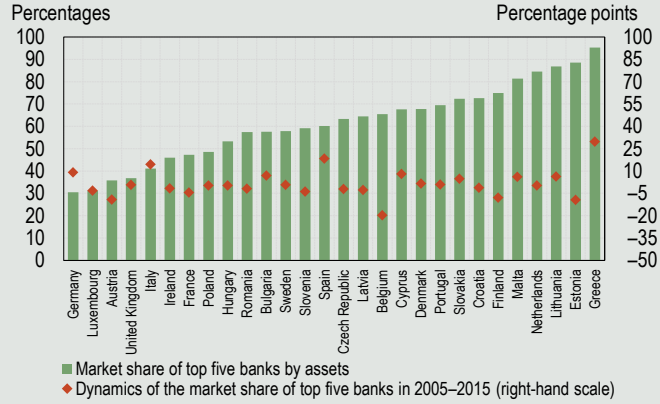
The banking industry of some euro area countries has undergone intensive consolidation in recent years. This trend has not spared Lithuania, either. Between 2005 and 2015, the level of banking sector concentration increased in more than half of EU countries. The average market share (by assets) of the top five banks in the EU countries was approximately 61 per cent. In 2005 through 2015, the most rapid pace of banking concentration was observed in Southern European countries, such as Greece, Spain and Italy (see Chart A). Nevertheless, the Hirschman-Herfindahl index, which is often used to measure the level of concentration, shows that the banking sector concentration can be viewed as high (since the index score exceeds 1,800 points) in only five EU countries, including Lithuania. The average value of this index in the EU increased by approximately 4 per cent over 10 years to reach the level of 1,136 points at the end of 2015. As far as the Lithuanian banking sector is concerned, the Hirschman-Herfindahl index increased by 6.6 per cent between 2014 and 2016 (to 2,072 points[I]), rising well above the average index score for the EU countries. A successful merger between banks owned by DNB and Nordea in all three Baltic countries would push the level of concentration in the Lithuanian banking sector even higher.

Research suggests that, in most cases, consolidation among banks is driven by the goals of improved efficiency and greater economies of scale.[II] For instance, banks in some EU countries are forced to merge due to a decrease in the number of customers, which is driven by unfavourable demographic developments, as well as due to increased activity of non-credit institutions offering financial services. According to the ECB data, the assets of euro area credit institutions, expressed as a share of the total assets of the financial sector, decreased to 44 per cent, from 56 per cent, between 2010 and 2016. Another stimulus to improve efficiency stems from the prolonged low interest rate environment weighing on the lenders' profit margins. The return on equity of banks operating in the EU shrank by an annual 1.2 p.p. to meagre 3.3 per cent as of the end of 2017.

The effect of high bank concentration on the stability of the financial system is not unambiguous. The benefits of consolidation may include higher profit margins for banks, their improved efficiency, higher competitiveness of a new market entrant as well as the opportunity to optimise the management of risks and non-performing loans. For instance, the low interest rate environment and the related decline in profit margins in the banking sector work as a stimulus for banks to review their business processes and streamline actual operating costs. The synergy effect produced by mergers between banks, a larger customer base and optimisation of the existing network of branches may contribute towards the reduction of costs and the improvement of profit margins. Moreover, it is acknowledged that higher market power, which is achieved through consolidation and makes it possible to exercise stronger influence on service charges, also helps achieve higher profit margins.[III] Larger euro area banks can be more successful while competing in the international arena and can participate in the capital and money markets on equal footing. Takeovers of weaker banks by their stronger competitors help address, to a certain extent, the current problem of non-performing loans faced by euro area banks. Moreover, larger banks have more opportunities to absorb losses from non-performing loans, which weigh less on their financial position.[IV] In addition, the processes of consolidation also enable banks to adopt the best practices in risk management and put in place an improved organisational structure.

However, an increase in the level of bank concentration as a result of consolidation may also give rise to many threats. If a merger between banks results in the creation of a new entity ranking among the top market players, such consolidation may stifle competition in the market since a major bank is in a position to exploit its existing market power, exert influence on service charges and maintain presence in the market without rolling out new services or innovative products. Moreover, the emergence of a new major market player by way of a merger may lead to changes in the risk appetite, which are unfavourable from the perspective of financial stability. For instance, if the new bank is deemed systemically important, this may make it more inclined to increase moral hazard since, as is widely known, such banks are more likely to benefit from state support when running into difficulties.[V] While in the process of merging, banks are exposed to higher operational risks, which arise due to integration of different risk management or other information systems. Even though practice has shown that a reduction in the number of market participants does not necessarily imply a deterioration in the competitive environment, a high level of concentration and a small number of competitors may, however, discourage economic operators from modernising their operations and developing innovative and competitive services. Studies indicate that an increase in concentration may also heighten banks' exposure to liquidity risks, which stem from the costs of funding in the money market that tend to rise following the merger.[VI] Moreover, the processes of merging are not always smooth. Attempts to integrate different risk management systems or the desire to combine the cultures of two organisations, which at times may be diametrically opposite, may be particularly problematic.

Chart A. Market share (by assets) of countries' top five banks and its dynamics in 2005–2015



Source: ECB
Note: The market share in Croatia was assessed for the period of 2012 through 2015.

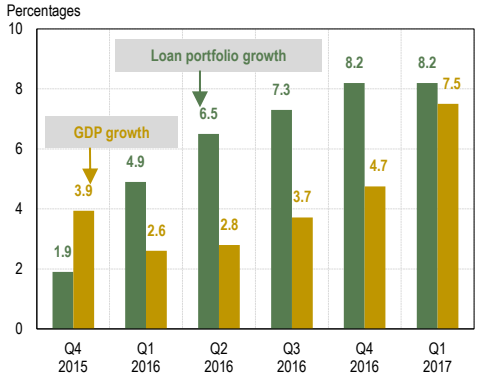
The level of concentration in the Lithuanian banking sector is among the highest in Europe, which is why the entry of new and strong market players that are capable of intensifying competition in the market is seen in a positive light. According to the data made available by the ECB, Lithuania ranks among five EU countries with the highest level of concentration in the banking sector. The profit margin of the Lithuanian banking industry is also one of the highest across the EU. Profitable and efficient banks enhance the stability of the country's financial system, which is why any changes in business structures or the market that make it possible to achieve this goal are seen as something positive. Having said that, it should be stressed that a small number of market participants leads to a higher risk of market power abuse, which may take the form of insufficient investment in the quality of services, lack of innovation and higher charges for end service users. **In order to mitigate the likelihood of these risks occurring, the Bank of Lithuania promotes active competition and the appearance of new participants in the Lithuanian banking market.**

[I] The index has been calculated by the Bank of Lithuania on the basis of banking asset data.
[II] Kowalik M., Troy D., Morris S., Regehr K. (2015). Bank Consolidation and Merger Activity Following the Crisis. *Fe*deral Reserve Bank of Kansas City, Economic Review Q1, 31-49; Bank of International Settlements, IMF, OECD (2001). Report on Consolidation in the Financial Sector.
[III] Martinez-Miera D., Repullo R. (2010). Does Competition Reduce the Risk of Bank Failure? Review of Financial Studies 23(10), 3638-3664.
[IV] Addressing Market Failures in the Resolution of Non-performing Loans in the Euro Area. ECB, Financial Stability Review, November 2016.
[V] Claessens S., Herring R., Schoenmaker D., Summe K. (2010). A Safer World Financial System: Improving the Resolution of Systemic Institutions, International Center for Monetary and Banking Studies.
[VI] Carletti E., Hartmann P., Spagnolo G (2003), Bank Mergers, Competition and Liquidity, ECB Working Paper Series, November.

CREDIT DEVELOPMENTS

Chart 13. Annual changes in MFI loans to the private financial sector and in nominal GDP

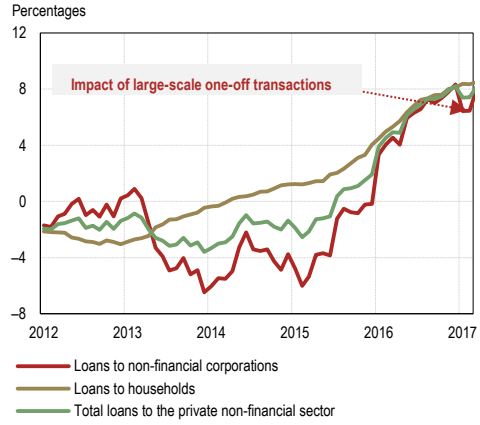
(Q4 2015–Q4 2016)



Sources: Statistics Lithuania and Bank of Lithuania calculations.
Notes: The loan portfolio covers the portfolio of loans granted by credit institutions to the private non-financial sector. GDP growth means the annual change in nominal GDP in a specific quarter.

Chart 14. Annual growth of the MFI loan portfolio

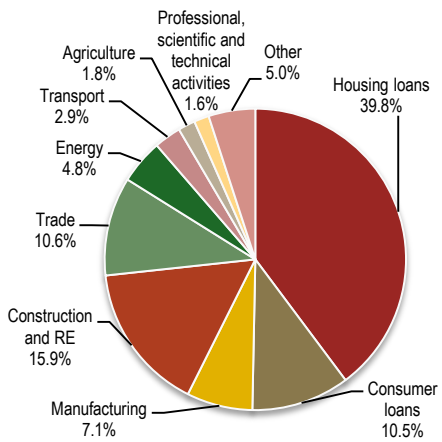
(January 2012–April 2017)



Source: Bank of Lithuania calculations.

Chart 15. Structure of the portfolio of MFI loans granted to the private non-financial sector

(Q4 2016)



Credit growth, which picked up steam and exceeded GDP growth by a wide margin in 2016, 2016, continued its momentum in the first half of 2017. The portfolio of loans granted to the private non-financial sector (households and businesses) in Lithuania grew by 8.2 per cent over 2016[6], i.e. more than twice as fast as the country's nominal GDP (nevertheless, the gap between the rates of GDP and credit growth decreased in the first quarter of 2017 as the country's economic growth picked up pace; see Chart 13). In April 2017, the portfolio of loans issued to the private non-financial sector recorded an annual growth rate of 8.0 per cent. With borrowing growing at a faster pace than the national economy, the private sector saw a slight increase in the level of its debt. In particular, the ratio between credit and GDP rose by an annual 4.7 p.p. to reach 63.3 per cent at the end of 2016. As the rate of lending picked up steam, the credit-to-GDP ratio moved closer to its long-term trend, yet still remained below that level. In the past year-and-a-half, the growth of the loan portfolio was almost equally driven by both businesses and households.

As regards loans issued to businesses, the biggest increase last year was recorded in the volume of loans granted to undertakings operating in the RE sector (including construction) and the biggest decline – in the portfolio of loans extended to enterprises active in the energy sector. In 2016, the portfolio of loans granted to non-financial corporations grew by 8.3 per cent (see Chart 14), recording the highest annual increase since 2009. The most recent data shows that the portfolio grew at an annual pace of 7.7 per cent in April 2017. The growth of the portfolio was driven substantially by both improvements in the financial health of the country's businesses (the year 2016 witnessed growth in corporate revenue and earnings as well as improvements in liquidity) and individual large-scale transactions. For instance, excluding ten top loan transactions entered into in the course of 2016, the portfolio of loans granted to non-financial corporations would have increased by slightly more than 3 per cent year on year.[7] The portfolio of loans issued to RE and construction businesses saw the biggest increase in 2016 – of EUR 162.5 million (or 6.6%), which accounted for slightly more than one-fourth of the total annual increase in the portfolio of loans provided to non-financial corporations (loans to undertakings engaged in RE and construction activities comprise approximately 16% of the total portfolio of loans granted to the private non-financial sector; see Chart 15 Rapid growth was also recorded in the portfolio of loans issued to trade enterprises as well as the providers of information and communications services (on the other hand, the growth in the portfolio of loans granted to the latter sector was also driven substantially by individual large-scale transactions).

The rise in corporate bankruptcies, which has been observed in recent years and is attributable to administrative factors, does not represent a threat to the stability of the credit market. In 2016, the number of bankruptcy proceedings initiated against business entities rose by an annual 37 per cent to 2,684. As in previous years, the highest numbers of bankruptcies were recorded in administration as well as service, accommodation and catering industries. These sectors of the economy also had the highest bankruptcy rates, expressed as a percentage of active undertakings (of 9.0 and 7.2% respectively). The overall ratio between businesses made subject to bankruptcy proceedings and the total number of undertakings registered in Lithuania reached 3.8 per cent at the end of 2016, coming close to the peak level seen in 2009 (of 4.0%). It should be stressed that these developments were mainly the result of procedural changes as the automatic bankruptcy administrator assignment scheme, which launched in 2015, made it easier for public creditors (such as the State Social Insurance Fund (SoDra) or the STI) to initiate bankruptcy proceedings against enterprises with no assets and large liabilities, which have been dormant for a long period of time. This is also confirmed by a substantial increase in the share of undertakings with a 10-year or longer track record going bankrupt (see Chart 16.). In 2016, the number of bankruptcy proceedings opened against such enterprises soared by 80 per cent year on year.

Household activity in terms of borrowing for both house purchase and consumption was strong in both 2016 and the first half of 2017. The portfolio of loans issued to households by banks and credit unions increased by an annual 8.1 per cent as of the end of 2016. In April 2017, the annual pace of growth accelerated to 8.3 per cent. Much of this increase was driven by housing loans. Much of this increase was driven by housing loans. EUR 1 billion in housing loans was originated in 2016, which represented a rise of 51.6 per cent year on year. The consumer loan portfolio reached a double-digit annual growth pace and, in relative terms, grew faster than the housing loan portfolio (by 12.2% in 2016 and by 11.1% in April 2017), yet accounted for a smaller portion of the total stock of household loans (21.4% in April 2017).

[6] The growth of this loan portfolio is measured on the basis of credit institutions' data published by the Statistics Department of the Economics and Financial Stability Service of the Bank of Lithuania, as adjusted to take account of bankruptcies and mergers in the financial institution sector (for details, see Annex 2 to the Lithuanian Economic Review of December 2014). It may differ from the data collected from banks for supervisory purposes.

[7] The change has been calculated as the portfolio of loans granted to non-financial corporations as of the end of 2016 minus ten biggest loans issued to non-financial corporations during 2016.

Strong household borrowing activity was supported, *inter alia*, by improvements in the financial health of households, favourable demographic developments in the capital city as well as the decrease in the cost of borrowing over a long period of time. In 2016, wages in Lithuania grew by 7.9 per cent and the level of employment rose by 1.5 per cent. Vilnius, meanwhile, saw increases in the numbers of new families and newborns. In particular, the number of marriage registrations and the number of newborns in the capital last year were the highest over the past two decades. Moreover, the population in the capital grew by 1.0 per cent between 2014 and 2016. Such trends, among other things, reinforced the need for borrowing, for example, for house purchase. Increased household appetite for borrowing was also likely driven by the persistently low borrowing cost.

The year 2016 saw a surge in popularity of leasing services (see Chart 17). The total value of new leasing contracts signed last year soared by more than 40 per cent year on year (to EUR 1.5 million). These developments were driven to a large extent by loan and leasing finance for the purchase of road vehicles. The recovery of the EU economy and the growth of the order book acted as stimuli for transport service providers to invest in the renewal and expansion of their fleets. Investment made by one large transport undertaking had a particularly strong impact. Moreover, households, encouraged by improvements in their financial health, stepped up car purchases as well.

Meanwhile, the portfolio of consumer loans granted by non-credit institutions shrank in volume in 2016. The amount of consumer loans originated by non-credit institutions last year decreased by one-fourth, as compared to 2015. The amount of overdue payments decreased substantially as well. This was likely the result of, *inter alia*, new regulatory changes and active supervision of non-credit institutions (these factors prompted such institutions to adopt a more responsible approach towards lending to natural persons) as well as the strong competitive environment, encompassing banks and unconventional market players such as peer-to-peer (P2P) lending platforms.

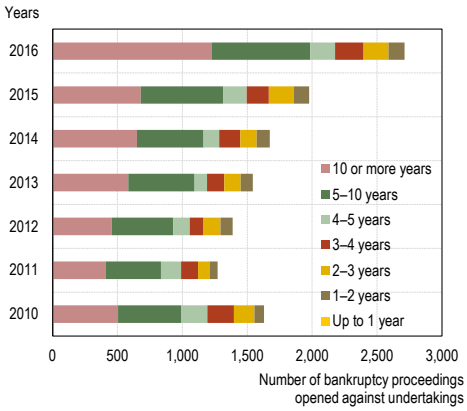
Even though banks, when surveyed, indicate that they do not relax their lending standards, there are a few signs signalling opposite trends. An example could be the acceleration of lending to SMEs or the fact that smaller loans to businesses and non-collateral loans now account for a larger share of newly originated loans (for details, see 'Banking sector developments'). Moreover, a business survey conducted by the Bank of Lithuania has shown that even though nearly one-third of enterprises still believe that lending to businesses is fully or partly limited, the proportion of such companies was way larger a year before, at nearly 50 per cent. Enterprises also report a decrease in loan rejection rates. The housing LTV ratio has remained broadly unchanged of lately. Specifically, it reached approximately 78–79 per cent between 2015 and 2016.[8] The average maturity of housing loans was 24 years in the first half of 2016, down from 26 years in the same period of 2015.

Positive forecasts for the country's economic development hold out the prospect of further growth in the loan portfolio. However, the pace of increase may slow down, which can also be seen from the plans drawn by commercial banks. Lithuania's real GDP, as projected by the Bank of Lithuania, will grow at a faster pace in 2017, as compared to 2016, whereas private consumption expenditure and exports will continue to increase. Positive developments are also expected in the labour market. In particular, wages should remain on an upward trajectory. Borrowing should also be driven by improvements in business and household expectations as regards future outlook. In fact, indicators reflecting the expectations of businesses and households came close to their post-crisis peaks in March 2017. Commercial banks estimate that the portfolio of loans granted to the private sector should increase by 5.9 per cent in 2017 and by 5.4 per cent in 2018 and 2019 each (see Chart 18). This would mark a slowdown from the recent pace of lending growth. Furthermore, the loan portfolio is highly influenced by individual large-scale loans. If there are fewer such transactions, as compared to 2015–2016, this will put additional downward pressure on the pace of credit growth.

Systemic risk could increase within a year or two, if the rapid growth of credit were to be prolonged and accompanied by a faster rise in housing prices. The current pace of credit growth in Lithuania is one of the fastest across the EU. Since the lending cycle has already moved from the recovery phase to the growth phase, it is necessary to keep a close watch on further developments in the credit and RE market. Hence the Bank of Lithuania has identified the accelerating growth of credit and RE market as an important systemic risk in this year's Financial Stability Review.

Chart 16. Bankruptcy proceedings initiated against undertakings broken down by their lifespan

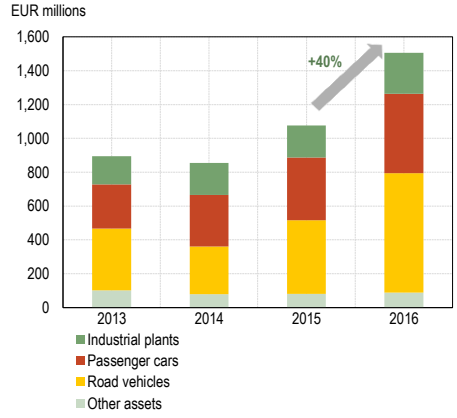
(2010–2016)



Source: The Authority of Audit, Accounting, Property Valuation and Insolvency Management.

Chart 17. Value of new financial leasing contracts relating to movable property signed since the beginning of the year

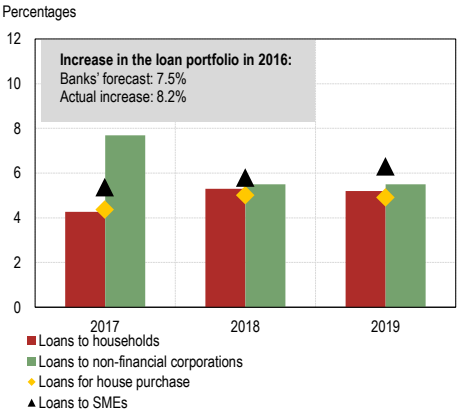
(2013–2016)



Sources: Statistics Lithuania and Bank of Lithuania calculations.

Chart 18. Growth forecasts for the loan portfolio, based on bank funding plans

(2017–2019)



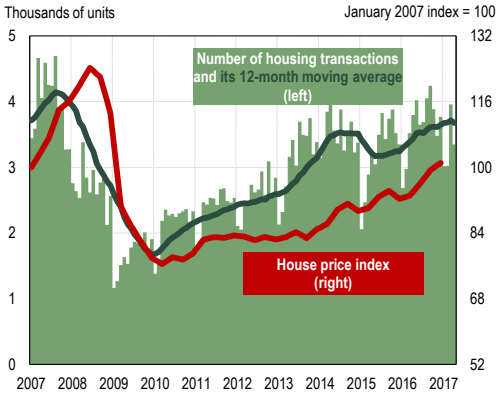
Source: Bank of Lithuania.

[8] In the latter two quarters of 2016, the ratio was 81.0 and 82.7 per cent respectively. However, these are preliminary estimates. In most cases, they are adjusted in subsequent periods and the indicators are usually revised down.

REAL ESTATE MARKET DEVELOPMENTS

Chart 19. Number of housing transactions and the house price index in Lithuania

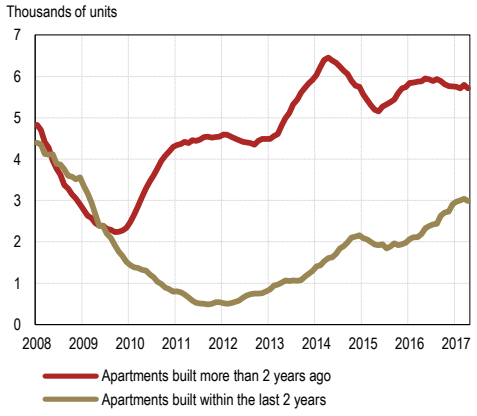
(January 2007–April 2017)



Sources: State Enterprise Centre of Registers, Statistics Lithuania and Bank of Lithuania calculations.

Chart 20. 12-month moving total of new and existing apartment transactions in Vilnius

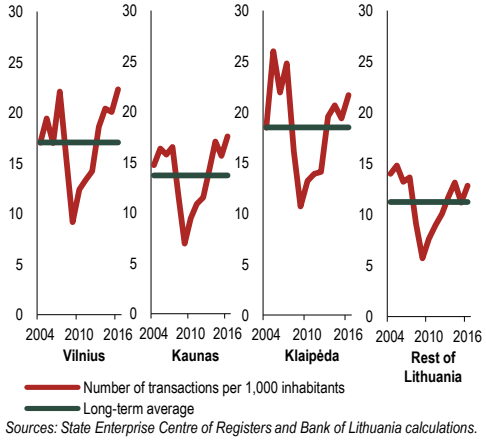
(December 2008–April 2017)



Sources: State Enterprise Centre of Registers and Bank of Lithuania calculations.

Chart 21. Housing transactions per 1,000 inhabitants

(2004–2016)



Sources: State Enterprise Centre of Registers and Bank of Lithuania calculations.

Activity in the Lithuanian RE market continued its growth trend early in 2017, after gaining substantial momentum in 2016 (see Chart 19). Nearly 121,000 properties changed hands across the country in 2016, representing a rise of 10.2 per cent from 2015. The number of transactions increased in all segments of the market, whereas the biggest contribution to the growth of general activity in the RE market came from the housing segment. The number of residential property transactions concluded over 2016 rose by 12 per cent year on year to more than 44,000. The number of transactions involving apartments and single family houses increased by 7 and 14 per cent respectively last year. The segment of land parcels also saw a high level of trading activity in 2016 as the number of such properties sold rose by 8.2 per cent, compared to 2015. Activity in the commercial property segment also showed a clearly increasing growth trend as the number of buildings and premises sold in this segment in 2016 rose by 12.8 per cent over the previous year. The number of RE transactions continued to increase in the first quarter of 2017. Year on year, the number of housing deals rose by 8.4 per cent, of commercial property deals – by 3.0 per cent, and of deals involving land parcels – by 6.3 per cent. Recent statistics indicate, however, that the number of transactions concluded in April and May decreased substantially on a yearly basis. The number of housing units sold showed the largest decrease (of 11.8% year on year) in April. As regards other segments of the RE market, the decline in activity was marked as well (the number of commercial property deals fell by 4.3%, and of deals involving land parcels – by 3.7%).

Activity in the market for housing grew at a similar pace all across Lithuania in 2016. In 2016, as compared to 2015, the number of residential properties sold increased by 11.3 per cent in Vilnius, by 10.5 per cent in Kaunas, by 9.7 per cent in Klaipėda and by 12.7 per cent in the rest of Lithuania. Even though the number of housing deals concluded across the country in 2016 was approximately 14 per cent below the level recorded in 2007, which, historically, was the year of the highest activity in the housing market, the number of housing transactions concluded in Vilnius exceeded the historic peak of market activity by 1.6 per cent.

Sales of newly-built apartments in the capital city grew at a particularly strong pace last year. In 2016, the sales of apartments, which were built within the last two years, soared by nearly 47 per cent in Vilnius year on year, whereas the number of transactions involving older apartments increased by a meagre 0.3 per cent (see Chart 20). Even so, the latter apartments continue to account for two-thirds of the total number of transactions. The data from the market participants, which track sales of apartments in multi-dwelling houses that are both completed and in progress, reveals similar trends: the number of transactions in the primary market for apartments in Vilnius increased by a significant 21 per cent in 2016 versus the previous year. One in three apartments sold in Vilnius was built less than two years ago. In 2016, demand for new apartments also increased in Kaunas and Klaipėda. However, they still account for a comparatively low percentage of total apartment sale transactions (10.8 and 4.2% respectively) due to the lack of supply.

The number of housing transactions per 1,000 inhabitants exceeded the pre-crisis level of activity in both Vilnius and Kaunas within the last couple of years. Judging from the number of transactions per 1,000 inhabitants, activity in the housing market of Vilnius and Kaunas has already climbed past the pre-crisis level. As regards Klaipėda and the rest of Lithuania, it however, remained below the level recorded in 2005–2007 (see Chart 21). It should be pointed out that shortcomings in population statistics prevent a precise evaluation of relative activity in the housing market. For instance, many people, in particular younger ones, reside in Vilnius despite having a registered residence elsewhere (see Chart 22). Hence the official statistics do not accurately reflect the actual population numbers for certain towns and regions in the country.

The growth of activity in the market and of demand for RE led to acceleration in housing prices in 2016. Overall, prices for apartments and houses grew all across Lithuania over the year, with the rate of increase picking up more substantially in the second half of the year. According to the information made available by Statistics Lithuania, the average annual rate of growth in housing prices across the country increased to 9.5 per cent in the final quarter of 2016, from 3.4 per cent in the first quarter. Other data providers also signalled a pick-up in the growth of housing prices (see Chart 23). Unlike in previous years, the pace of growth in housing prices was broadly similar. Housing prices rose in both major cities and regions, whereas the rates of price gains among regions differed by 1 to 2 p.p. As assessed by Statistics Lithuania, housing prices rose by an annual 10.7 per cent in Vilnius and by 8.4 per cent in the rest of the country. According to the data from the RE market participants, the annual pace of growth in apartment prices in Lithuania was somewhat slower somewhat slower. In particular, prices for apartments rose by 6.9 per cent in Vilnius, by 4.2 per cent in Kaunas and by 2.6 per cent in Klaipėda in the twelve months to

the end of 2016. Given the accelerating growth in housing prices and in mortgaged purchases of homes, further developments in the housing market warrant very close attention for the purposes of stability of the financial system.

Further growth in housing prices will be affected by a number of underlying factors, such as the developments in wages, rents and bank lending conditions, the expectations prevailing in the market and changes in demographics. Nevertheless, the upward climb of housing prices is likely to slow down in 2017 from 2016 due to the expected slower growth in wages, a deceleration in the growth of rents and the relatively moderate expectations on the part of RE market participants and households as regards the developments in housing prices. Over time, the development of the housing market will be increasingly affected by decreasing population and the general worsening of domestic demographics, which will also lead to relatively lower demand for housing in the medium term. If the significant decline in activity in the housing market, which was observed in April and May, is not a short-term phenomenon, the decrease in demand may be accompanied by a decline in housing prices.

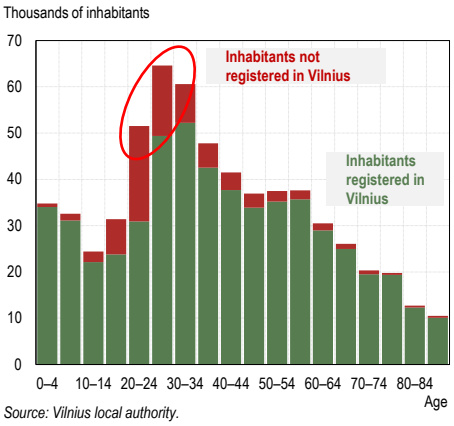
The expectations of households, banks and RE market participants as regards housing prices have been improving recently. Despite that, home prices are still expected to show moderate growth in the year ahead. It is worth mentioning that, as shown by the surveys of households, banks and RE market participants carried out by the Bank of Lithuania, the majority of the respondents, which continued to expect growth in housing prices in the year ahead, stated that the rise in prices would not be steep and would reach up to 5 per cent year on year. The expectations of households, which are the main buyers of housing, as regards housing price increases brightened up over the year. According to a survey conducted by the Bank of Lithuania in the first quarter of 2017, the percentage of the respondents foreseeing potential growth in housing prices in the year ahead increased by 11 p.p. over the year to 57 per cent. Meanwhile, the percentage of households expecting a fall in prices was as low as 7.6 per cent. Roughly one-half of the RE market participants surveyed anticipated an up to 5 per cent increase in prices for newly-built apartments in Vilnius and Kaunas within the next 12 months. Meanwhile, the results of a bank survey carried out by the Bank of Lithuania in March 2017 suggest that the growth in prices for housing within the next 12 months is expected by 6 out of 10 banks polled and a potential decrease in prices is foreseen by none. Nearly all banks (9 out of 10) anticipated a rise in prices for newly-built apartments, while 3 out of 10 foresaw an increase in prices for existing housing.

Rental prices in Lithuania grew at a slower pace than sales prices. Moreover, there are increasing signs that rents may decrease in the near future. According to a survey of RE market participants carried out in February 2017, approximately one-third of newly-built apartments in Vilnius and roughly 15 per cent of such apartments in Kaunas and Klaipėda are purchased for letting purposes. While being active in the RE market, investors contribute to faster growth in housing prices and increase rental housing supply, which may even become excessive. Such tendencies create additional risks to the stability of the financial system (see Box 4). In 2016, the annual rise in housing rents in Lithuania was the smallest since 2011, possibly due to the growing supply of new apartments intended for rent and active role played by investors: according to the data made available by Statistics Lithuania, housing rents rose by 5.1 per cent in the twelve months to the end of 2016. It is worth mentioning that the expectations of RE market participants as regards the developments in housing rents in the rental market of Vilnius, which is the biggest in the country, have also worsened substantially, with increasingly more respondents expecting the rents to decrease. Moreover, the relatively abundant supply of newly-built apartments intended for rent last year led to the widening in the gap between rents in the residential areas of Vilnius as advertised by landlords in classified portals and the actual rents paid in the market (see Chart 24)[9] In February 2017, this gap was as high as 25.4 per cent – 1.4 p.p. higher than in the same month of the previous year and 8.4 p.p. higher than in 2011, which signals a growing mismatch between the expectations of landlords and the actual conditions in the rental market.

According to the RE market participants, the profile of the average buyer of a newly-built apartment in Lithuania's cities has not undergone any significant changes as of lately. The majority of RE market participants that took part in the survey conducted by the Bank of Lithuania in March 2017, described a typical buyer of a new apartment as a resident

Chart 22. Age structure of inhabitants who are registered or not registered as residents of Vilnius but are registered with Vilnius primary healthcare services

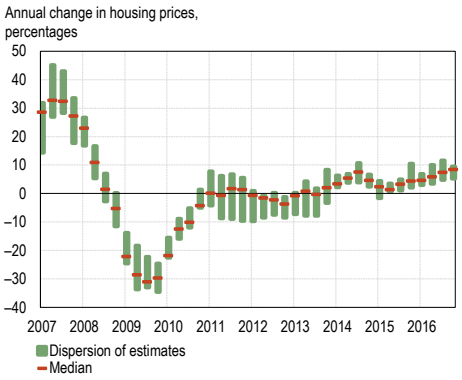
(Q4 2016)



Source: Vilnius local authority.

Chart 23. Rates of annual growth in housing prices according to different sources

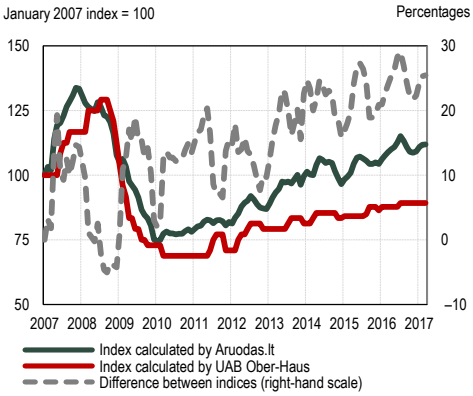
(March 2007–December 2016)



Sources: State Enterprise Centre of Registers, Statistics Lithuania, UAB Ober-Haus, Aruodas.lt and Bank of Lithuania calculations.

Chart 24. Rental price indices for housing (in Vilnius residential areas) and the difference thereof

(January 2007–March 2017)

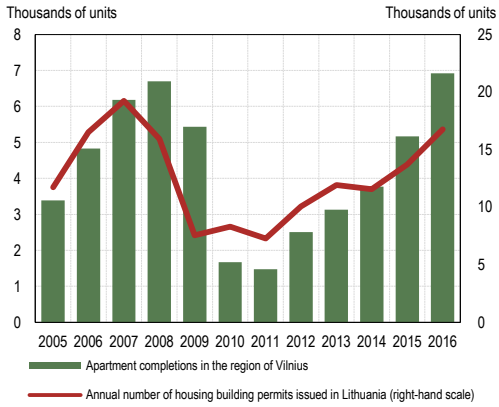


Sources: Aruodas.lt, UAB Ober-Haus and Bank of Lithuania calculations.

[9] Apartment rents specified in housing rental ads reflect the pay sought by landlords for the housing being rented out. However, it does not show the actual rental price agreed by the tenant and the landlord when signing a rent contract. This shortcoming is partly addressed thanks to the data published by UAB Ober-Haus.

Chart 25. Annual apartment completions and building permits in Lithuania

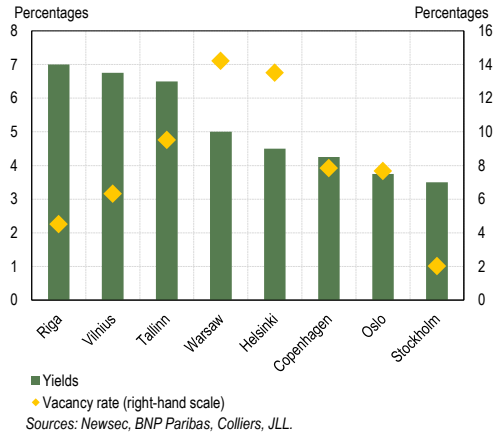
(2005–2016)



Source: Statistics Lithuania.

Chart 26. Vacancy rates of modern office space and its investment returns in Vilnius and other capital cities

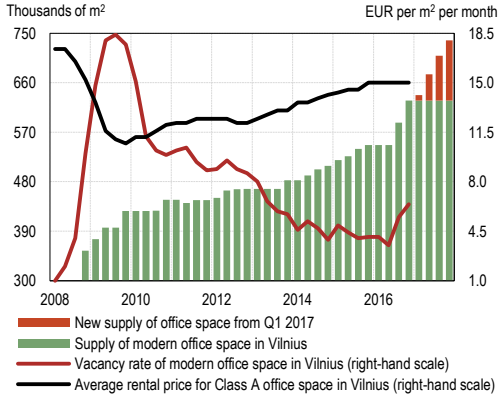
(Q4 2016)



Sources: Newsec, BNP Paribas, Colliers, JLL.

Chart 27. Supply of modern office space, rents and vacancy rates in Vilnius

(Q1 2008–Q4 2016)



Sources: UAB Ober-Haus, biuraivilniuje.lt, realgame.lt and Bank of Lithuania calculations.

aged between 25 and 35. The largest percentage of respondents indicating gradual changes in the picture of a typical home buyer was recorded among those survey participants that examined the market of Vilnius. In particular, they mentioned housing in downtown Vilnius, which are greatly sought after at present, an increasing number of young buyers with a higher than average income as well as an increasing number of persons who buy a housing before starting a family. The Lithuanian emigrants account for similar fractions of home buyers in all Lithuania's cities. In particular, one in ten deals in Vilnius, Kaunas and Klaipėda is concluded by Lithuanian citizens living abroad.

Eyeing an increase in demand for housing, the RE developers continued their work without stepping down a gear. As a result, the number of home completions exceeded the pre-crisis level in 2016 (see Chart 25). More than 12,700 new housing units were completed in Lithuania in 2016, which represented a surge of 25 per cent from the level of 2015 and a rise of 7 per cent from the year 2008, which saw high activity in the market. Such tendencies were observed not only in the capital city but also in other cities and regions. This shows that housing developers have maintained the pace of construction, at least until now, in the light of strong activity on the part of home buyers. Moreover, the number of housing building permits in the country last year was the highest from 2007 and in some locations, for instance, in Kaunas, reached an overall record level. To a significant extent, this might have been influenced by the requirement that, starting from November 2016, applications for building permits may only be submitted for new buildings that have at least a class A energy performance rating. At the same time, however, it also shows greater potential for housing supply. According to the data made available by the RE market participants, the inventory of unsold apartments in the country's three cities decreased somewhat in 2016, yet remained close to its all-time historical peak. It should be mentioned, however, that high and sufficient demand is not observed universally across all segments. For instance, the RE market participants increasingly emphasise a shortage of supply of newly-built apartments, which has emerged in the downtown area and its surrounding neighbourhoods in the capital city. Still, the surveys conducted by the Bank of Lithuania show that aggregate demand and supply in the housing market should remain balanced in the near future.

The activity of investors in Lithuania's commercial RE, which increased substantially following the adoption of the euro in 2015, retained the momentum last year. The market is dominated by capital originating from the Baltic and the Scandinavian countries. However, significant amounts have also been invested by RE funds from non-euro area countries (such as the US, Switzerland, etc.). The total amount invested by domestic and foreign investors in the Lithuanian commercial property market over 2016 remained virtually unchanged as compared to 2015. The volume of investment transactions decreased by 3.2 per cent to EUR 421.4 million, while the number of deals increased to 158, from 154. It can be assumed that investors' risk appetite was stronger than usual last year in particular as the deals involving industrial (manufacturing and transport) RE accounted for the largest proportion of both the total number of transactions signed in the commercial RE market and their total value (36 and 39% respectively). The average return on investment in industrial commercial RE was the highest among all segments in 2016. For instance, the return generated by such RE situated in attractive locations exceeded 8 per cent. Office space transactions accounted for 30 per cent of the total number of investment deals and for 26 per cent of their total value, and retail space transactions – for 24 and 21 per cent respectively.

The ranks of investors in the Lithuanian commercial RE market are likely to continue swelling in the near future, in particular as the return on investment in commercial RE in Lithuania well exceeds the rates of return in the Scandinavian countries that are close to Lithuania in geographical and cultural terms (see Chart 26). Moreover, global institutional investors may see investment in Lithuania's commercial RE as an attractive alternative, given the growth of the country's economy, its switch to the euro and the prolonged low interest rate environment. The increasing numbers of investors from other countries result in less dependence on the local sources of financing. However, in the interest of financial stability, it is important to track signs showing that the commercial property market may become over-dependent on several large-scale investors or investors from the same region. The gaps between investment returns in Lithuania and the Scandinavian countries should decrease amid the growing numbers of investment transactions being signed and of foreign investors purchasing property in the country. The growing value of properties may encourage RE developers to pick up higher risk projects in order to generate larger gains on invested capital in the short term instead of regular rental income. Such behaviour on the part of RE developers may result in an increase in the supply of commercial RE and a decline in rents.

The completion of several development projects involving business centres in 2016 led to a substantial increase in the supply of office space and its vacancy rate in Vilnius (see Chart 27). The number of new offices built in Vilnius in 2016 increased substantially as compared to the previous year and the total supply of rental office space rose by 14.8 per cent. The office vacancy rate in Vilnius rose to 6.4 per cent in 2016, in what was the first increase since 2009. As expected, increased supply in the office market put a downward pressure on rents. As a result, rental prices for Class A office space situated in the most attractive parts of the city no longer showed any year-on-year growth last year.

The existing plans of RE developers show that the development of new business centres in Vilnius will continue at a rapid pace in 2017 and, once the ongoing building works are complete, the supply of rental office space will further increase by approximately 18 per cent. As estimated by the RE market participants, the pace of new office development is scheduled to be even faster in Kaunas, where the supply of offices is expected to grow significantly by 41 per cent in 2017. Given such an increase in supply, office rents are likely to continue to be under pressure, while the office vacancy rate may increase further. Still, despite the rapid growth in the supply of office space, the development in Vilnius is sustainable and in line with the needs of businesses. As regards Kaunas, the development of business centres is pursued as a response of developers to the existing demand for modern premises suitable for business activities. In the view of international organisations, Lithuania will continue as one of the most attractive destinations for large corporations to establish and develop business services centres, which may see their workforce grow by a whopping 52 per cent.[10] Moreover, the share of vacant office space in Vilnius is substantially lower as compared to the capital cities of geographically closest countries, which implies that the office market is capable of functioning sustainably even if the rate of vacant office space is higher than the current rate recorded in Vilnius. The examples of foreign capitals show that the moderate increase in the vacancy rate driven by the greater office availability does not lead to a situation in the office market where the owners of business centres may face the threat of insolvency and banks, accordingly, the threat of losses.

INSURANCE SECTOR DEVELOPMENTS

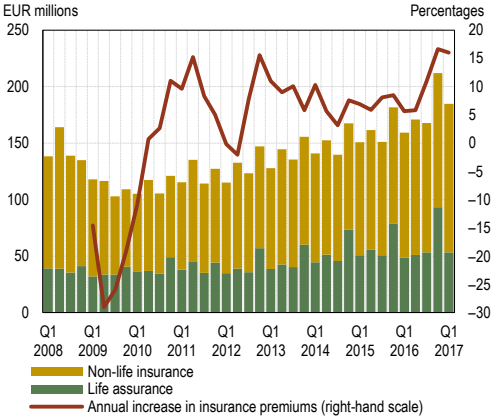
In 2016, the Lithuanian insurance market continued its rapid growth, boasting of high solvency ratios. Insurance premiums showed growth in both life assurance (+4.6%) and non-life insurance (+13.2%) segments. In 2016, the non-life insurance segment expanded at twice the pace recorded in 2015. In the first quarter of 2017, the pace of insurance premium growth continued unabated, at a 16 per cent year-on-year rate. Moreover, in the final quarter of 2016, the year-on-year growth of insurance premiums in the Lithuanian insurance sector reached its highest pace since 2009 (see Chart 28). The risk-based requirements of the Solvency II Directive, which were introduced in 2016, helped the insurance sector achieve greater resilience and stability. These requirements were safely met by all insurance undertakings (see Chart 29).[11]

The ratio between the volume of domestic insurance premiums and GDP (the so-called insurance penetration rate) was virtually unchanged and remained among the lowest across Europe. For the life assurance segment, this indicator was 0.6 per cent, while for the non-life insurance segment – 1.2 per cent. As measured by the insurance penetration rate, Lithuania is only ahead of Romania (as already known, the Lithuanian banking sector is the smallest across the euro area as well). It is worth noting that life assurance and non-life insurance segments, expressed as shares of the total insurance market, differ widely across European countries. Examples could be Lichtenstein and Luxembourg with their dominant life assurance segment (accounting for approximately 68 and 70% of the total market respectively), and, at the other end of the scale, Lithuania, as well as Greece, Poland and Romania with their prevalent non-life insurance segment.

The direct effect of low interest rates[12] on the Lithuanian insurance sector works through at least two channels, i.e. the structure of the investment portfolio, which is dominated by government bonds, and the existing guaranteed interest products. Even though the market share of new guaranteed interest product premiums has been decreasing in Lithuania, they still accounted for approximately one-fifth of new life assurance premiums at the end of 2016 (see Chart 30). Lithuania's insurers have two-thirds

Chart 28. Premiums written by life assurance and non-life insurance undertakings

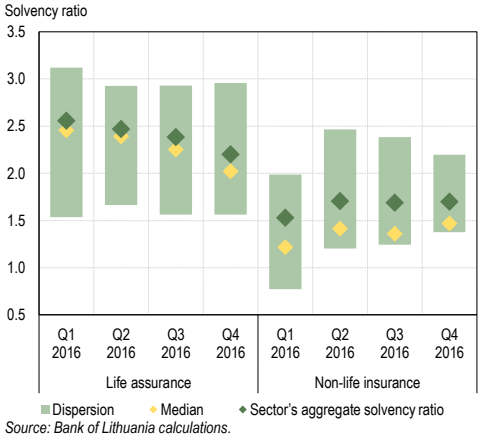
(Q1 2008–Q4 2016)



Source: Bank of Lithuania.

Chart 29. Solvency ratios of Lithuania's insurance undertakings

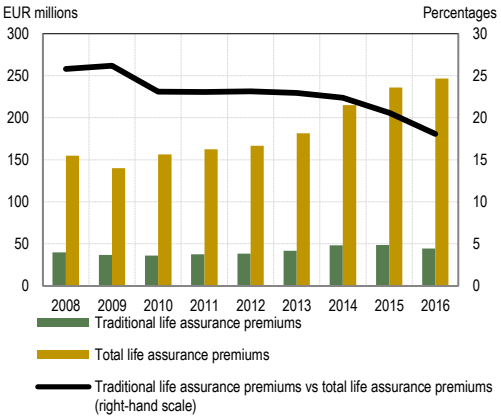
(Q1 2016–Q4 2016)



Source: Bank of Lithuania calculations.

Chart 30. Developments in traditional (guaranteed interest) life assurance premiums

(2008–2016)

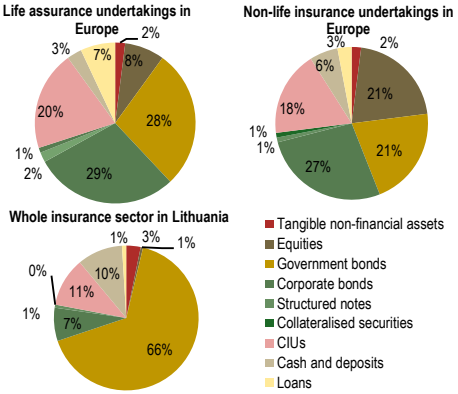


Source: Bank of Lithuania calculations.

[10] Europe's Business Services Destinations: https://www.absl.cz/docs/EURO2016_official-1.pdf.
[11] Solvency ratios of insurance undertakings shall be higher than 1.
[12] In February 2017, EIOPA published a report (the so-called Risk Dashboard) summarising the main identified risks to the European insurance sector. It showed that the prolonged low interest rate environment remained the key challenge.

Chart 31. Structure of insurers' investment portfolios in Lithuania and Europe

(Q2 2016)



Sources: EIOPA, Bank of Lithuania and Bank of Lithuania calculations.
Note: Structure of the investment portfolio of Lithuanian insurers as of late 2016.

of their portfolio invested in government bonds, which makes their portfolio substantially different from the EU average in terms of structure. In Europe, investment in government bonds does not exceed 30 per cent either in life assurance or non-life insurance segment, whereas investment in equities and corporate bonds is substantially greater than in Lithuania (see Chart 31).

Financial innovations and cyber risk trends find their way into all corners of the financial sector, including insurance. This year, EIOPA plans to hold round table discussions on the topic of InsurTech[13] so as to give more consideration to the benefit created by such companies and the risks pertaining to InsurTech. The growing digitalisation of the financial sector opens up more space for cyber risks and leads to the emergence of new related products in the insurance sector, such as insurance coverage for cyber risks. In Lithuania, cyber insurance policies can only be purchased from foreign insurance undertakings via brokers thus far. Nonetheless, this type of insurance may gain popularity following the entry into application of the new General Data Protection Regulation, which provides for fines that may be imposed for infringements of data protection rules. Given that cyber risk insurance is one of the tools that enable to limit the scale of financial losses from cyber incidents, in 2016, the OECD launched a project on cyber risk insurance, its development vectors, potential regulatory challenges, etc.

In recent years, increasing attention has been paid to the issues of financial stability in the insurance sector (such as the development of macroprudential policy in the insurance sector or the resolution of insurance undertakings). The Financial Stability Board set out the key attributes of effective resolution regimes in the insurance sector, which were published in 2014. In 2016, it released guidance on resolution planning for systemically important insurers, based on the above mentioned key attributes. Meanwhile, EIOPA has recently published a discussion paper on an EU-harmonised recovery and resolution framework for the insurance sector. A report on this consultation will guide discussions on further steps to achieve harmonisation of recovery and resolution in the insurance sector at the EU level. In July 2016, the ESRB issued a strategy paper, which identified the development of macroprudential policy beyond banking as a key policy priority. Among others, this includes the insurance sector.

FINANCIAL MARKET INFRASTRUCTURE

Banks in Lithuania carry out the bulk of domestic interbank payments in euro via intermediaries, hence the Bank of Lithuania has analysed the established practice and brought the risks resulting therefrom to the attention of credit institutions. Upon joining SEPA, the Scandinavian capital banks and foreign bank branches channelled their payments in euro through other intra-group banks. The emergence of such intermediaries in the payment process chain brings up additional risks, for instance, an elevated operational risk. The information collected and examined by the Bank of Lithuania shows that banks perceive the risks resulting from these developments. They have assigned the highest level of criticality to their payment services and worked out business continuity plans related thereto.

Disruptions in the settlement infrastructure related to a single bank qualify as a sufficient reason for the application of a systemic approach as they can also affect other banks. Banks operating in the country give due consideration to risks and apply adequate controls in order to ensure uninterrupted delivery of SEPA payment services via intermediaries (i.e. the companies that are part of respective banking groups). However, an incident that occurred at one of the banks operating in Lithuania in 2016 has shown that disruptions can persist. Depending on the size of the bank involved, a case like this may lead to implications that are systemic in nature. Disruptions in the payment execution process in the information systems of one intermediary bank imply that other banks might not receive payment orders from the bank affected by the incident and might not be able to execute payments to this credit institution. This could also undermine confidence in the services rendered by the banking sector or even in a specific bank. Therefore, even incidents that occur at a single bank shall be addressed in a systemic manner.

Clear coordination between market participants is required in order to avoid significant consequences during protracted disruptions in the functioning of the payment infrastructure. In a concentrated payments market (such as Lithuania's), the risk of significant implications from an incident at a single bank is higher. For instance, disruptions in the execution of payments by a major payment service provider and failure to restore the due process within several hours might have repercussions for many other banks. A bank experiencing an incident should notify other banks accordingly so as to prevent a misinterpretation of the situation due to lack of information. Fallback arrangements might help deal with the situation in cases where the functioning of the intermediary's systems or the payment system cannot be restored for an extended period of time.

As a fallback measure, domestic interbank payments can be delivered via the payment system TARGET2-LIETUVOS BANKAS. However, it is also necessary to give consideration to other alternatives. Banks envisage using TARGET2-LIETUVOS BANKAS, Lithuania's component of the pan-European TARGET2 system operated by the Eurosystem, in the event of disruptions in the infrastructure put in place for the execution of SEPA payments. However, this system has not been adapted for the execution of payments on the basis of SEPA standards. Therefore, certain information would be modified in the process of payment execution, which might cause inconvenience to the payees concerned. This system can only be used for the delivery of a limited number of payments, which can be handled manually. Therefore, it would be reasonable, in the long term, to also assess the practicality of the implementation of other fallback measures that would provide a possibility to execute a large number of payments compliant with the SEPA standards.

A clear process of communication would ensure an adequate initial response to potential disruptions in the execution of payments. It would include the provision of information about the disruption to the Bank of Lithuania and other market participants. The Bank of Lithuania could serve as an information conduit and, upon receiving a detailed report about the incident, could pass on the respective relevant pieces of information to other market participants. Dissemination of harmonised messages to the public would also help prevent unfounded interpretations of the incident in the public domain. The Bank of Lithuania will work towards the development and implementation of such a communication arrangement.

[13] InsurTech basically means the application of FinTech in the sector of insurance undertakings and pension funds (for details, see Box 3).

Box 3. FinTech and its role in the financial system

What is 'FinTech'? The term 'FinTech' has various definitions. For instance, the Financial Stability Board defines FinTech as technologically-enabled financial innovation that could result in new business models, applications, processes or products with an associated material effect on financial markets and institutions and the provision of financial services. In addition to the FinTech examples that many have probably heard of, other examples could include electronic payment platforms (such as Paysera), peer-to-peer lending platforms (such as Savy, FinBee), money remittance systems, payment systems, digital banks (such as Revolut, N26), etc. FinTech can work and be applied in a wide range of business segments, such as lending and investment management, financial consultation, execution of payments, selection of insurance options, etc.

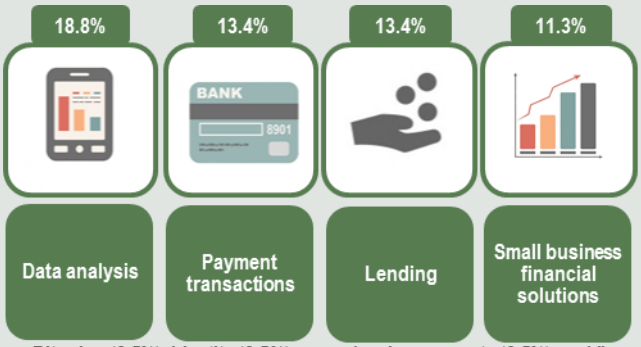
What are the benefits of FinTech and why do people use these services? FinTech services are often associated with ease of use as there is no need to visit a financial institution in order to receive a service and, in many cases, all that is needed is to press several buttons or to tap the screen of a mobile phone several times. For the most part, FinTech-based services are also cheaper than those provided by traditional financial market participants. It is further stated that, in the long term, FinTech may lead to the globalisation of basic financial services and promote deeper integration of financial systems. This would make financial services more accessible to consumers. Moreover, FinTech opens up more opportunities for the development of the new types of services and products as it is based on innovative technology. It is just as important to emphasise the effect produced by FinTech firms on the competitive environment. Moreover, new market entrants of this type act as a stimulus for traditional financial market participants to develop more advanced and competitive services. This also leads to growth in the diversity of service provision and to the kick-starting of the established market for finances. For instance, SMEs get access to a wider range of funding alternatives.

What kind of threats may arise? The entry of FinTech firms into the market and their innovations have a direct effect on traditional financial market participants through increasing competition, thus catalysing changes to their business models. Hence banks engaged in traditional activities and similar market participants find themselves saddled with the challenges of making sure that changes to their business models are sustainable and pose no risks to the financial stability. Moreover, FinTech often enters the country's market in the form of startups, which gives rise to various regulatory challenges. For instance, supervisory mechanisms designed for traditional market participants may not be appropriate for entities that provide innovative services and are still in the initial stages of establishing themselves in the market. As the services rendered by startups are usually not yet mature, such enterprises face unforeseen risks of operating incidents, which may have adverse effects on the financial stability. Furthermore, the strengthening of the links between IT innovations and infrastructure usually creates more space for cybersecurity risks to manifest themselves (for details, see 'Cybersecurity threats to financial institutions' in Chapter II of this review). These risks shall be taken into account while developing the FinTech service sector in the country.

What is the current scale of FinTech services? According to various sources, nearly two-thirds[I] of bank customers across the globe are already using FinTech products or services. More than 80 per cent of customers claim that FinTech offers faster services. In 2016, global funding to various types of FinTech totalled more than USD 24 billion[II], including USD 14 billion in funding for venture capital FinTech firms. The value of transactions in the FinTech market in Lithuania is forecast to come to approximately EUR 1.1 billion in 2017[III].

FinTech in Lithuania. Legislative initiatives undertaken in the country and the approaches taken by various authorities as well as concrete actions have a profound effect on the development of FinTech firms and services. Bearing in mind that the levels of concentration of the Lithuanian banking sector and the services provided therein are among the highest across Europe, the entry of new market participants providing competitive services is something that should be encouraged. Lithuania's public authorities, for instance, the Bank of Lithuania, Ministry of Finance and the Lithuanian investment promotion agency Invest Lithuania, contribute to these efforts. A FinTech association, which seeks to pool both new and traditional financial service providers that develop innovative solutions, is currently in the process of establishing itself in Lithuania. A further objective would be to turn Lithuania into a Nordic and Baltic regional hub for FinTech firms that would render competitive financial services and develop advanced, secure and valuable solutions. The entry of new FinTech firms into the country promotes progress in the financial sector and also contributes to the creation of new jobs as well as improves the accessibility of financial services for consumers (such as households and businesses). The FinTech firms settling down in Lithuania include both the entities financed by domestic investors and those financed by foreign capitalists, such as International Fintech, Moneta International, IBS Lithuania, deVere E-Money, etc. This demonstrates that the initiatives, which aim to promote the development of operations by FinTech firms in the country (such as consultation of financial sector newcomers, the approval of the Law on Crowdfunding, the simplification of licensing procedures, the establishment of Vilnius Tech Park – the biggest technology hub for startups in the Baltic and Scandinavian countries, etc.) yield tangible results. It is, therefore, necessary to carry on with these efforts while duly managing the emerging risks.

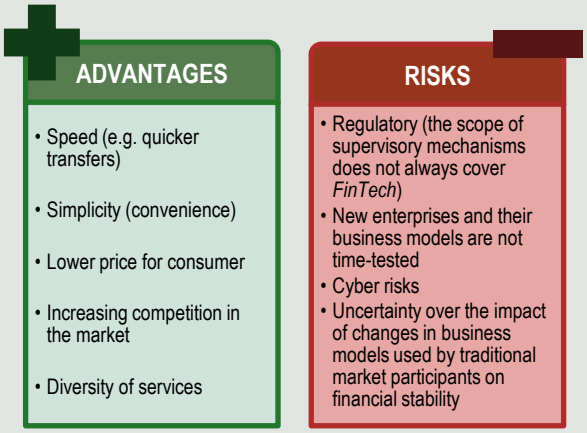
Chart A. Breakdown of FinTech startups by domain across the world *(2015)*



Bitcoins (6.5%), **identity** (6.5%), **cross-border payments** (6.5%), **mobile phones** (5.9%), **shopping** (5.9%), **blockchains** *(5.9%)*, **personal finances** (5.4%), **banking** (1.6%)

Source: https://www.oreilly.com/ideas/4-trends-in-fintech-startups.

Chart B. FinTech: advantages and potential risks



[I] https://www.i-scoop.eu/fintech
[II] https://home.kpmg.com/xx/en/home/media/press-releases/2017/02/global-fintech-investment-sees-sharp-decline-in-2016.html
[III] https://www.statista.com/outlook/295/143/fintech/lithuania

II. RISKS TO THE FINANCIAL SYSTEM

This chapter deals with the main systemic risks and challenges faced by the Lithuanian financial sector (see Table 1), as well as presents the results of stress tests showing the resilience of the banking sector.

Table 1. Main risks and challenges for the Lithuanian financial system

Main risks to the Lithuanian financial system			2016	2017
Potential effect of imbalances in the Nordic countries and a snapback in risk premia on parent banks			↗	→
Rapid growth of credit and the RE market in Lithuania				↗
Challenges for the Lithuanian financial system				
Cybersecurity threats for financial institutions			↗	→
Risk assessment legend				
High systemic risk		Elevated probability of risk occurrence		↗
Medium systemic risk		Unchanged probability of risk occurrence		→
Low systemic risk		Reduced probability of risk occurrence		↘

Note: The existing level of risks has been established on the basis of expert evaluation and certain quantitative indicators, taking into account the probability of the risks occurring and their potential systemic impact; arrows show changes in the probability of risk occurrence since the publication of the Financial Stability Review 2016.

POTENTIAL IMPACT OF IMBALANCES IN THE NORDIC COUNTRIES AND A SNAPBACK IN RISK PREMIA ON PARENT BANKS

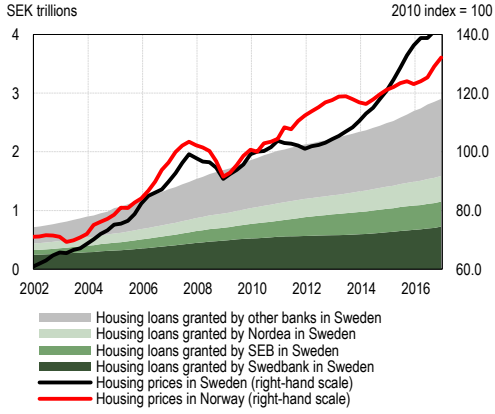
Chart 32. Market share of Nordic banks in Lithuania and the proportion of funding from parent banks

(Q1 2008–Q4 2016)

Source: Bank of Lithuania.

Chart 33. Real house price indices in Sweden and Norway and housing loan portfolios of major Sweden's parent banks

(Q1 2002–Q3 2016)



Sources: Statistics Sweden and Bank for International Settlements.

The Lithuanian banking sector is dominated by Nordic banks, which can be vulnerable to adjustments in the imbalances that have built up in those countries. As of late 2016, these banks accounted for 89.5 per cent of the total assets of the Lithuanian banking sector (see Chart 32). Moreover, the level of concentration in the Lithuanian banking industry is among the highest across the EU, which is why the major banks produce a massive systemic effect on the Lithuanian financial sector. Even though the liabilities of banks operating in Lithuania to their foreign peers decreased substantially between 2008 and 2015, they grew slightly once again in the course of 2016, rising to 15.1 per cent of total funding, from 11.2 per cent (see Chart 32). It is true, however, that these ratios ranged between 0.0 and 66.1 per cent among individual banks. In this environment, the Lithuanian financial system is dependent on the financial standing of Nordic banks and, therefore, may suffer a substantial adverse effect from the adjustments of imbalances in those countries, if there are any.

The levels of housing prices in Sweden and Norway remain high, although prices in Sweden grew at a slower pace in 2016. The growth of RE prices in Sweden started gaining speed in 2013. By late 2015, the pace of their annual real growth reached 12.9 per cent. This was followed by deceleration, which brought the pace of increase down to 5.1 per cent as of late 2016 (see Chart 33). The slowdown was driven, *inter alia*, by the minimum mortgage amortisation requirements for housing loans, which were introduced in Sweden in June 2016, as well as by a pick-up in new housing construction. At the same time, housing prices in Norway started growing at a faster rate. Eventually, the annual pace of growth in real housing prices in the country accelerated to 7.4 per cent, from 1.7 per cent, over 2016. In general, the levels of housing prices in both countries remain high and much exposed to structural factors[14]. Between 2007 and 2016, nominal housing prices in Norway and Sweden soared by 57.2 and 65.0 per cent respectively, whereas household income saw much more modest increases – of 29.0 and 22.8 per cent respectively. This was accompanied by the growth of leverage of these countries' households, which rendered them more sensitive to economic shocks. In 2016, the level of leverage (the ratio between annual income and debt) of Swedish and Norwegian households rose by 4.7 and 6.9 p.p. to 175 and 213 per cent respectively. This was accompanied by an increase in parent banks' exposures related to RE, which made these institutions more sensitive to a potential fall in housing prices (see Chart 33).

The deterioration in economic conditions in Norway led to an increase in non-performing loans. Falling crude prices put downward pressure on Norway's economy. Between mid-2014 and the third quarter of 2016, the unemployment rate in the country rose to 4.9 per cent, from 3.3 per cent. As a result, the Norwegian banking sector, including the parent bank of DNB Bankas, witnessed an increase in the share of non-performing loans in that period (see Chart 34). In addition, the Nordic countries are adversely affected by Brexit, which led to the weakening of business expectations and a fall in industry's order books in the second half of

[14] See Box 5 of the Financial Stability Review 2016 (https://www.lb.lt/en/publications/financial-stability-review-2016-1).

2016. Nevertheless, the economic situation in Sweden and Norway remains stable and their GDP should increase by 2.7 and 1.2 per cent respectively in 2017.[15]

The Nordic countries' banks raise a substantial share of their funding in financial markets, which makes them susceptible to a snapback in risk premia. As regards Scandinavian capital banks, which are the parent institutions of Lithuanian lenders, funding through debt securities accounted for 27.1–43.3 per cent of their total balance sheets in late 2016. With interest rates staying low, the raising of funds in financial markets has intensified since 2015 (see Chart 35). Even though this method of funding enables banks to lower their costs, it also makes them more sensitive to a snapback in risk premia. Sensitivity to this risk is further compounded by the high level of holdings of financial market instruments, which accounted for 13.7–30.0 per cent of parent banks' assets at the end of 2016. With some of the world's major central banks still pursuing an accommodative monetary policy, risk premia remain depressed. Under these circumstances, a flare-up in tensions in financial markets may trigger an abrupt surge in risk premia. As a result, the costs of funding via market instruments would increase sharply, whereas banks' holdings of securities would depreciate in value. Concerns about the sustainability of European banks, which arose in financial markets in early 2016, also led to a sudden slight increase in risk premia for the Nordic countries' banks (see Chart 35).

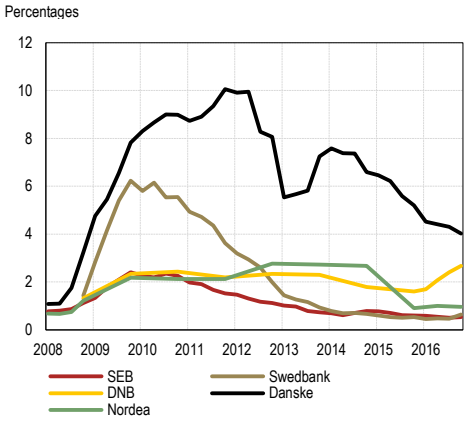
If the health of parent banks were to deteriorate, the Lithuanian financial system would be hardest hit due to a potential reduction in the supply of credit. Shocks to economic or financial stability in Sweden or other Scandinavian countries would weaken banks in those countries. As a result, they might decide to reduce the supply of credit across the group or divest non-core business lines, such as their ongoing operations in the Baltic countries. It should also be noted that, despite being high, the capital adequacy ratios of Swedish parents banks narrowly exceed the minimum requirements set by the Swedish supervisory authority. Hence banks might breach such requirements and be compelled to raise capital or reduce risk exposures even after suffering relatively minor losses. In such a situation, the growth of lending in Lithuania, which has been gaining speed as of lately, might reverse, acting as a drag on the development of the Lithuanian RE market and the country's economy. The example of Denmark's Danske bank is one of the cases confirming, to some extent, the probability of such a scenario occurring. Between 2007 and 2012, housing prices in Denmark fell by 19.5 per cent, which led to a substantial increase in Danske bank's level of non-performing loans and a decline in credit supply. For instance, the loan portfolio of this bank's group grew by a meagre 1.1 per cent between 2010 and 2014, even though the loan portfolios of all other banks, which are the parent institutions of the banks operating in Lithuania, increased by more than 10 per cent. Presumably, the policy of reducing the supply of credit affected the Lithuanian branch of Danske bank in particular, as its loan portfolio at that time contracted at the fastest pace, compared to other subsidiaries of the Nordic banks in Lithuania.

Shocks in the financial system of the Nordic countries are likely to lead to a rise in funding costs for the Lithuanian banks and undermine confidence among depositors. Once running into economic hardships, the Scandinavian countries might face downgrades to their sovereign credit ratings and a deterioration in the situation for their banks. As a result, Scandinavian banks, which are heavily dependent on financial markets, would see a rise in their funding costs, which, in turn, would drive up the funding costs for their subsidiary banks operating in Lithuania, put a squeeze on the profit margins of those subsidiaries and compel them to hike the interest rates on their loans. Moreover, spreading news about the difficulties experienced by Scandinavian banks might impair confidence of local depositors in the banks operating in Lithuania, which might give rise to the risk of increased volatility in resident deposits (for details, see 'Stress testing').

The risks related to imbalances in the Nordic counties are mitigated through improvements in the financial health of parent banks and the application of macroprudential policy instruments. In 2016, the capital adequacy ratios of all parent banks followed an upward trajectory and ranged between 21.8 and 31.8 per cent at the end of the year (see Chart 36). These indicators achieved by the Nordic banks were among the highest across major European lenders. It should be noted, however, that they mainly result from the low level of risk, which is carried in their asset holdings and measured by internal models, instead of a high level of capital. The risks were also mitigated by macroprudential policy instruments put in place in the Nordic countries. For

Chart 34. Non-performing loan ratios of Nordic countries' parent banks

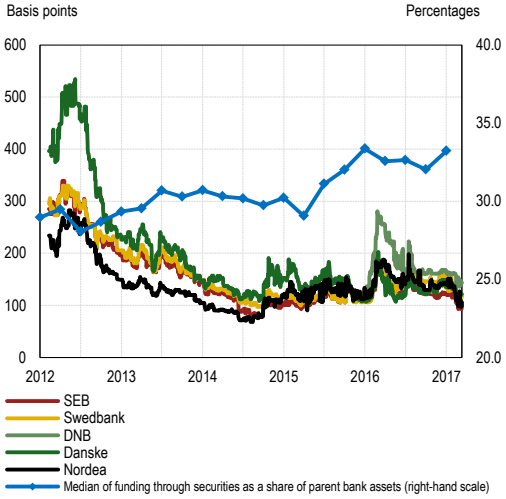
(Q1 2008–Q4 2016)



Source: SNL.

Chart 35. Costs of hedges of 5-year euro denominated subordinated debt of parent banks and the median of funding through debt securities as a share of assets

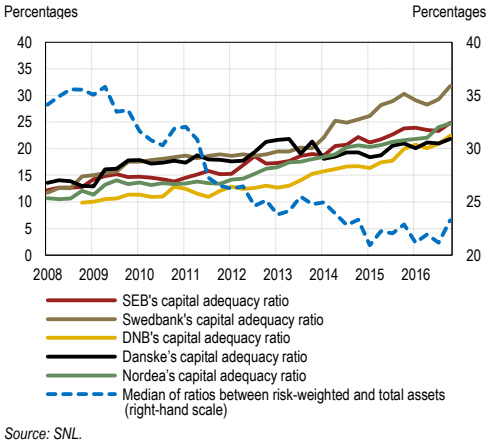
(1 January 2012–1 May 2017)



Sources: Bloomberg and Bank of Lithuania calculations.

Chart 36. Capital adequacy ratios of parent Nordic count banks

(Q1 2008–Q4 2016)

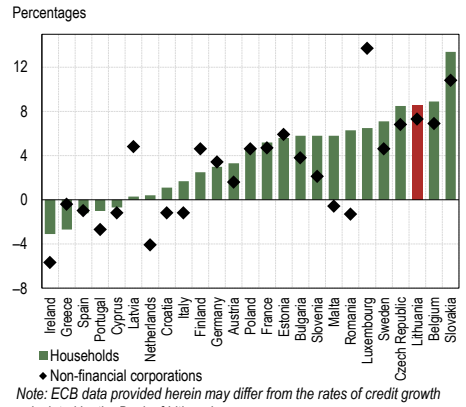


Source: SNL.

[15] IMF April forecasts.

Chart 37. Annual growth in the MFI portfolio of loans to households and businesses in EU countries

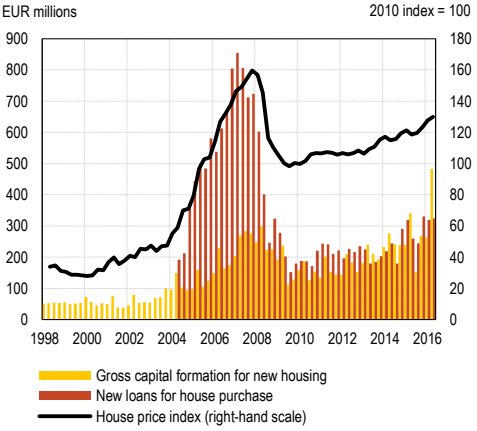
(February 2017)



Note: ECB data provided herein may differ from the rates of credit growth calculated by the Bank of Lithuania.
Sources: ECB and Bank of Lithuania calculations

Chart 38. Evolution in housing prices, new housing loans and gross capital formation for new housing

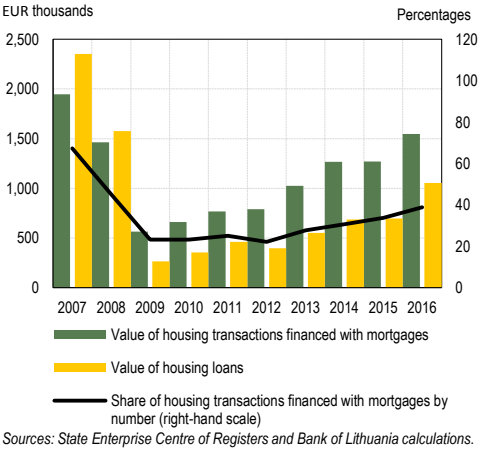
(1998–2016)



Sources: Statistics Lithuania and Bank of Lithuania calculations.

Chart 39. Share and value of housing transactions financed with mortgages

(Q1 2007–Q4 2015)



Sources: State Enterprise Centre of Registers and Bank of Lithuania calculations.

instance, Sweden introduced the minimum requirements for a down payment for housing loans in 2010 and Norway followed suit in 2015. Both countries have established the minimum risk weights on housing loans thus helping domestic banks to achieve the sufficient level of capital to cover such credits. Moreover, Sweden introduced the minimum mortgage amortisation requirements for new housing loans in June 2016. Hence, when taking out housing loans, households will be obliged to cover not just the interest component of their mortgage, as was the case until then, but also its amortisation component, i.e. a certain portion of the value of their mortgage, on an annual basis. Both Norway and Sweden have also imposed countercyclical capital buffer requirements on their banks in order to build their resilience to cyclical risks.

RAPID GROWTH OF CREDIT AND THE REAL ESTATE MARKET IN LITHUANIA

If the rapid growth of the RE market and credit were to persist, this might lead to the emergence of imbalances in the domestic financial system. In March 2017, the portfolio of housing loans grew at an annual pace of 7.6 per cent – the highest since 2009 and one of the highest across Europe (see Chart 37). Lithuania also ranks among the countries with the fastest growth of housing prices. For instance, the annual rise in housing prices in the country exceeded 9 per cent in the final quarter of 2016 (for details, see 'Real estate market developments' in Chapter I of this review). The lessons learnt from the crisis of 2008–2009 have shown (see Chart 38) that the tightening of credit standards and a decrease in the flow of new loans, which follow the phase of rapid economic growth, go hand in hand with a decline in overall economic activity in the country, a rise in the unemployment rate and a contraction of household income. For households, these developments may lead to a substantial increase in the burden of liabilities and for banks – to a rise in non-performing loans, a fall in profitability and the weakening of resilience of the entire financial system. The current growth of household leverage, the role of credit in the housing market, which is getting increasingly important, and housing prices, which have been growing at a rapid pace, are a warning signal implying the need to be extra vigilant when monitoring further developments in lending and the RE market and to go as far as take specific steps to strengthen the resilience of the financial system if the rapid growth of mortgage lending and housing prices were to persist or accelerate even further.

Buyers increasingly use borrowed funds to purchase housing properties. Hence the share of transactions involving the use of newly-purchased housing as collateral has been growing continuously in recent years (see Chart 39). In 2016, transactions financed with mortgages accounted for nearly 40 per cent of the total number of housing transactions recorded during that period. Nonetheless, buyers in all-cash housing transactions also play a big role in the market: even though the relative share of such buyers has been decreasing steadily, it remains significant, accounting for approximately 60 per cent of the total number of transactions.

Fundamental factors justifying the growth of activity in the housing market as well as lending activity do exist, yet many of them are rather unstable. Housing affordability in Lithuania has been improving without interruption since 2009, underpinned by higher household income, which has been growing at a more rapid pace than housing prices, as well as by lower interest rates. At that time, the key factors that promoted growth in the number of housing transactions included favourable demographics in the market of Vilnius, which boasts of the highest level of activity in the country (incidentally, this is coupled with more frequent use of the RLR exemption[16] relating to the DSTI ratio; see Chart 40). Nonetheless, the prolonged low interest rate environment may give rise to misleading expectations – both on the part of new home buyers and investment home buyers – that mortgage payments will always be lower than rents or that housing will remain, for a long time, a higher-yielding investment, as compared to other asset classes of a similar risk profile.

At the current juncture, a more substantial contraction in demand for housing might be triggered by a rise in interest rates, a decrease in demand for rent and a deterioration in the country's demographics. A more substantial rise in interest rates would compromise the chances of buying housing. This would lead to lower numbers of first home buyers and of those seeking to replace their old home with a new one. Moreover, higher interest rates may prompt some investors to divest their RE holdings and funnel their funds into higher-yielding asset classes. With more households buying housing, the demand for rent goes down. Therefore, landlords may trim down their rents and even sell their rental properties if they are not happy with the returns. Meanwhile, a decline in rents would also lead to a big fall in investor activity in

[16] A bank may issue a housing loan if it finds that the person applying for the loan will remain solvent despite spending up to 60 per cent of his/her monthly income to service all existing loans. This exemption may be applied to new housing loans that, together, account for no more than 5 per cent of the total value of housing loans originated during the year.

the housing market. Taken together, all these factors would trigger a decrease in the flow of borrowed and own funds directed towards the RE market. Lower demand and weaker liquidity would eventually create the risk of a sudden drop in housing prices. It should also be stressed that, in the medium term, much of the overall effect on the housing market and the demand for loans will arise from worsening demographics as the number of potential first home buyers in the country may decrease substantially within the next few years (see Chart 41).

A sudden fall in housing prices triggered by lower demand might have a profound effect on the stability of the financial system. A decrease in demand and a tumble in prices would lead to substantial losses for RE developers, in particular those which were engaged in larger-scale projects and did not have time to sell their stock of newly-build housing before the fall in prices. If these companies were to run into solvency problems, their lenders would suffer direct losses. A decrease in or an overall loss of cash flows from the rent of housing purchased for investment purposes (this would be particularly the case for the RE located in unattractive neighbourhoods) might force investors to sell their properties at well-below the purchase price. In a yet worse case, if the persons who had invested borrowed money were to become insolvent, the banks taking over the depreciated properties used as collateral would also be hit by direct losses. Facing lower demand for housing, RE developers may seek to sell new apartments under construction at prices that are lower than those prevailing in the market. This would further enhance the supply, whereas the decreasing housing prices might have a substantial negative effect on the financial well-being of RE developers. If these were to become insolvent, banks operating in the country would sustain material losses due to the significance of the construction industry and the interconnectedness of the undertakings operating in this sector. For those who have purchased housing for living instead of investment purposes, its depreciation entails a lower direct risk. However, a decline in income, a loss of a job or a rise in interest rates may turn the housing property into a financial liability that is too heavy for households that acted irresponsibly when assessing the sustainability of their income and financial health.

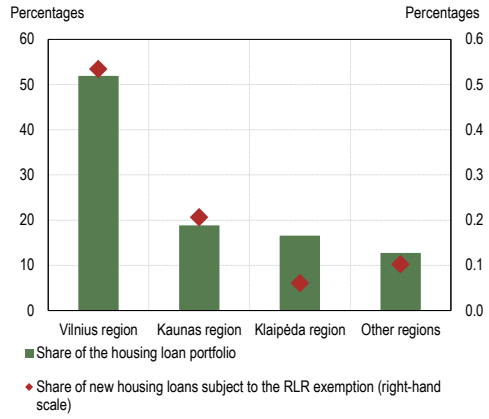
The second-round effects of a decrease in RE prices are also pertinent in particular as a deterioration in the financial well-being of RE development undertakings would lead to a substantial decline in activity in the building sector and a rise in the unemployment rate in economic activities related to construction. A decrease in expectations may prompt households to put aside more of their income in view of future uncertainty. This would lead to a decline in consumption and, simultaneously, a slowdown in the growth of the economy as a whole. The consequences of falling RE prices are particularly unfortunate in cases where the decline in housing prices coincides with the economic downturn in both local and global markets.

The growth of household income, the low level of leverage and the macroprudential policy instruments put in place by the Bank of Lithuania mitigate the risks related to the rapid growth of the RE market and lending. The Bank of Lithuania forecasts further growth of the country's economy and household income, which would both increase the chances of purchasing housing and ease the burden of meeting obligations. The risk is also reduced by the fact that the overall level of leverage of Lithuanian households remains low and is one of the lowest across Europe (see Chart 42). Moreover, in 2015, the Bank of Lithuania supplemented the RLR, which came into force in 2011, as it sought to head off excessive household leverage and vulnerability following the end of the current low interest rate environment.

If the rapid growth of housing prices were to persist and lending activity were to stay at the current level or intensify further, this would create the need to take steps to strengthen the resilience of the domestic financial system. Measures to enhance the resilience of the financial system to the cyclical risk stemming from imbalances in the housing and credit market might include the increasing of the countercyclical capital buffer rate, which has been kept at 0 per cent thus far. If the main risk were to relate to unsustainable development of the housing market (the rapid growth of prices, the imbalance between supply and demand, excessive optimism in the RE market and active borrowing for house purchase), the Bank of Lithuania might review the RLR requirements, such as the LTV and DSTI ratios.

Chart 40. Regional distribution of the housing loan portfolio and the share of new housing loans subject to the RLR exemption

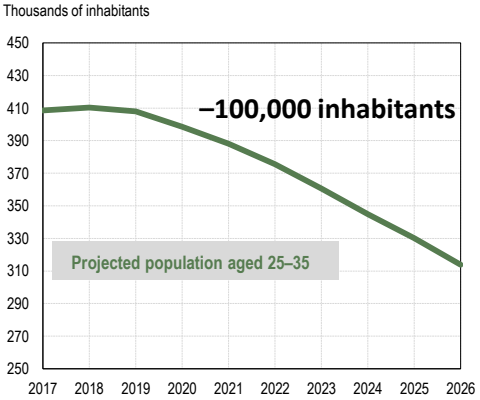
(Q4 2016)



Source: Bank of Lithuania.

Chart 41. Projected changes in Lithuania's population aged 25–35

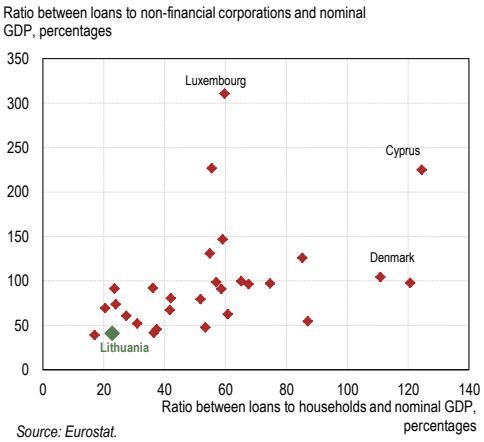
(2017–2026)



Source: Eurostat.

Chart 42. Ratios between loans to households and businesses and GDP in EU countries

(Q3 2016)



Source: Eurostat.

Box 4. Buy-to-let home buying and its links with the stability of the financial system

Various sources of data suggest that buy-to-let home buying is a popular investment choice in Lithuania and that the country's nationals give priority to this particular way of spending their free cash. This is corroborated by both the official data from the Centre of Registers, which shows that the second homes[I] purchased in the country have accounted for a considerable proportion of total housing deals concluded in recent years, and various surveys. For instance, the results of household surveys, which are carried out by the Bank of Lithuania on a regular basis, reveal a growing proportion of the population investing savings in RE as of lately. In particular, the proportion of residents who say they have invested in RE more than doubled in the period between the end of 2015 and the beginning of 2017 (to 8%, from 3.7%). Moreover, the RE market participants indicate that nearly one in three new apartments in Vilnius has recently been purchased for letting purposes. In a survey, which was commissioned by UAB Inreal as far back as in 2005, 80 per cent of the respondents said that they would specifically invest their free cash in RE. In addition, a survey carried out by Swedbank, AB at the end of 2016 showed that nearly 60 per cent of the population now saw immovable property as the best investment choice. In the short term, investors give impetus to the activity of the RE market and its developers. However, the excessive flow of funds invested in the housing market may lead to detrimental consequences for both the housing market and the stability of the entire financial system, in particular in cases where investment is financed by loans, in addition to own funds.

The Lithuanian buy-to-let market has not yet been examined at length due to the lack of data; examples of foreign countries are examined in order to describe the impact, which the investors may have on the housing market and financial stability. Researchers and analysts often explore the buy-to-let market of the UK due to its level of development, scale and availability of high quality data. The popularity of buy-to-let home buying and, at the same time, the demand for housing in this country was driven, *inter alia*, by the buy-to-let mortgages, which were introduced back in 1996. These loans, which are offered on attractive terms and conditions, constitute a widely accessible financial instrument. The popularity of buy-to-let home buying led to significant changes in the structure of housing stock of the UK over nearly a quarter of the century (see Chart A). The total number of rental homes has more than doubled since the introduction of buy-to-let mortgages. Following a survey carried out in 2014, the UK Intermediary Mortgage Lenders Association forecast that rental homes would account for more than one-third of the total housing stock by 2032. The survey also revealed that roughly half of all new housing built in the UK between 1986 and 2012 were rented out. However, the persons generating income from rental properties accounted for a meagre 2.8 per cent of the population in 2015.[II] Nevertheless, the significance of buy-to-let mortgages provided by financial institutions should not be overestimated, either, in particular as the estimates presented in the abovementioned survey showed that such loans had been used in approximately one-third of buy-to-let transactions, whereas the remaining two-thirds had been financed through other sources of financing or entirely with own funds in 2007 through 2012.

The growth in demand for housing in the UK, which was supported by favourable financing conditions, was driven not just by an increase in households seeking to purchase their first home amid a good demographic situation but also by the desire of investors having free funds at their disposal to generate investment returns in the housing market. In such a situation, housing prices in the UK grew at a substantially faster pace than household income or housing rents. Housing rent returns decreased markedly after some time due to the increased supply of rental homes, which was largely the result of the growing role of the entities investing in housing. Meanwhile, the country currently faces a serious shortage of homes, given that a significant share of newly-built housing is purchased by buyers that buy properties for letting purposes. In April 2016, the UK government introduced a stamp duty surcharge on housing transactions concluded for buy-to-let purposes[III] as it sought to make housing more accessible for first-home buyers. Subsequently, additional taxation and the increased uncertainty resulting from the UK's vote to leave the EU led to a decrease in the number of transactions and in liquidity in the housing market. Given the low level of housing affordability, the growth in demand for first homes was insufficient to offset a decline in investor demand. As a result, housing prices started to decrease at a moderate pace early in 2017. If the situation does not improve, housing prices may plummet substantially in the future due to reduced market liquidity. This would lead to an increased threat of a systemic shock to the financial market, which would entail material losses to investors with housing holdings and would prompt banks to curb lending to other economic activities due to a fall in the value of collateral.

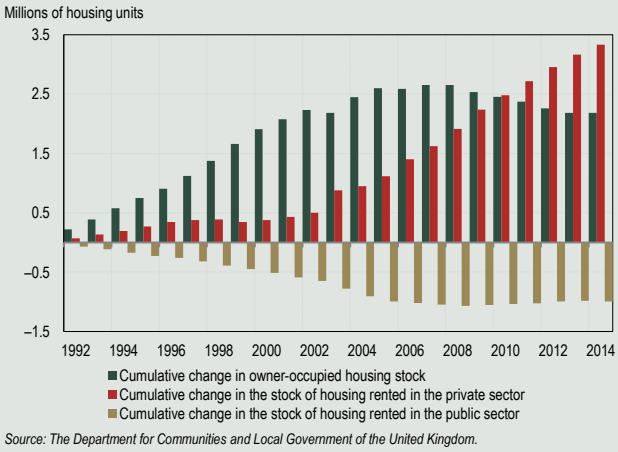
The buy-to-let home buying that is unreasonably active may pose risks to the sustainability of the housing market and the stability of the financial system and also affect social aspects as well as the aspects of income inequality. In particular, the increased demand for housing that is driven by the search for yield pushes up the pace of growth in housing prices. The spiralling rise in prices reduces the chances of potential first home buyers of buying housing. As a result, they find themselves forced to rent housing for a longer period of time. The demand for such rental properties increases as well and may give rise to misleading expectations of both investors and first-home buyers, with respect to the sustainability of the growth in prices and demand for housing altogether. Excessive activity on the part of investors may lead to an imbalance between demand and supply: a shortage of housing in the period of buoyant economic growth (especially in case of inflexible housing supply) or a surplus supply of housing and a sudden fall in prices in the period of economic stagnation or a downturn. The unreasonably high level of investor activity in the housing market can also be linked to social issues and the issues pertaining to income inequality. In fact, the experience of other countries shows that active participants of the buy-to-let market usually comprise a very small group of more affluent residents. Thus a substantial share of housing stock becomes concentrated in the hands of a relatively small part of the local community and foreign investors, which see their assets and income grow even further, whereas lower income earners find themselves forced to live in rental accommodation for a longer period of time due to a rise in housing prices.

The lack of reliable data, which could help monitor the buy-to-let market regularly and thoroughly, remains a very important challenge for now. According to Eurostat, one in ten (10.6%) Lithuania's households lived in rental accommodation in 2015. This proportion was three times smaller than the average percentage across the EU countries where 30.5 per cent of households lived in a rented housing that year. In a low interest rate environment, investors target the housing market due to the shortage of alternatives offering similar rates of returns. Precise data on the share of transactions concluded by investors in Lithuania's market for second homes is not available. However, the data from the Centre of Registers shows that second homes comprised 12.3 per cent of the total housing stock in Lithuania at the end of 2016 and this proportion increased by nearly 1 p.p. over that year (see Chart B). Moreover, second homes purchased between 2015 and 2017 accounted for one-fifth of the total number of housing transactions concluded in that period. Precise figures on the scope and scale of the housing rental market that exists in Lithuania are also lacking, in particular as a substantial proportion of the revenue generated from the rent of accommodation is apparently not declared. According to the data made available by the STI, a meagre 0.3 per cent of the country's residents declared income generated from the rent of RE in 2015. This proportion was nearly ten times smaller as compared to the share of residents that declared such revenue in the UK in the respective period. However, the popularity of housing investment in that country is unlikely to be that much stronger. Low interest rates, the growing activity in the RE market and the rising housing prices underline the importance of thorough and regular monitoring of the processes in the buy-to-let market and of taking due measures to mitigate the risks once seeing the signs of imbalances building up. It is particularly relevant to collect reliable data and

shape a transparent market for housing rent. If buy-to-let home buying in the Lithuanian RE market were to give rise to any imbalances or risks to the country's financial stability, one of the ways to reduce surplus investment in housing might be to follow the suit of the UK and introduce an extra charge on the purchase of investment housing or tighten the terms and conditions of new loans that are intended for that particular purpose.

Chart A. Cumulative changes in owner-occupied and rental housing stock in the UK

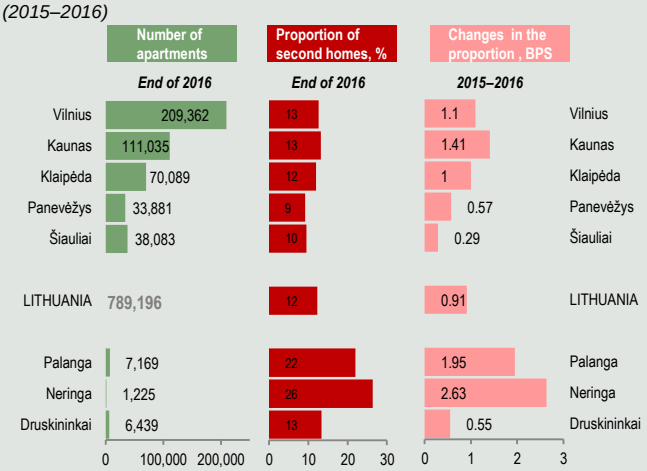
(1992–2014)



Source: The Department for Communities and Local Government of the United Kingdom.

Chart B. Proportion of second homes in Lithuania's cities and its developments

(2015–2016)



Sources: State Enterprise Centre of Registers and Bank of Lithuania calculations.

[I] Second home means a dwelling that is not a household's sole or main home.
[II] Based on the data from the HM Revenue & Customs.
[III] The UK has introduced an extra 3 per cent stamp duty surcharge for buy-to-let landlords and second home buyers.

CHALLENGES FOR THE FINANCIAL SYSTEM

Cybersecurity threats to financial institutions

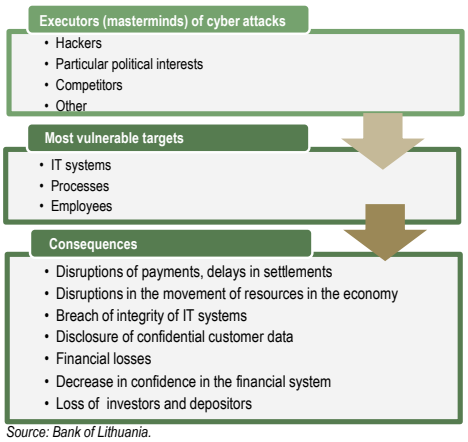
The world has been increasingly confronted with situations where complex malicious cyber activity is directed against financial institutions. Cyber incidents can disrupt the supply of financial services, cause serious losses, both direct and indirect, and undermine confidence in the financial system (see Chart 43). Financial institutions are heavily dependent on information technologies and maintain close interlinks, which exacerbate their vulnerability to cyber attacks. A break-in or compromising of IT systems of a single financial institution may disrupt the functioning of the payment system or other financial market infrastructure, which, in turn, may disturb the operation of the processes taking place in the entire national economy and the financial system in particular.

The number of incidents affecting electronic communications, which are being recorded in Lithuania, continues to grow at a double-digit pace. In 2016, as compared to 2015, the number of such incidents increased by 19 per cent (see Chart 44). The biggest increase – of 53 per cent – was in the number of information system takeovers. The Denial of Service (DoS) attacks grew more intense as well, as their number rose by 22 per cent. A survey carried out in May 2017 has shown that the threat of cyber attacks is regarded by financial market participants as a risk of paramount importance for the domestic financial system.

The development of financial technologies and the adoption of innovations by credit institutions create more space for the threat of cyber attacks to manifest itself. About half of all transactions in the world are expected to originate from mobile devices in 2017.[17] In 2016, 21 per cent of the respondents holding an account in Lithuania used apps designed by credit institutions to keep track of their account and/or payments, while another 14 per cent used them to make payments.[18] Moreover, one out of three persons in Lithuania bought or ordered goods or services online in the past three months (see Chart 45 The number of non-cash payments increased by nearly 7 per cent in the final quarter of 2016 compared with a year earlier, to 120,206,000 transactions, while the number of cross-border payments surged by 37 per cent (see Chart 46).

In 2016, the Bank of Lithuania launched a test on the management of cyber risk by the participants of the financial system. The final stage of this testing (in early 2017) involved a cyber risk simulation exercise. The main conclusions and findings of this exercise will be published in the first half of 2017. Representatives of Lithuania's authorities

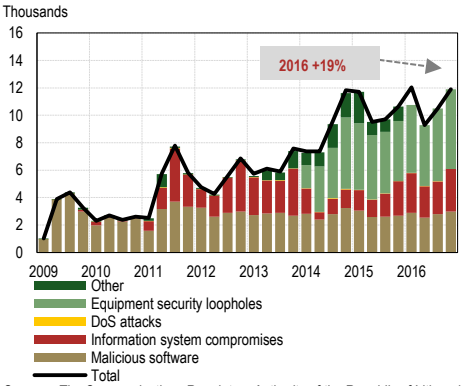
Chart 43. Possible effects of cyber attacks



Source: Bank of Lithuania.

Chart 44. Incidents affecting electronic communications recorded in Lithuania

(2009–2016)



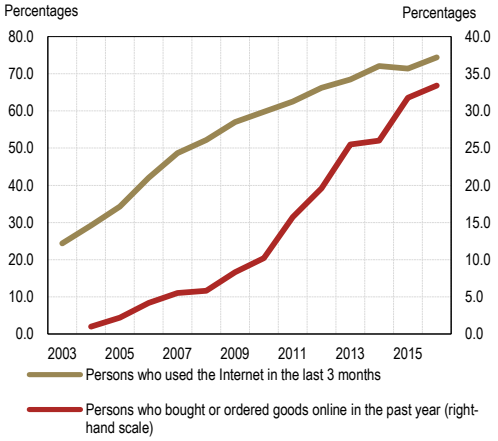
Sources: The Communications Regulatory Authority of the Republic of Lithuania and Bank of Lithuania calculations.

Note: Statistical data on equipment security loopholes has been published since 2014.

[17] https://www.threatmetrix.com/wp-content/uploads/2017/01/cybercrime-report-q4-2016-1485391407.pdf
[18] The data is taken from the 2016 Survey of the Habits of Lithuanian Residents in Using Payment Services.

Chart 45. Internet users as a share of Lithuania's population

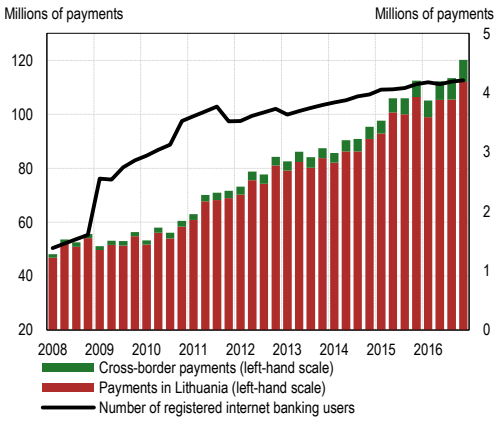
(2004–2016)



Sources: Statistics Lithuania and Bank of Lithuania calculations.

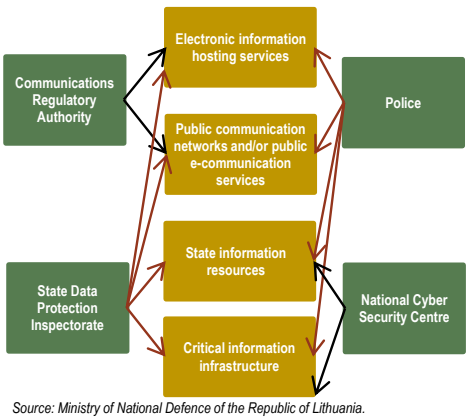
Chart 46. Payments and registered internet banking users

(2008–2016)



Sources: The Association of Lithuanian Banks and the Bank of Lithuania.

Chart 47. Cybersecurity institutional framework in Lithuania



Source: Ministry of National Defence of the Republic of Lithuania.

increasingly participate in various exercises both in Lithuania and abroad, which is a yet another proof that the issues pertaining to cybersecurity are deemed important. Moreover, Lithuania held its first national cybersecurity exercise 'Cyber Shield 2016' last year

The growth of investment also highlights the importance and relevance of cybersecurity. Between 2014 and 2016, the EU invested approximately EUR 160 million in cybersecurity research and innovation projects under its research and innovation programme Horizon 2020. Also, the EU adopted the Directive on the security of network and information systems (the NIS Directive), which came into force in 2016 and specified the pooling of public and private resources for the purpose of greater cybersecurity among more important lines of action. In July 2016, cybersecurity market players, represented by the Brussels-based European Cyber Security Organisation (ECSO), signed a partnership agreement[19] and they are expected to trigger EUR 1.8 billion (including EUR 450 million to be invested by the EU alone) of investment in the EU cybersecurity market by 2020, helping to enhance the Community's cybersecurity simultaneously.

In 2016, the BIS published an international guidance document on cyber resilience for financial market infrastructures (Guidance on cyber resilience for financial market infrastructures).[20] The purpose of this document is to provide guidance for the managers of these infrastructures, including payment systems, on how to enhance their cyber resilience. Meanwhile, the abovementioned EU NIS Directive aims to build national cybersecurity capacity, ensure cooperation at the EU level, manage cybersecurity risks and exchange information between relevant bodies at both national and Union levels. To implement this directive, Lithuania essentially lacks a cybersecurity strategy, which is one of the key objectives that will be pursued in the area of national cybersecurity enhancement in 2017. Starting from 25 May 2018, the EU will have to apply the General Data Protection Regulation. In accordance with this regulation, public and private data controllers will be obliged to notify their supervisory authority (the State Data Protection Inspectorate) and clients about personal data breaches[21], if they expose the latter to the risk of suffering losses.

The institutional framework for the safeguarding of cybersecurity should be effective and based on a clear division of responsibilities. Lithuania's level of cybersecurity, as assessed by the National Cyber Security Centre, was insufficient in 2016.[22] It is worth noting that the existing cybersecurity institutional framework in Lithuania is rather complicated (see Chart 47). What is questionable is whether such a complicated framework will be capable of ensuring an effective response, the same level of the required assistance to critical facilities, clear communication and efficient exchange of information in the event of a systemic cyber incident. One of the ways of improving the state of cybersecurity, including the financial sector, is to exchange relevant information about incidents and their remedial actions with other organisations.[23] All Lithuanian enterprises and organisations should pay attention to cybersecurity. It is also appropriate to create and adopt a national cybersecurity strategy, which would be consistent with the modern-day challenges and include tasks pertaining to the strengthening of cybersecurity, as laid down in the National Security Strategy, and to produce a roadmap of its implementing measures. In addition, it is necessary to continue taking part in various exercises relating to cybersecurity as they help build cyber defence capacities of the Lithuanian authorities.

It should be stressed that financial institutions should also concern themselves actively with cybersecurity and cyber attack prevention, *inter alia*, by building their resilience to potential cyber threats and working out action plans to respond to cyber incidents with a view to avoiding significant consequences. What is important is that cyber incidents are not always detected immediately and cannot be equally prevented by all security measures, as hacks, system breaches or other incidents often go undetected for half a year or even longer.[24] Potential consequences stemming from cybersecurity risk can be mitigated, *inter alia*, by cyber risk insurance. The Bank of Lithuania will continue with its contribution to the strengthening of resilience of the participants of the national financial system by offering them consultations and training. Also, the Bank of Lithuania plans to develop general recommendations on mitigation of the risks posed by cyber threats.

[19] http://europa.eu/rapid/press-release_IP-16-2321_en.htm
[20] http://www.bis.org/cpmi/publ/d146.htm
[21] 'Personal data breach' means a breach of security leading to the accidental or unlawful destruction, loss, alteration, unauthorised disclosure of, or access to, personal data transmitted, stored or otherwise processed.
[22] https://kam.lt/download/57062/nksc_metine_ataskaita_uz_2016.pdf
[23] At the end of 2016, the National Cyber Security Centre created an information network on cybersecurity – a network designated for the exchange of relevant information on the prevention and management of cyber incidents among its member organisations – and launched its testing together with other stakeholders.
[24] http://www.cybersecurity-insiders.com/wp-content/uploads/2017/02/2017-Threat-Hunting-Report.pdf; http://www.securityweek.com/breach-detection-time-improves-destructive-attacks-rise-fireeye

STRESS TESTING

The Bank of Lithuania conducts stress tests of the banking sector on a regular basis so as to quantify the resilience of the country's banks. Banks' solvency is tested by assessing the potential effect of negative developments in the macroeconomic environment on banks' profitability as well as their credit losses in an adverse scenario. The bank solvency stress testing exercise has a horizon of two years, i.e. it involves the modelling of the main items on banks' profit and loss account and the balance sheet up until the end of 2018. The liquidity of banks is stress tested by applying one-off funding shocks, which occur within a short period of time up to 1 month), such as a steeper deposit run-off.

Bank solvency stress testing

The main purpose of bank solvency testing is to assess changes in the capital adequacy ratios of the domestic banking system and its constituent banks[25] in the event of adverse economic shocks. It should be noted that the results obtained through stress testing are not forecasts. On the contrary, they represent an analysis of highly unlikely events. The results should be interpreted with due regards to the assumptions made.[26]

The results of stress testing show that the banking sector, as a whole, remains resilient to economic shocks. The weighted average capital adequacy ratio of the banking sector was 19.3 per cent[27] at the end of 2016. In the adverse scenario, the capital adequacy ratio would decrease to 16.8 per cent within the testing period (see Chart 48). Even though the banking sector, as a whole, is resilient to the adverse scenario, one bank would nevertheless fail to meet the capital adequacy requirement. This particular bank would need approximately EUR 3.1 million in fresh capital in order to comply with the minimum capital adequacy ratio. As compared to the size of the banking sector, this capital shortfall identified in the stress test is not significant enough to pose a risk to the sector's stability.

The stress test looked at an adverse scenario assuming a fall in the value of residents' RE holdings, causing a rise in pessimistic expectations on the part of the private sector as regards future economic developments. The key assumptions underlying this scenario are as follows: 1) a slump in RE prices (by 16.4% in 2017 and by a further 13.9% in 2018; see Chart 49); 2) a decrease in foreign demand in Lithuania's key export markets and the resulting fall in Lithuania's exports (by 8.3% in 2017 and by a further 3.8% in 2018). As a result of such developments, businesses would shelve their planned investment (in particular in housing construction), reduce the scale of their production and slow down the pace of wage increases or lay off some of their workforce. The combination of falling RE prices, weakening foreign demand and decelerating domestic consumption would trigger a substantial general downturn in the Lithuanian economy, which would continue throughout the testing period (–4.9% over 2017 and –3.2% over 2018; see Chart 50). The depletion of financial reserves built up by households and businesses would substantially impair their ability to pay back debts. Problems in the real sector would spill over into the banking sector, leading to a deterioration of loan portfolio quality, a rise in credit losses and a decline in profitability. The key macroeconomic indicators and their evolution under the stress test scenarios are provided in Table 2.

In the adverse scenario, bank credit losses would amount to EUR 731 million in 2017 and 2018. Total credit losses incurred over the testing period would be five times larger than those in the baseline scenario[28] and would amount to 4.9 per cent of the total loan portfolio at the end of the fourth quarter of 2016. Net of other factors, credit losses would lead to a 7.5 p.p. decrease in the weighted average capital adequacy ratio of the banking sector.

The solvency risk index of the banking sector shows that the sector's level of risk is one of the lowest, both in comparison to the previous year and in the longer term in

Table 2. Evolution of key macroeconomic indicators under stress test scenarios

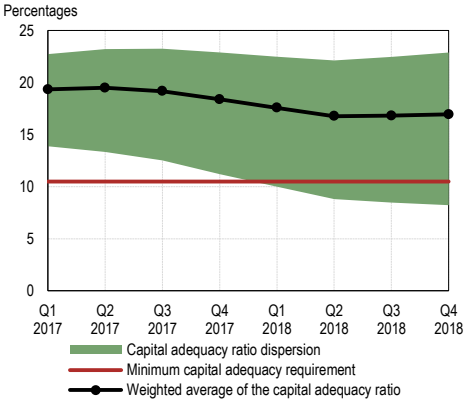
(percentages)

	Actual indicator	Baseline scenario		Adverse scenario	
	2016	2017	2018	2017	2018
GDP at constant prices, annual change	2.3	2.6	2.8	–4.9	–3.2
Exports of goods and services at constant prices, annual change	3.3	3.0	4.4	–8.3	–3.8
Private consumption expenditure at constant prices, annual change	5.2	3.8	3.6	–3.1	–2.5
Unemployment rate annual average, compared to labour force	7.9	7.3	7.1	10.4	12.7
Wage compensation per employee, annual change	4.6	5.5	5.7	–2.8	–3.3
Average annual inflation measured by HICP	0.7	2.8	2.2	1.9	0.8
Housing price index annual change	4.6	4.3	4.7	–16.4	–13.9

Sources: Statistics Lithuania and Bank of Lithuania calculations.

Chart 48. Capital adequacy ratio dispersion among banks in the adverse scenario

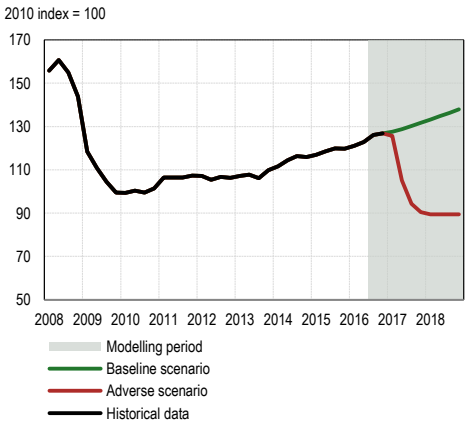
(stress testing period: Q1 2017–Q4 2018)



Sources: Banking data and Bank of Lithuania calculations.

Chart 49. House price index in various scenarios

(Q1 2008–Q4 2018)



Sources: Statistics Lithuania and Bank of Lithuania calculations.

[25] The solvency stress testing exercise involves the following banks: AB SEB bankas, AB DNB bankas, AB Šiaulių bankas, AB Citadele bankas, Swedbank, AB, and UAB Medicinos bankas.
[26] The following assumptions of a static balance sheet, which are widely used in international practice, are applied: 1) the structure of the bank loan portfolio remains stable over the testing horizon; 2) natural portfolio amortisation is offset by new loans, as a result the gross loan portfolio remains unchanged; 3) any profit earned over the testing horizon is used towards increasing capital; 4) changes in risk-weighted assets are fully driven by changes in loan portfolio quality; 5) banking supervisory authorities and public authorities are assumed not to take any actions to mitigate the effects of an economic shock; 6) potential strategic decisions made by banks and their impact on their capital adequacy ratios are excluded.
[27] The bank solvency stress testing uses non-consolidated data for banks.
[28] The baseline scenario has been compiled using the official macroeconomic projections published by the Bank of Lithuania in March 2017. This scenario is used to assess the sustainability of banking business in the most probable course of economic development.

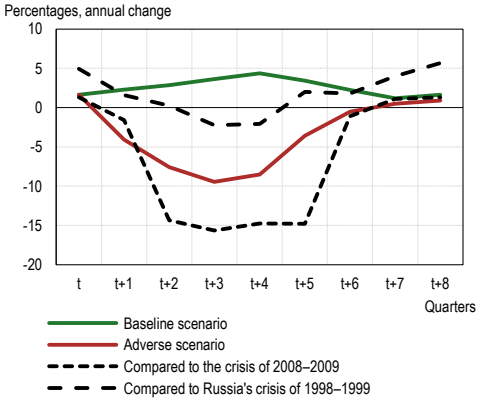
Table 3. Assumptions underlying the standard scenario of bank liquidity stress testing

	LCR calculation (percentages)	LCR calculation in the adverse scenario (percentages)
Valuation haircut		
Cash	0	0
Funds, which are held with the central bank and can be used	0	0
Government bonds of EU countries and other (non-EU) high-rated countries	0	5
Other highly liquid and ultra-liquid high-quality assets	0	5
Other liquid assets	15–20	15–20
Decrease in liabilities, as used to assess cash outflows		
Retail deposits:		
– stable (insured, with a very low probability of withdrawal)	5	7.5
– less stable (other insured)	10	15
– uninsured	10–25	15–37.5
Wholesale deposits:		
– stable (operational, insured)*	5	7.5
– less stable*	25–40	37.5–60
Portion of expected cash inflows taken into account		
Receivables from customers	50	75

Source: Bank of Lithuania calculations.
Note: Ranges are provided in cases where an item is broken down into constituent parts, which are subject to shocks of different scale.
**Evidence should be provided that the customer cannot withdraw the amounts, which are legally due, in 30 days.*

Chart 50. Annual change in Lithuania's real GDP in various scenario

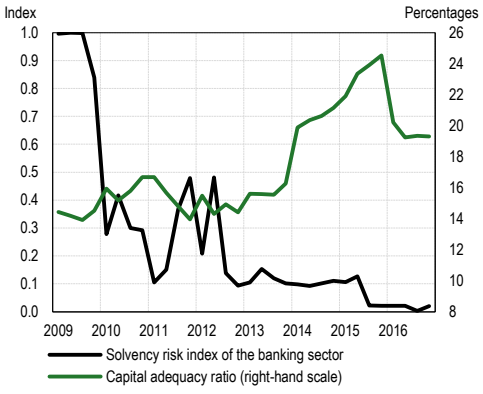
(Q1 2017–Q4 2018)



Sources: Statistics Lithuania and Bank of Lithuania calculations.
Note: t = Q1 2017

Chart 51. Solvency risk index of the banking sector

(Q1 2014–Q4 2015)



Sources: banking data and Bank of Lithuania calculations.

general (see Chart 51). This index tracks changes in the loss-absorbing capacity of existing banks over time, based on the same evolution of macroeconomic indicators. Moreover, it enables the comparison of the current situation with the crisis period of 2008 and 2009. The index score is slightly above 0 due to the performance of one bank and the level of its existing capital, which is insufficient to withstand the adverse scenario.

Bank liquidity stress testing[29]

Bank liquidity stress testing involves the analysis of short-term liquidity shocks, which would trigger a fall in the value of liquid bank assets, a larger than usual deposit withdrawal and a decline in banks' cash inflows. Such shocks to the Lithuanian banking sector could stem, for example, from an extremely adverse situation developing in the banking sector of the Nordic countries (for details, see 'Potential impact of imbalances in the Nordic countries and a snapback in risk premia on parent banks'). The resilience of the banking sector to liquidity shocks is measured by the LCR. Pursuant to the requirement set forth for this indicator, the banks' stock of high-quality liquid assets should be sufficient to cover net cash outflows over the next 30 days in case of a standard adverse scenario.[30] In order to assess the banks' resilience in an extremely adverse environment, stress testing also involves the calculation of the so-called stressed LCR indicator, which is based on more severe assumptions than those underlying the standard adverse scenario. This additional scenario helps to better assess and compare banks' liquidity in case of an extremely strong liquidity shock. In this scenario, the market value of bonds issued by EU governments and institutions would decrease by 5 per cent[31], whereas other asset classes, deposits and scheduled monthly receivables are subjected to shocks, which are 1.5 times stronger than those used to calculate the standard LCR (see Table 3).

The banking sector is resilient to short-term liquidity shocks. In February 2017, the sector's actual LCR was 279 per cent and, in a more severe adverse scenario, it would fall to 187 per cent. Hence the banking sector would outperform the 100 per cent liquidity coverage requirement by a wide margin. Still, the ratio of one bank would come close to the minimum LCR threshold and would only narrowly exceed this level (see Chart 52). The resilience of the banking sector to liquidity shocks mainly relies on large liquidity buffers, which banks have in place, as they would suffice to cover a substantial portion of their liabilities (see Chart 53). The liquid assets of the banking sector would be fully used up if its liabilities were to decrease by 18.7 per cent. If those were to decline by 12 per cent, the banking system's LCR would still be as high as 100 per cent. Moreover, the risk that banks may be short of liquid assets in case of extremely strong shocks is mitigated by access to the Eurosystem's monetary policy operations.

III. STRENGTHENING OF THE FINANCIAL SYSTEM

MAIN DEVELOPMENTS IN THE AREA OF FINANCIAL SYSTEM STRENGTHENING

The need to modify the levels of existing macroprudential policy instruments did not arise either in 2016 or in the first half of 2017. In the view of the Bank of Lithuania, the macroprudential policy in place (for its main instruments, see Table 4) was sufficient to pursue its key objective, namely to contribute to the safeguard of the stability of the financial system as a whole, including by strengthening the resilience of the financial system and decreasing the build-up of systemic risks, thereby ensuring a sustainable contribution of the financial sector to economic growth.[32] Nevertheless, there were certain changes made to the regulatory framework of macroprudential policy in that period. In January 2017, the Bank of Lithuania adopted a recast version of the RLR[33], which was harmonised with the Mortgage Credit Directive[34] and will allow for wider application of the instruments provided for in the RLR thus enhancing their efficiency. Starting from 1 July 2017, when a piece of legislation implementing the Mortgage

[29] The liquidity stress testing exercise involves the following banks: AB DNB bankas, AB SEB bankas, AB Šiaulių bankas, UAB Medicinos bankas, AB Citadele bankas and Swedbank, AB. Based on the original liquidity reports filed by banks on 1 February 2016.
[30] The assumptions regarding the calculation of the LCR and the standard adverse scenario are defined in the CRR.
[31] This strategy is implemented on the basis of the mandate to pursue macroprudential policy in Lithuania, which was granted to the Bank of Lithuania in 2014. For details, see 'Implementation of Macroprudential Policy in Lithuania', Occasional Paper Series of the Bank of Lithuania, 2015, No 4.
[32] This strategy is implemented on the basis of the mandate to pursue macroprudential policy in Lithuania, which was granted to the Bank of Lithuania in 2014. For details, see 'Implementation of Macroprudential Policy in Lithuania', Occasional Paper Series of the Bank of Lithuania, 2015, No 4.
[33] Resolution No 03-90 of the Board of the Bank of Lithuania of 28 May 2015 amending Resolution No 03-144 of the Board of the Bank of Lithuania of 1 September 2011 on Responsible Lending Regulations and Resolution No 03-22 of 24 January 2017 amending Resolution No 03-144 of the Board of the Bank of Lithuania of 1 September 2011 on Responsible Lending Regulations.
[34] Directive 2014/17/EU of the European Parliament and of the Council of 4 February 2014 on credit agreements for consumers relating to residential immovable property and amending Directives 2008/48/EC and 2013/36/EU and Regulation (EU) No 1093/2010 (OJ L 60, 28.2.2014, p. 34).

Credit Directive in Lithuania[35] will enter into force, the RLR will apply not only to housing loans issued by credit institutions, but also loans for house purchase or loans with RE collateral granted by other credit providers. While working on amendments to the RLR, the Bank of Lithuania seized the opportunity to take into account the different market practices and the uncertainties encountered by market participants and, therefore, revised certain provisions of the RLR. The rates of macroprudential policy instruments (such as the LTV ratio, DSTI ratio, etc.) established in the RLR were left unchanged. Moreover, in response to ESRB recommendations[36] the Bank of Lithuania adopted decisions on the recognition of macroprudential policy instruments applied in other countries.

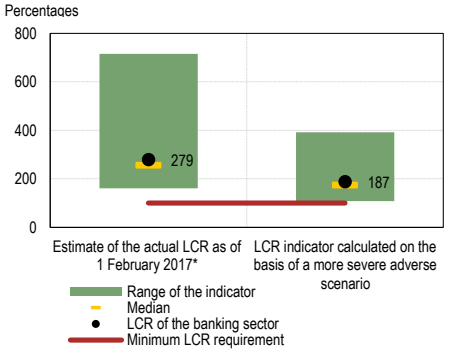
The Bank of Lithuania reviews, on a regular basis, the application of macroprudential capital requirements, which are intended to strengthen the resilience of the banking sector to cyclical and structural systemic risks.[37] The rate of the countercyclical capital buffer, which is assessed at quarterly intervals, remained unaltered and is currently 0 per cent. The main purpose of this buffer is to enhance the resilience of the banking sector to potential losses resulting from a cyclical build-up of risks (for instance, in case of unsustainable credit growth). In the view of the Bank of Lithuania, the domestic credit and housing markets showed no imbalances in the period under review. However, the systemic risk might increase if the growth of credit and housing prices, which had recently gathered steam, were to persist (for details, see 'Rapid growth of credit and the real estate market in Lithuania' in Chapter II of this review). The list of domestic systemically important institutions, which is reviewed[38] annually, and the rates of capital buffers they are made subject to remained unchanged. The said list of institutions that are considered systemically important in Lithuania still contains the same four banks: AB SEB Bankas, AB DNB Bankas and Swedbank, AB are required to hold a 2 per cent additional capital buffer, whereas AB Šiaulių Bankas has to maintain the additional capital buffer of 0.5 per cent.[39] They must have built up these buffers by 31 December 2016. Having assessed other sources of structural risks to the Lithuanian banking sector, the Bank of Lithuania has decided not to apply a yet another instrument provided for in the Rules for the Formation of Capital Buffers, i.e. a systemic risk buffer, at this stage and to carry out a comprehensive needs assessment repeatedly in 2018 (for details, see 'Systemic risk buffer'; the composition of potential capital requirements is illustrated in Chart 54).

While implementing ESRB recommendations, the Bank of Lithuania took two decisions to recognise macroprudential policy instruments applied by other EU countries in 2016. The ESRB recommends[40] that EU countries make the process of recognising each other's macroprudential policy instruments as automatic as possible. The purpose of such reciprocation of macroprudential policy instruments is to ensure the efficiency of national macroprudential policy measures and a level playing field for all credit institutions in the EU, irrespective of their country of establishment. The Bank of Lithuania intends to implement the above recommendation by mid-2017 and make provision for an automatic recognition of macroprudential policy instruments, which are in force in other EU countries, in Lithuania. Pending this, decisions are taken on a case-by-case basis. There have been two such cases to date and the requests of other countries have been accepted in both cases. Specifically, Estonia's authorities applied for the recognition of their systemic risk buffer rate[41], whereas Belgium's authorities asked to recognise their risk-weight add-on applied to mortgage loan exposures of credit institutions[42].

On 8 November 2016, the Seimas of the Republic of Lithuania adopted amendments to the Civil Code[43] defining one more type of deposits, namely irrevocable term deposits.

Chart 52. Results of bank liquidity stress testing

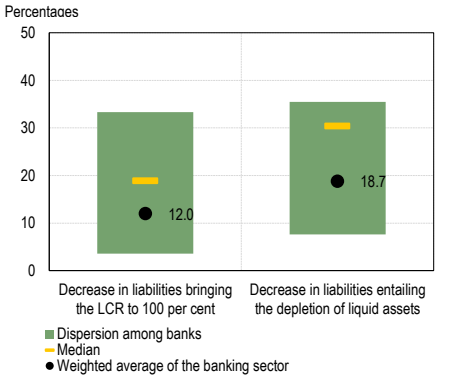
(1 February 2017 data)



Source: Bank of Lithuania calculations.
**A preliminary LCR estimate calculated by the Bank of Lithuania on the basis of the data provided by banks.*

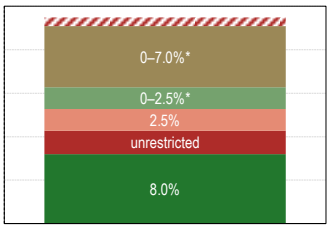
Chart 53. Evaluation of banks' resilience to a decrease in liabilities

(1 February 2017 data)



Source: Bank of Lithuania calculations.

Chart 54. Composition of potential capital requirements for banks



Pillar II recommendation
Buffers applied in view of structural risks: SRB and O-SII capital buffer
Counter-cyclical capital buffer
Capital conservation buffer
Pillar II requirement
Minimum capital adequacy indicator

**Can be higher in exceptional cases.*
Notes: 1) the chart illustrates the case where the G-SII capital buffer does not apply; 2) the O-SII capital buffer only applies to systemically important institutions, SRB requirement can be applied to all institutions.
Source: Bank of Lithuania.

[35] The Republic of Lithuania Law on Credit Related to Real Property (10 November 2016, No XII-2769). Directory of legislation, 17 November 2016, No 2016-26968.
[36] Recommendation of the ESRB of 24 March 2016 (ESRB/2016/3) and Recommendation of the ESRB of 24 June 2016 (ESRB/2016/4), amending Recommendation ESRB/2015/2 on the assessment of cross-border effects of and voluntary reciprocity for macroprudential policy measures.
[37] Macroprudential capital buffers and their periodic review are formalised in Lithuania by way of Rules for the Formation of Capital Buffers transposing the key provisions of the CRD IV into the Lithuanian national legislation. The Rules for the Formation of Capital Buffers were approved by Resolution No 03-51 of the Board of the Bank of Lithuania of 9 April 2015.
[38] Resolution No 03-192 of the Board of the Bank of Lithuania of 15 December 2015 on the setting of the capital buffer for other systemically important institutions.
[39] For details, see 'Application of other systemically important institutions capital buffer requirement in Lithuania', Occasional Paper Series of the Bank of Lithuania, 2015, No 7.
[40] ESRB recommendation of 15 December 2015 on the assessment of cross-border effects of and voluntary reciprocity for macro-prudential policy measures (ESRB/2015/2).
[41] ESRB recommendation of 24 Mar ch 2016 amending Recommendation ESRB/2015/2 on the assessment of cross-border effects of and voluntary reciprocity for macro-prudential policy measures (ESRB/2016/3).
[42] ESRB recommendation of 24 June 2016 amending Recommendation ESRB/2015/2 on the assessment of cross-border effects of and voluntary reciprocity for macro-prudential policy measures (ESRB/2016/4).
[43] Law of the Republic of Lithuania amending Articles 6.895 and 6.896 of the Civil Code of the Republic of Lithuania and introducing Article 6.895-1 thereto (8 November 2016, No XII-2755). Directory of legislation, 17 November 2016, No 2016-26958.
[44] For instance, a dismissal, a serious illness, the death of the deposit holder, his or her spouse, child or another close relative, or other relevant circumstances provided for in a contract signed between the credit institution and its client. Other than these circumstances, an irrevocable term deposit can only be withdrawn prematurely subject to the consent of the credit institution concerned.

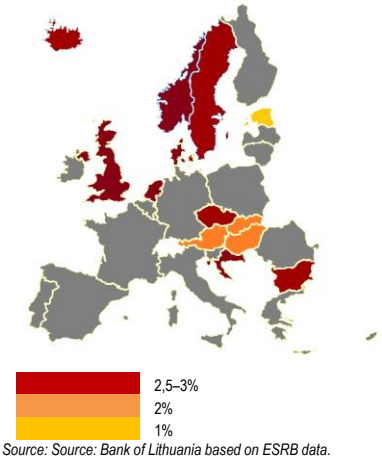
Table 4. Main macroprudential policy instruments applied in Lithuania

Instrument	Effective date of the latest decision on the instrument level
Bank capital buffers	
Countercyclical capital buffer (0%)	31 March 2017
Other systemically important institutions capital buffer (0.5–2%)	31 December 2016
Capital conservation buffer (2.5%)	30 June 2015
Restrictions, which credit institutions are made subject to when granting housing loans*	
Maximum DSTI ratio (40%; 50% with 5% interest rate; 60% in exceptional cases)	1 November 2015
Maximum loan maturity (30 years)	1 November 2015
Maximum LTV ratio (85%)	1 November 2011

Source: Bank of Lithuania.
**Starting from 1 July 2017, applied to all credit providers when issuing loans related to immovable property.*

Chart 55. SRB rates set (planned to be set) in European countries

(March 2017)



Source: Source: Bank of Lithuania based on ESRB data.
Notes: 1) the chart presents the maximum SRB rate, which might be lower for individual institutions; 2) set or planned to be set SRB rates, which will come into effect following the transitional period (if applicable), but no later than by 2019.

An irrevocable deposit can only be withdrawn prematurely in exceptional circumstances, as provided for in the Civil Code.[44] More stable longer-term deposits will provide banks with more certainty in predicting deposit flows, investing and lending for longer periods.

In the second half of 2017, the Bank of Lithuania will seek to explore the functioning of existing macroprudential policy measures in more detail and will continue to follow new regulatory initiatives in the EU. Enough time has already passed since the introduction of the RLR back in 2011 and their amendments in 2015, making it possible to assess whether or not the circumstances prevailing in the country have actually matched the forecasts established before making regulatory changes. In this context, the Bank of Lithuania plans to analyse the impact of the measures set forth in the RLR on the credit and housing markets. Moreover, as a result of the amendments[45] to the CRR undertaken by the European Commission, banks in the EU should be made subject to an additional own funds requirement, i.e. a binding 3 per cent leverage ratio requirement.[46] This requirement would add to the existing risk-based minimum capital requirements and should prevent credit institutions from excessively increasing their lending when they do not have enough capital.[47] At the same time, the stakeholders concerned are discussing whether or not the leverage ratio should also be used as a macroprudential instrument, i.e. whether it should be increased or reduced in view of structural and cyclical systemic risks, as is already the case for additional capital buffers. The Bank of Lithuania will study possibilities to apply the leverage ratio as a macroprudential policy measure and the need for such an instrument in Lithuania. It is worth mentioning a yet another important initiative in the EU, i.e. a review of the regulatory framework of macroprudential policy, which was made the subject of public consultations initiated by the European Commission in the second half of 2016[48]. The aim of the review is to enhance clarity and consistency of macroprudential regulation defined in EU law as well as ensure a higher degree of harmonisation of individual legislative acts.

New International Financial Reporting Standards (IFRS 9), which will come into force in 2018, will strengthen the resilience of credit institutions to risks. In the short term, however, they can put a downward pressure on capital adequacy ratios. Two main innovations brought by these standards concern a more up-to-date methodology for classifying and valuating financial assets as well as the new expected credit loss approach for measuring impairment allowances. The new standards will contribute to efforts to ensure financial stability by reducing the procyclicality of credit institutions' losses and, simultaneously, the level of non-performing loans as they will promote a more careful and forward-looking assessment of credit risk. Insofar as this marks a major shift from the current practice of recording credit risk in the balance sheets of credit institutions, the transition towards the new international financial reporting standards will lead to an increased need for provisions. Estimates by the European Banking Authority show that provisions for credit institutions may increase by approximately 18 per cent. As a result, the common equity Tier 1 capital (CET1) ratio for banks will decrease by some 59 basis points on average. Credit institutions operating in Lithuania will not be spared the effects of these changes. However, despite the possible effects, credit institutions have not declared any intentions to make significant alterations to their pricing and credit policies.

Systemic risk buffer

In 2016, the Bank of Lithuania assessed[49] the need to apply an SRB in Lithuania, taking into account the likelihood of potential structural risks occurring in the country's banking sector. The SRB is a macroprudential policy instrument aimed at enhancing the resilience of the banking system to structural systemic risks. Pursuant to the Rules for the Formation of Capital Buffers, the Bank of Lithuania may establish an SRB for the entire Lithuanian banking sector or to individual banks in order to prevent or reduce systemic risks.[50] Moreover, it can be applied to the whole institution or be limited to its exposures in a certain country[51], whereas the SRB rate may range between 1 and 5 per cent. Hence the instrument is sufficiently flexible.

Structural systemic risk is a long-term (non-cyclical) risk arising due to the specific features of a country's financial system or its operating environment. It depends on the degree of interconnectedness among financial market participants or on the level of resilience of the financial system to various shocks. For instance, if all banks were to respond to an adverse shock in a similar way (by cutting credit or trying to reduce troubled assets in some other way) due to certain characteristics of the financial system, this might complicate the financing of the economy and hinder its growth. An additional capital buffer would increase the stock of capital of a financial institution, which is necessary for the institution to

[45] For details, see http://ec.europa.eu/info/node/6104.
[46] The requirement is planned to come into force in 2018–2019. The leverage ratio is calculated by dividing Tier 1 capital by assets (inclusive of off-balance-sheet exposures and certain other adjustments). For details, see http://ec.europa.eu/info/node/6104#review-of-directive-and-regulation-on-banking-prudential-requirements.
[47] Such a situation may arise when applying risk-based capital requirements during economic upswings when the debtors' risk profile improves (and the applicable risk weights decrease), supported by positive assessment of the economic outlook, or when applying internal rating-based (IRB) models to banks as a result of the methodology used for calculating risk weights.
[48] For details, see http://ec.europa.eu/finance/consultations/2016/macroprudential-framework/index_en.htm.
[49] For details, see Valinskytė N., Prapiestis A., Kulikauskas D. 'Systemic Risk Buffer: Possible Applications'. Occasional Paper Series of the Bank of Lithuania, No 10 (forthcoming).
[50] In addition to banks, the Rules for the Formation of Capital Buffers also apply to central credit unions in Lithuania.
[51] When it comes to applying the SRB to exposures in another EU country, the SRB shall apply at the same rate to all exposures in the EU.

be capable of absorbing losses independently even in the event of a systemic financial crisis, which would, therefore, reduce the likelihood of its going bust. When setting the SRB, the actual structural risk and its potential implications for the economy shall be taken into account.[52] Moreover, the relevance of risks and the need of an SRB shall be reviewed at least on a biennial basis.[53]

At present, the SRB is mainly used in Northern and Central European countries (see Chart 55) and its use is mostly justified by the importance of the banking sector for the economy and the high level of concentration in the banking industry. A large number of countries apply the SRB only to systemically important institutions as they deem the O-SII capital buffer insufficient (it cannot exceed 2%) to properly reflect the risks posed by the systemically important institutions established in their territory. Certain countries apply the SRB due to specific structural risks, for instance, a high level of non-performing loans, political instability, the level of interconnectedness among institutions, volatility of their sources of financing or the economy.

In view of uncertainty over the effects of regulatory changes expected in the banking sector in the near future, the Bank of Lithuania has decided not to apply the SRB in Lithuania at this stage and repeat the assessment once more information is available. Future changes relate to amendments to the rules of calculating provisions and the implementation of a framework for the resolution of systemically important banks, which should also limit structural systemic risks. Moreover, there might be changes in the setting of Pillar II capital requirements. The impact of amendments is not yet clear and it is appropriate to achieve a better understanding of the effects of the planned regulatory changes on the stability of the financial system in the first place before considering the application of any new requirements. The Bank of Lithuania has provided that the need of the SRB will be reassessed a few years later. Postponing the decision does not pose any risks to the financial stability as the Lithuanian banking sector currently has sufficient stocks of capital and is resilient to economic shocks.

[52] Given the absence of an EU-wide harmonised methodology for setting the SRB, the criteria, which are used to determine whether or not Lithuania's institutions need such a buffer, are evaluated by the Bank of Lithuania.

[53] As established in Article 47(2) of the Rules for the Formation of Capital Buffers.

Box 5. The Economic impact of bank capital: What do the post-crisis studies show?

The end of the financial crisis in 2009 sparked the debate about how to make the financial system more resilient to shocks and avoid the repeat of such crises. Systemic banking crises are strongly intertwined with deep economic crises and, in most cases, cause negative and lasting repercussions on economic development.[I] One way to reduce the likelihood of a banking crisis and mitigate its economic consequences is to impose higher capital requirements on banks. The global financial crisis has given a stimulus to the supervisory institutions to review capital adequacy requirement standards and undertake further initiatives to set higher requirements for bank capital (Basel III, CRD IV, CRR) and, simultaneously, ensure its adequate quality. In view of these trends, economic literature increasingly shifted its focus towards the issues of bank capital in the aftermath of the latest global financial crisis. This box provides a brief summary of the results found in literature analysing the effects of higher capital requirements on the economy.

The minimum capital requirements that were in place before the financial crisis were insufficient to ensure financial stability and various studies confirm that the target level of bank capital should be higher than the minimum capital adequacy requirements that were applied previously. Table A provides the estimates of the target level of capital established in the studies covered in this box. Given the uncertainty related to the underlying assumptions, the target level of capital is in most cases defined as a range instead of a specific value.[II] In empirical literature, the optimal level of bank capital is based on a comparison of benefits and costs deriving from the required additional (marginal) level of capital. The benefits of additional capital requirements are usually measured from two perspectives: tighter capital adequacy requirements help reduce the likelihood of a systemic banking crisis and, in case of a crisis, mitigate its negative effects on economic growth. On the other hand, the costs of additional capital requirements are mainly associated with negative effects on the supply of credit to the economy and thus on economic growth.

Table A. The results of studies into the target level of capital

Optimal or target level of capital ratio as established in studines	Country	Study
10.5–11.0 per cent	Euro area	Clerc et al. (2014)
14 per cent[1]	–	Martinez-Miera and Suarez (2012)
16–20 per cent	UK	Miles et al. (2012)
10–17 per cent	Sweden	Sveriges Riksbank (2011)
13–23 per cent	Norway	Kragh-Sørensen (2012)
> 20 per cent [1]	US	Admati et al. (2013)

Notes: 1 – the ratio between the top tier capital (or the shareholders' equity that is close to it) and total assets.

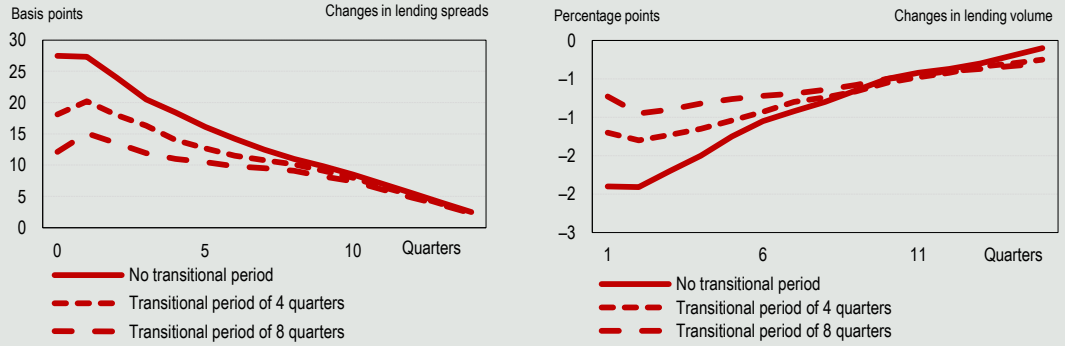
Research shows that the impact of tighter capital adequacy requirements on lending volume and its cost as well as economic activity is likely to be limited. More stringent capital adequacy requirements force banks to either increase the amount of capital or reduce the amount of risk capital. The growth in the amount of capital is accompanied by a deterioration in banks' return on equity (provided that other market conditions remain unchanged). Hence banks may raise the cost of their loans as they seek to maintain the rates of return demanded by their shareholders. As regards the second situation, banks might limit the supply of loans, in particular to debtors with the highest risk profiles, if they were to opt for the strategy of risk capital reduction. Research shows that social costs related to tighter capital adequacy requirements are relatively low. For instance, Miles et al. (2011) state that the average weighted interest rate on bank loans in the UK would increase by a meagre 0.1 to 0.4 p.p. if the capital requirement were doubled to 10 per cent, from 5 per cent. Admati et al. (2011) report similar results. A summary of research addressing changes in the cost of loans as a result of tighter capital requirements is provided in Table B. Moreover, empirical research (BCBS 2010; Miles et al. 2011; Sveriges Riksbank 2011; Kragh-Sørensen 2012) show that a 1 p.p. increase in capital adequacy requirements would reduce the annual GDP by 0.06 to 0.25 per cent.

Table B. Impact of a 1 p.p. increase in capital requirements on interest rates of new loands

	Increase in loan interest rates as a result of tighter capital requirements (in percentage points)
BCBS (2010)	0.13 (interquartile range: 0.09–0.19)
Cosimano and Hakura (2011)	0.09–0.13
Elliott (2009)	0.05–0.10
King (2010)	0.15
Slovik and Cournede (2010)	0.16
Baker and Wurgler (2013)	0.06–0.09
Kashyap et al. (2010)	0.025–0.045
Brooke et al. (2015)	0.05–0.10
Martin-Oliver et al. (2013)	6.8

Short-term costs related to an increase in bank capital may be significant. However, they can be reduced by setting a substantially long transitional period for the implementation of new capital requirements. Literature discerns between the short and long term costs of higher capital levels (such as an increase in loan costs or a decrease in lending volumes). In the short term, the introduction of higher capital requirements may have transition costs associated with banks' adjustments. In the long term, however, costs related to capital requirements become increasingly less pronounced (see Chart A). Transition costs vary according to a number of factors, including the profitability of banks, possibilities to raise new capital, the duration of the period provided for transition, etc. It should be noted that a longer transitional period opens up more chances for banks to build capital from in-house resources and on more favourable terms, which enables to mitigate the dampening effect of tighter requirements on the economy. For instance, in case of an 8-quarter transitional period, the likely effect on lending volumes and its cost in the short term would be twice as low, as compared to the transitional period of 4 quarters.

Chart A. Impact of a 1 p.p. increase in the minimum capital requirement on lending spreads and lending volume



Notes: The lines show the impact of higher minimum capital requirements on lending spreads and lending volume over different periods of transition to higher capital levels. Compared to the scenario of no change in capital requirements. Calculations are based on the model developed by Clerc et al (2014) and calibrated to Lithuania's context.

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Slovik P., Cournède B. (2011). Macroeconomic Impact of Basel III. OECD Economics Department Working Papers, No. 844, OECD Publishing: http://www.oecd-ilibrary.org/economics/macroeconomic-impact-of-basel-iii_5kghwnhkkjs8-en.

Sveriges Riksbank (2011). Appropriate capital ratio in major Swedish banks – an economic analysis.

[I] BCBS (2010). An assessment of the long-term economic impact of stronger capital and liquidity require-ments: http://www.bis.org/publ/bcbs173.pdf.

[II] The results of various studies should also be compared with caution as they may differ in terms of interpretation of both the ratio's nominator (capital) and its denominator (risk-weighted assets).

Implementation of credit union sector reform

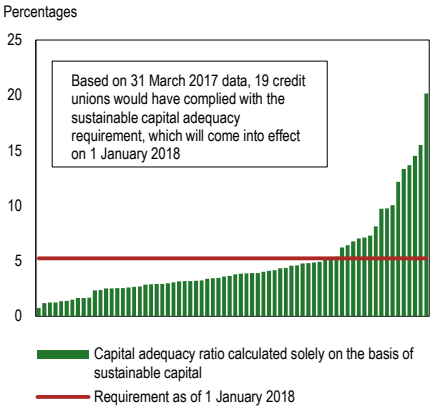
In June 2016, the Seimas of the Republic of Lithuania passed a legislative package paving the way for a structural reform in the credit union sector.[54] In this context, it is important to maintain legal certainty. Any unforeseen regulatory changes reduce clarity, which, *inter alia*, should also be pursued by credit unions. In addition, they can lead to delays in the necessary resolution of the problems bogging the sector. The year 2017 constitutes a transitional period for credit unions to decide whether to join a specific central credit union or reorganise into a specialised bank.[55] A total of seven credit unions, including one, which has already filed a respective application to the Bank of Lithuania, have declared themselves ready to become a specialised bank.

An independent and comprehensive review of the asset quality of credit unions, which was finalised in December 2016, has helped achieve the goal of making sure that the sector will not inherit the legacy of problems that built up before the reform. The asset quality review was carried out by the Bank of Lithuania with the support of independent and duly qualified enterprises. The aim of the review was to determine the financial situation of all institutions in the sector prior to the implementation of the changes introduced by the reform and facilitate mutual trust among credit unions. The asset quality review identified shortcomings in credit unions' practices of risk management, preparation of loan documentation and the review of debtors' financial situation. LCCU-member credit unions were also advised to re-evaluate LCCU shares with due regard to the accounting standards. While remedying the shortcomings identified, credit unions updated their assessments of debtors' profiles and the collateral and obtained additional collateral. Together, these measures helped improve the general asset quality and reduce the required amount of additional special provisions (EUR 12.1 million), which the external evaluators advised to set aside based on the mid-2016 data. By mid-April 2017, credit unions had already set aside EUR 5.5 million in special provisions. It is worth noting that, thanks to additional assessments of debtors' profiles and the collateral carried out by credit unions as well as improvements to the quality of collateral, the number of credit unions (28 of 71), which, as demonstrated by the asset quality review, failed the capital adequacy requirements as of 30 April 2016, decreased to just 6 as of 31 March 2017.

Since 2017, credit unions have been successfully pooling the shares that comply with the definition of sustainable capital. If this process continues at a similar pace, virtually each and every player in the sector should be in a position to cover this requirement by own funds by early 2018. Starting from 1 January 2017, the shares issued by credit unions have been compliant with the definition of sustainable capital, i.e. have the appropriate loss-absorbing characteristics. Hence credit unions should use the year 2017 to get prepared for the implementation of new sector-specific regulatory legislation that will come into effect on 1 January 2018. Additional shares that were issued prior to 2017 and accounted for 76 per cent of credit unions' capital as of 31 March 2017 could not be considered to constitute sustainable capital since shareholders could withdraw them without bearing their respective share of losses. Therefore, these shares will no longer be included in the capital of these institutions starting from 2018. In the first three months of 2017, credit unions have been successfully accumulating sustainable capital. As a result, the total value of sustainable shares soared to EUR 13.2 million, from EUR 6.8 million. As of 31 March 2017, the sustainable capital adequacy requirement of 5.25 per cent, which would come into effect on 1 January 2018, would have been met by 19 credit unions (see Chart 56).

Chart 56. Sustainable capital adequacy ratios of credit unions

(31 March 2017)



Source: Bank of Lithuania calculations.

[54] Republic of Lithuania Law on Credit Unions; Republic of Lithuania Law No VIII-1682 on Central Credit Unions.
[55] Another central credit union (Jungtinė Centrinė Kredito Unija (Joint Central Credit Union), the foundation meeting took place on 24 April 2017), which brings together 13 credit unions, has established itself in Lithuania.

GLOSSARY

Gross domestic product (GDP): a measure of economic activity, namely the value of an economy's total output of goods and services, less intermediate consumption, plus net taxes on products and imports, in a specified period. GDP can be broken down by output, expenditure or income component. The main expenditure aggregates, which comprise GDP, include household final consumption, general government final consumption, gross fixed capital formation, changes in inventories, as well as imports and exports of goods and services (including intra-euro area trade).

EURIBOR (Euro Interbank Offered Rate): the average rate at which prime banks are willing to lend funds in euro to other prime banks in the European interbank market. The rate is calculated by the European Banking Federation, based on the interest rates published by a representative panel of the most active participants of the interbank market.

Financial stability: the condition, in which the financial system, comprising financial intermediaries, markets and market infrastructures, is capable of withstanding shocks and the unravelling of financial imbalances, thereby mitigating the likelihood of disruptions in the process of financial intermediation, which are severe enough to significantly impair the allocation of savings to profitable investment opportunities.

Credit institution: (i) an undertaking whose business is to receive deposits or other repayable funds from the public and grant credits for its own account, or (ii) an undertaking or any other legal person, other than those under (i), which issues means of payment in the form of electronic money.

The ultimate objective of macroprudential policy: to contribute to the safeguarding of the stability of the financial system as a whole, including by strengthening the resilience of the financial system and decreasing the build-up of systemic risks, thereby ensuring a sustainable contribution of the financial sector to economic growth.

Monetary financial institutions (MFIs): financial institutions which together form the money-issuing sector of the euro area. These include the Eurosystem, resident credit institutions (as defined in EU law) and all other resident financial institutions whose business is to receive deposits and/or close substitutes for deposits from entities other than MFIs and, for their own account (at least in economic terms), grant credit and/or invest in securities. The latter group consists predominantly of money market funds, i.e. the funds that invest in short-term and low-risk instruments, usually with a maturity of up to one year.

Single Euro Payments Area (SEPA): the euro payments area, which is defined as an initiative to use uniform payment instruments for settlement in euro. Both domestic and cross-border SEPA payments in euro are executed by applying standardised payment formats and uniform payment processing rules. SEPA covers 34 states, including the EU Member States, Norway, Iceland, Lichtenstein, Switzerland, the Principality of Monaco and San Marino.

Systemic risk: a risk that, if materialised, has the potential to impair the functioning of the entire financial system to an extent that the financial stability and the growth of domestic economy suffer materially.

Debt security: a promise on the part of the issuer (the borrower) to make one or more payments to the holder (the lender) on a specified future date or dates. Such securities usually carry a specific rate of interest (the coupon) and/or are sold at a discount to the amount that will be repaid at maturity. Debt securities issued with an original maturity of more than one year are classified as long-term.