Periodical Part

Financial stability review / Lietuvos Bankas ; 2019

Provided in Cooperation with:
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Financial Stability Review

2019

Abbreviations

AB	public limited liability company
CCyB	countercyclical capital buffer
EBA	European Banking Authority
ECB	European Central Bank
ESRB	European Systemic Risk Board
EU	European Union
EURIBOR	Euro Interbank Offered Rate
FinTech	financial technology
GDP	gross domestic product
IMF	International Monetary Fund
LCR	liquidity coverage ratio
LTV ratio	loan-to-value ratio
MFI	monetary financial institution
OECD	Organisation for Economic Co-operation and Development
O-SIIs	other systemically important institutions
RE	real estate
UAB	private limited liability company
UK	United Kingdom
US	United States of America

Contents

SUMMARY

Steady growth continues to further improve the financial situation of residents and household expectations in Lithuania. Although on a year-on-year basis economic growth in the country has decelerated, it remains sustainable. The slowdown is largely underpinned by weaker global growth stemming from widespread uncertainty. Mounting uncertainty regarding Brexit and trade wars has also led to bouts of volatility in global financial markets; nevertheless, prices of financial assets have remained high. Declining unemployment and rising wages in Lithuania have bolstered the financial situation of households, thus improving their expectations for the future and contributing to their stronger inclination towards borrowing.

Banks operating in Lithuania have been profitable and remained resilient to external shocks, however concentration within the sector is significantly high. The Lithuanian banking sector has outperformed many EU banking sectors in terms of key financial performance indicators. In 2018, profitability of banks operating in the country notably increased, their asset quality continued to improve, and the resilience to shocks remained high. On the other hand, concentration in the banking sector rose further and was among the highest in Europe, thus increasing the systemic importance of individual banks. Greater concentration has allowed banks to be more selective in terms of their clientele and may have contributed to the increase in interest rates on new household and corporate loans.

Lending to households remained active, while companies boosted their non-bank funding. Banks' housing loan portfolio has notably increased, making loans for house purchase an even more important business line. Meanwhile, as some banks restricted their business lending activities, the overall growth in the corporate loan portfolio has significantly dropped. This could have reflected the more stringent risk assessment and the decline in credit supply spurred by the higher concentration within the banking sector. Nonetheless, firms heavily relied on other external financing sources, such as trade credits, loans granted by other companies or issuance of bonds.

The Lithuanian RE market remained buoyant, yet higher supply puts downward pressure on house prices. Given the demographic trends, the number of housing deals concluded in Lithuania in 2018 was the highest since the restoration of the country's independence. New housing supply has been increasing in line with demand. Currently the number of housing units completed is almost the same as in 2007, however, residents tend to build single-family homes which are less frequently financed with bank loans. On the other hand, growing housing supply and the higher number of unsold apartments restrain excessive growth in house prices, which stands at an annual 7.4%.

The key risks to the stability of Lithuania's financial system are the potential correction of imbalances in the Nordic countries and the formation of a potentially unsustainable financial cycle in Lithuania. Elevated house prices and high household indebtedness in the Nordic countries continue to pose a considerable threat to the country's financial system. It could stem from, among other things, the deteriorating external environment, increase in risk premia in global financial markets and concerns over the alleged money-laundering transactions through certain Nordic banks. The second systemic risk relates to Lithuania's booming credit and RE markets. Robust lending and historically high activity in the RE market pose a risk of an unsustainable financial cycle. The continuous expansion of the RE market and the increase in the number of unsold apartments could also add to the vulnerabilities of the RE and construction companies. Still, lending and RE market dynamics move in line with wage and value added growth in the country, while the existing macroprudential policy measures prevent the formation of potential imbalances.

Stress testing reveals that banks operating in Lithuania would manage to withstand a significant economic downturn. Even in the event of a profound economic shock (e.g. if the country's GDP and RE prices dropped by, respectively, 6% and 22%), the capital adequacy ratio of banks operating in Lithuania would exceed the minimum requirement with a sufficient margin and comprise 16.0%. Furthermore, stress tests show that due to sufficient liquidity buffers banks would be able to withstand a 25% decline in deposits.

Existing macroprudential policy measures increase the resilience of Lithuania's financial system.
The Bank of Lithuania performs regular assessments of the adequacy of the applied macroprudential policy measures and periodically reviews the established capital buffer rates and instruments set under the Responsible Lending Regulations. In view of the potential risks posed by active bank lending and the upswing in the financial cycle, in 2018 the Board of the Bank of Lithuania took a decision to strengthen the resilience of the banking sector and raised the CCyB rate from 0.5% to 1% with effect from 30 June 2019.

THE FINANCIAL SYSTEM AND ITS OUTLOOK

Financial markets and the economy

Lithuania's economic growth remains steady, the financial health of households has improved, yet the external environment deteriorated

Banks

Although the banking sector remains sound, concentration has further increased

Credit growth and indebtedness

Lending for house purchase remains active, yet corporate credit has reduced

Real estate market

RE market activity reached historical highs, but higher housing supply hinders stronger house price increases

RISKS TO THE FINANCIAL SYSTEM

Risk of a potential correction of imbalances in the Nordic countries

Risk of a potentially unsustainable financial cycle in Lithuania

CHALLENGES FOR LITHUANIAN EXPORTERS DUE TO GLOBAL HEADWINDS

STRESS TESTING

Bank solvency

Banks remain resilient to external shocks – under an adverse scenario, the weighted capital adequacy ratio would decline to 16%

Bank liquidity

Banks have enough liquid assets to withstand a 25% decline in deposits

I. THE FINANCIAL SYSTEM AND ITS OUTLOOK

FINANCIAL MARKET AND ECONOMIC DEVELOPMENTS

Steady growth, shrinking unemployment and rapidly rising wages continue to further strengthen the financial situation of residents and improve household expectations in Lithuania. In 2018, Lithuania's GDP was increasing rapidly (3.4%), yet slower than in 2017 (4.1%) due to weaker global growth (see Chart 1). In 2018, the decline in global demand was to some degree outweighed by higher private consumption, mainly driven by the upturn in wages (9.7 %) resulting from pressures in the labour market and higher salaries in the public sector. This boosted the purchasing power of households, improving their expectations for the future and thus contributing to their stronger inclination towards borrowing. If current tensions in the labour market persist, wages will continue to rapidly grow, yet their growth rate will gradually soften (see Chart 1). In the future, companies' ability to increase wages might be restrained as the labour share is already at historic highs. Therefore, in order to maintain their competitive edge, companies will have to further increase their investments in efficiency and productivity growth. In general, the fact that the country's production and labour market capacities are at their peak and the external environment is deteriorating might dampen Lithuania's economic growth in the near term.

Lithuania's economy is expanding at a steady pace, household expectations are improving

Chart 1. Dynamics of real GDP, wages, and the consumer confidence indicator
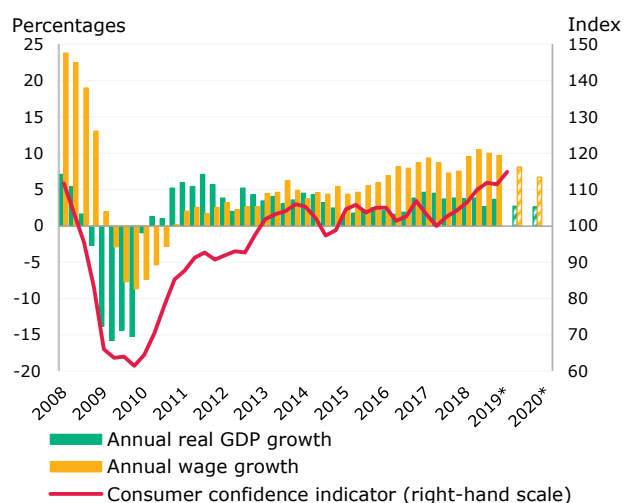
Sources: Statistics Lithuania and OECD.
* The outlined columns represent the Bank of Lithuania's projections for 2019 and 2020.

Global growth has decelerated, while forecasts for this year have also been downgraded due to mounting geopolitical uncertainty (related to, for example, trade wars and Brexit). In 2019, global economic growth is estimated to slow down from 3.6% to 3.3%. The slowdown is largely driven by subdued growth in advanced economies and China. Economic growth in the euro area decreased by 0.6 percentage point in 2018 (to 1.8%); in 2019 it should decline further to 1.3%.[1] Even the US economy, which saw a rapid increase in 2018 (2.9%), is estimated to grow at a slower pace (2.3%) in the coming years. The pessimistic outlook for global growth mainly stems from weaker trade growth, increasing uncertainty regarding trade wars and possibility of a no-deal Brexit, lowered expectations in advanced economies, contracting production outputs in Europe, disturbances in developing countries, and rising global indebtedness (see Chart 2). In an adverse scenario, deterioration

in the external environment could also have a negative effect on Lithuanian exporters and the exposed banks (for more information, see Chapter II, Section "Challenges to the financial system: global headwinds and Lithuanian exporters").

Less optimistic expectations for economic growth in the euro area have delayed the normalisation of the monetary policy. Meanwhile the risk of price correction remains elevated. In view of the weaker economic environment, at the beginning of 2019 the European and US central banks postponed interest rate increases. The ECB's decision not to raise interest rates has strengthened the expectations that EURIBOR will remain low (see Chart 3). Therefore, the burden of interest for debtors in Europe and Lithuania is not expected to increase on the back of EURIBOR. In 2018, bond yields remained extremely low. Although in 2018 good economic indicators (in particular, in the US), tightening of the US monetary policy and political

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[1] Based on IMF projections (April 2019).

uncertainty in Italy led to an increase in bond yields in advanced economies (including Lithuanian government bonds), they dropped again at the beginning of 2019. In the current low interest rate environment, prices of financial assets have remained high, in turn elevating the risk of their sudden crash. This goes in tandem with the mounting uncertainty over the monetary policy and trade wars, which fuels volatility in financial markets. In fact, the year 2018 saw a major price correction: the year-end US stock prices fell by nearly 20%, which had a spill-over effect on the stock exchanges in other regions, including Lithuania (see Chart 2). Although Lithuanian banks' direct links with international financial markets are marginal, they remain dependent on their parent banks, which attract a significant portion of funding primarily through financial markets, and are therefore more vulnerable (for more information, see Chapter II, Section "Risk of a potential correction of imbalances in the Nordic countries").

Despite the rapid jump, stock prices in Europe and Lithuania fell in 2018, mirroring the decline in consumer expectations in advanced economies

Chart 2. Consumer confidence indicator and stock exchange indices

Percentages   Index: 2010 = 100

Sources: OECD and SNL Financial.

- - - Consumer confidence indicator
— S&P 500 Index (right-hand scale)
— NASDAQ OMX Vilnius Index (right-hand scale)
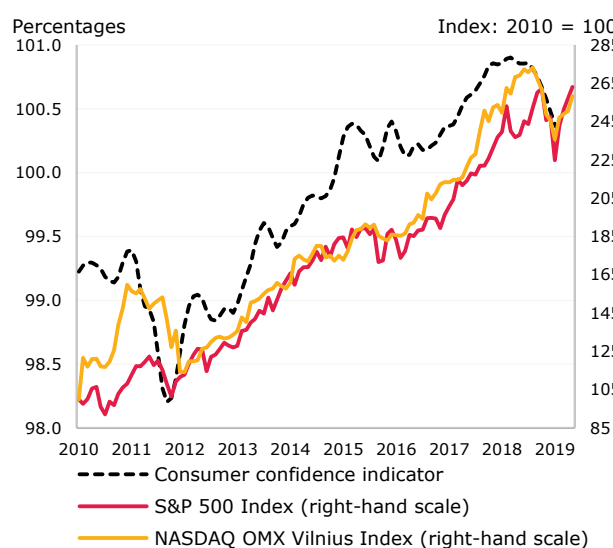
Market expectations of a prolonged period of low interest rates in the euro area have strengthened

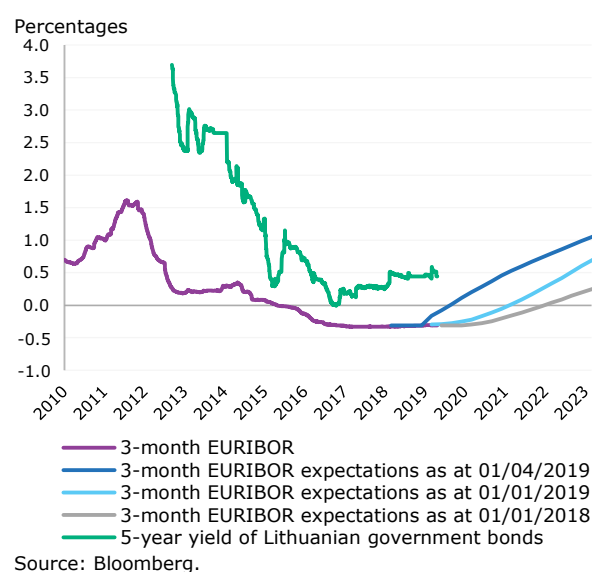Chart 3. Yield of Lithuanian government bonds and EURIBOR

Percentages

Source: Bloomberg.

— 3-month EURIBOR
— 3-month EURIBOR expectations as at 01/04/2019
— 3-month EURIBOR expectations as at 01/01/2019
— 3-month EURIBOR expectations as at 01/01/2018
— 5-year yield of Lithuanian government bonds

BANKING SECTOR DEVELOPMENTS

Banks operating in Lithuania continue to boast strong performance indicators in comparison to other EU countries, however high concentration within the banking sector creates potential risks. During the peak of the economic cycle, banks operating in Lithuania continued active lending in 2018, maintaining good financial health. In terms of key performance indicators, such as asset quality, capital adequacy, liquidity, profitability and operating efficiency, Lithuania's banking sector outperformed the banking sectors of most other European countries (see Chart 4). As lending increased, their profitability prospects have remained bright. On the other hand, concerns over alleged money laundering operations through certain banks in the Nordic-Baltic region raised some reputational risks for banks operating in Lithuania. Moreover, concentration in the domestic banking sector remained high, with higher levels of concentration across the EU observed only in Greece and Estonia. As the year progressed, concentration increased further: the new bank Luminor reduced its loan market share, allowing other major banks (SEB and Swedbank) to increase their market presence. High concentration in the banking sector poses structural risks as the domestic economy becomes more dependent on the financial health of individual banks (for more details, see Chapter II, section "Risks of a potential correction of imbalances in the Nordic countries"). In the long run, however, concentration may be reduced by new market entrants. In 2018, three market participants were granted specialised banking licences; five more applications are under consideration.

Growth in bank assets and deposits was spurred by active lending, while their funding links with parent banks weakened. In 2018, assets of credit institutions[2] operating in Lithuania grew by 5.3% (to €30.1 billion), mainly due to active crediting for house purchase. Increases in the volume of business loans were less pronounced, while the portfolio of loans to the general government continued to contract (for more details, see Chapter I, section "Credit developments and indebtedness"). In addition to loans, banks saw a considerable rise in their liquid assets, i.e. cash and money held in the central bank. This, however, mainly reflected the decrease in debt securities held by banks and funds held in other financial institutions. More active lending attributed to the rise in deposits held with credit institutions – their annual growth rate increased by 11.2% (see Chart 5). Growth in deposits was also driven by external cash flows: the country's positive trade balance, foreign borrowing and capital transfers to Lithuania. On the other hand, liabilities to parent credit institutions decreased by 3.3 percentage points over the year, to 10.1% of total assets of credit institutions[3]. Over the year, non-resident deposits from households or corporates have also significantly declined (from 3.0% to 2.2% of total assets). Thus, in general, funding of credit institutions largely rest on domestic deposits, while the loan-to-deposit ratio of domestic credit institutions fell from 104.0% to 98.5% (see Chart 5).

Lithuania's banking sector is sound, though concentration is particularly high

Chart 4. Comparison of banking performance indicators in Lithuania and other EU countries

Position among EU countries
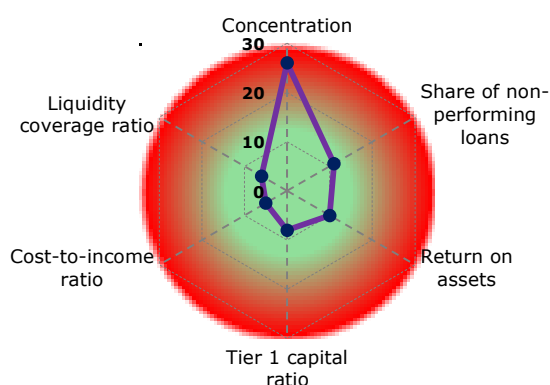
Sources: EBA and Bank of Lithuania calculations.
Notes: Concentration is measured by the Herfindahl-Hirschman index. The green colour indicates that the Lithuanian indicator is better than in most other EU countries, red colour – worse.

Banks considerably increased their share of funding with domestic deposits

Chart 5. Deposits with credit institutions
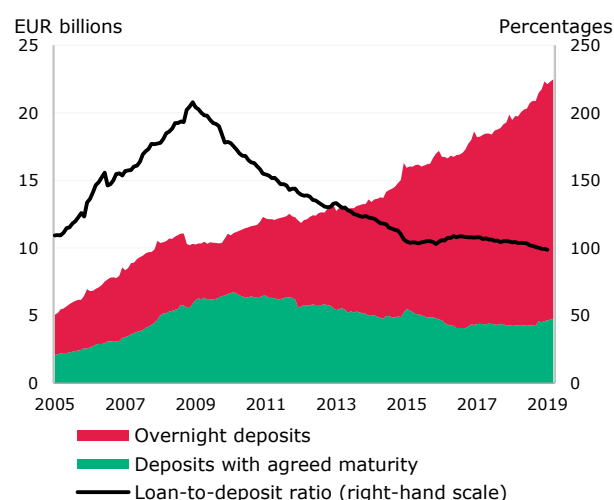
Source: Bank of Lithuania.
* Including deposits redeemable at notice and repurchase transactions.

More active lending and higher interest rates significantly boosted the profitability of banks. In 2018, banks operating in Lithuania earned their largest profit since the economic downturn – €357.9 million, i.e. a third more than in 2017 (see Chart 6). As a result, their return on equity surged from 9.3% to 13.0% over the year, mainly reflecting the increase in net interest income (€64.9 million, or 16.0 %) (see Chart 7), which stemmed from the more rapid growth in the loan portfolio and higher interest rates. Since interest rates on deposits were still close to zero, and EURIBOR remained negative, the increase in interest rates was mainly driven by wider bank credit margins (for more details, see Box 1). In 2018, banks also saw an appreciable rise in net fee and commission income (€22.5 million, or 11.0%), whereas loan impairment losses remained moderate. On the other hand, profitability in 2018 was dampened by increasing administrative costs (9.8%), which were driven up significantly by one-off factors relating to the reorganisation of certain banks and payment of redundancy compensations. Nevertheless, efficiency of banks operating in Lithuania, measured as their cost-to-income ratio, remained among the highest in the EU (44.9%).

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[2] Credit institutions include banks and credit unions whose assets are calculated on the basis of MFI data.
[3] Also including liabilities to non-parent credit institutions whose share is relatively small.

The profit of the banking sector grew in line with net interest margins

Chart 6. Evolution of the profit (loss) and net interest margins of the banking sector

EUR millions

- Net interest income
- Net commission income
- Profit
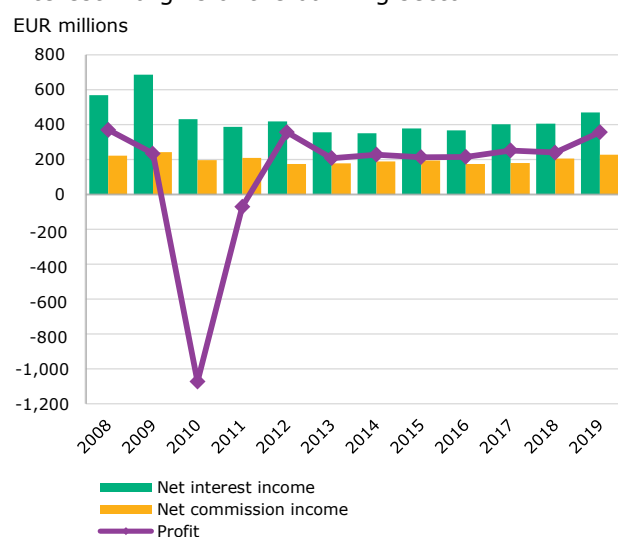
Source: Bank of Lithuania.

The increase in bank profitability was mainly led by higher net interest income

Chart 7. Contributions to bank return on equity in 2016-2018

Percentages

Source: Bank of Lithuania.

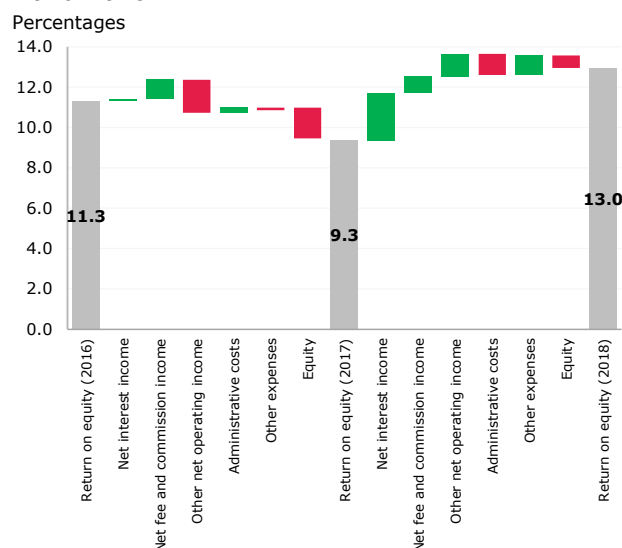**Resilience of the banking sector to potential shocks remains high.** Operating at a profit, banks continued to raise the level of own funds. However, with lending growing, the level of risk assumed by banks (risk-weighted assets) rose as well. Consequently, the capital adequacy ratio of the banking sector declined by 0.5 percentage point in 2018, yet still remained high (18.6%) (see Chart 8), mainly due to the fact that over the year risk weights applied to housing loans by major domestic banks – which were calculated using the internal ratings-based approach to credit risk – have declined. According to banks' assessment, such risk weights thereby reflected lower credit risk assumed by households that took out housing loans. Conversely, the capital adequacy ratios of smaller banks improved. At the end of 2018, Lithuania started applying the countercyclical capital buffer (0.5%); its rate will increase to 1% in mid-2019 (for more details, see Chapter III). Nevertheless, all banks already comply with the higher capital adequacy requirement with a margin. The strong solvency position of the banking sector is also supported by the high financial leverage ratio (8.0%). Moreover, thanks to substantial liquid asset reserves, the main bank liquidity ratio[4] stood at 254.2% at the end of 2018, which is more than twice above the minimum requirement of 100%. Overall, stress testing exercises show that banks' abilities to withstand adverse economic scenarios remain good (for more details, see Chapter II, section "Stress testing").

In a favourable economic environment, banks continued their efforts to weed out bad loans, which allowed them to further improve the quality of assets. In 2018, the share of non-performing loans[5] decreased by 0.6 percentage point, to account for 2.4% of total bank loans at the end of the year – the smallest share since the onset of the financial crisis. The improving financial health of the private sector continued to have a positive effect on the quality of the bank loan portfolio. The decline in the share of non-performing loans reflected both the decreasing volume of such loans and the expanding loan portfolio. In 2018, the share of non-performing loans granted to businesses dropped from 5.1% to 4.1%, to households – from 3.7% to 3.0%. In addition, both housing and consumer loans to households improved in quality. However, even though in 2018 the quality of many corporate loan portfolios improved, some sectors, especially those that are more sensitive to cyclical economic changes, for example construction, accommodation and catering, saw a rise in the total amount of non-performing loans (see Chart 9). The fact
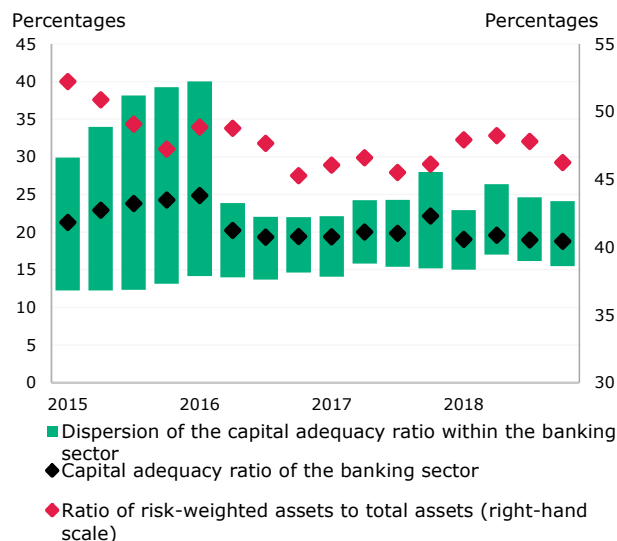
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[4] Liquidity coverage.
[5] Non-performing loans mean all non-performing debt instruments within the banking sector.

that loan losses in these sectors are the largest also indicates that their credit risk is currently relatively higher.

**Albeit the capital adequacy ratio of the banking sector declined, it was well above the set requirements**

Chart 8. Capital adequacy of the banking sector and the average risk weight

Percentages

■ Dispersion of the capital adequacy ratio within the banking sector
◆ Capital adequacy ratio of the banking sector
◆ Ratio of risk-weighted assets to total assets (right-hand scale)

Source: Bank of Lithuania.

The quality of bank assets improved, but the amount of non-performing loans increased in the construction, as well as accommodation and catering sectors

Chart 9. Level of non-performing loans by loan segment

Percentages

── 2016   ── 2017   ── 2018
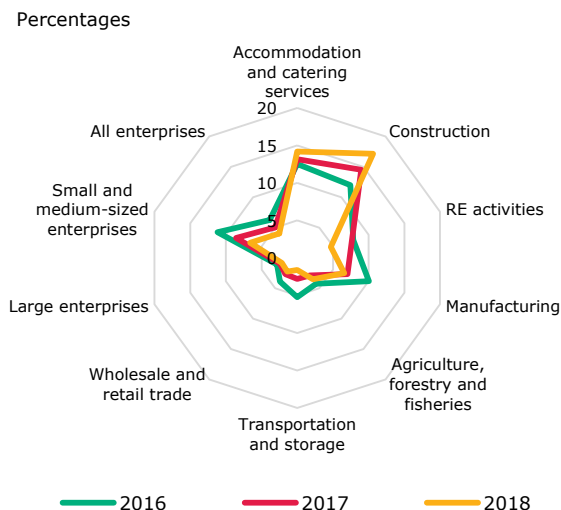
Source: Bank of Lithuania.

Lending for house purchase became an even more important business line for banks as they took a more prudent approach to business financing. On the one hand, lending volumes (in particular housing loans) continued rising in 2018. Banks did not deter from granting loans to businesses that were more dependent on the cyclical position of the economy, such as trade or transport companies. Moreover, when lending for house purchase, banks granted more loans whose LTV and loan maturity were approaching the limits set out in the Responsible Lending Regulations. Nevertheless, the pace of corporate lending slowed down noticeably. Fewer loans were granted to RE developers, and the flow of micro-loans to businesses reduced. Bank lending surveys show that more banks tended to curb their risk appetite in 2018. Surveys of enterprises revealed similar trends, i.e. an increasing share of non-financial corporations claimed having experienced constraints in credit availability, while the number of rejected loan applications increased (for more details, see Chapter I, section "Credit developments and indebtedness"). Hence, there were more signs that banks became more careful when lending to businesses. On the other hand, the fall in the volume of business loans might have also been driven by a weaker competitive environment (for more details, see Box 1).

Box 1

INTEREST RATES ON BANK LOANS GREW IN LINE WITH MARKET CONCENTRATION

In 2018, interest rates on new loans granted by Lithuanian credit institutions increased significantly. The cost of borrowing rose for both households and non-financial corporations. Interest rates on new housing loans increased from 2.1% at the beginning of 2018 to 2.4% in March 2019, while average annual interest rates on new loans to businesses went up from 2.3% to 2.8% during the same period. In the meantime, EURIBOR remained in negative territory[6], while banks' interest expenditure decreased; thus, the

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[6] The negative EURIBOR rate in new loan agreements is set to zero.

rise in interest rates on loans is attributable to the increase in credit margins. Overall, calculations show that margins applied by banks to new housing loans have reached their highest level since 2009 (see Chart A). Since interest rates on loans did not increase in most other European countries, margins in Lithuania are likely to have widened due to shifts in the domestic market.

Higher administrative costs might have contributed to the rise in margins, yet only to a small degree. First, although administrative costs of banks escalated significantly in 2018 (€28.7 million), net interest income rose even more (€64.8 million). Although expenses relating to the implementation of the Republic of Lithuania Law on Real Estate Related Credit[7], which entered into force on 1 July 2017, might have pushed up administrative costs, they increased mainly due to one-off factors related to reorganisation of certain banks and resulting redundancies. Second, in some cases the price of new loans most likely reflected the decision to increase the CCyB rate, which was taken by the Bank of Lithuania at the end of 2017[8]. However, calculations show that the CCyB could have added up to 0.07 percentage point to average interest rates on new loans to the private non-financial sector, and even less to interest rates on new housing loans[9], which is in any case considerably less than the actual increase in interest rates in 2018 (0.3 percentage point). Third, although certain banks began to offer higher interest rates on deposits, overall interest rates on deposits offered by credit institutions remained relatively stable, resulting in a decrease in interest expenditure of the banking sector in 2018 (€7.7 million). Overall, calculations show that the share of average interest rates on bank loans in total profit increased in 2018 (see Chart B).

Interest margins might have increased due to changes in the solvency risk assessment of bank clients; however, aggregated data does not indicate any deterioration in the financial health of Lithuanian households and businesses. As economic growth accelerated further, the financial situation of businesses and households remained sound, while the level of banks' non-performing loans decreased. With income growing, the debt-to-income ratio in terms of households that took out new housing loans has even improved. Moreover, internal models of the major banks in the country showed that the housing loan risk decreased over the year. Similar trends were also observed in the corporate sector where liquid asset reserves increased and the share of profitable enterprises remained unchanged. In general, banks rejected corporate loan applications more frequently and further cut back on lending to micro-enterprises (less than 10 employees). It can therefore be said that their risk appetite diminished. This is also confirmed by lending data, which showed that the volume of small business loans (up to €0.25 million) reduced by a third in 2018 compared to the year before[10]. Bank lending surveys conducted in 2018 also revealed that banks tightened their lending conditions.

The increase in interest margins is likely to have been driven by banks' ability to take advantage of the weaker competitive environment. At the end of 2017, after the merger of DNB and Nordea banks, concentration in the Lithuanian banking sector rose significantly, further increasing in 2018 due to the amortisation of the loan portfolio of Danske bank, which was in the process of exiting the market, and the decreased market share of the new bank Luminor. As a result, the market share of the two major banks in the country – Swedbank and SEB – increased further (from 56.8% to 60.1%). Banks generally tend to have growth limits ensuring sustainable lending; therefore, with credit demand remaining strong and coming close to these limits, banks have likely gained a greater competitive advantage and could thus increase interest margins and be more selective in terms of borrowers.

Rising interest rates can attract new participants to the market. The law of supply and demand holds out the prospect of the price of loans issued by smaller banks operating in the market and new market

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[7] Republic of Lithuania Law on Real Estate Related Credit (10 November 2016, No XII-2769). Register of Legal Acts, 17 November 2016, No 2016-26968.

[8] The decision to increase the CCyB rate to 0.5% was taken on 20 December 2017 and became effective on 31 December 2018. It was followed by a decision to raise the CCyB rate to 1% (20 June 2018), which will become effective on 30 June 2019.

[9] Banks usually apply a smaller risk weight to housing loans than to corporate loans and, consequently, allocate, on average, less capital for a housing loan than for a corporate loan of the same value.

[10] Including renegotiated loan agreements.

entrants (e.g. FinTech companies) becoming more competitive amid increasing interest rates. Funding and administrative costs of smaller market participants are usually higher as they do not have the opportunity to benefit from economies of scale. Consequently, interest rates on loans issued by smaller credit institutions are, as a rule, higher. However, higher interest rates are likely to attract new participants, which, with their loan portfolio expanding, will be able to benefit from economies of scale over time. In the long term, this may lead to the stabilisation of, or even a decline in, interest rates.

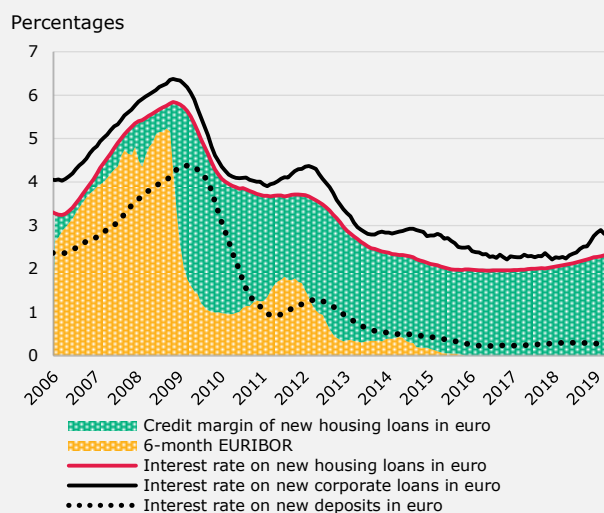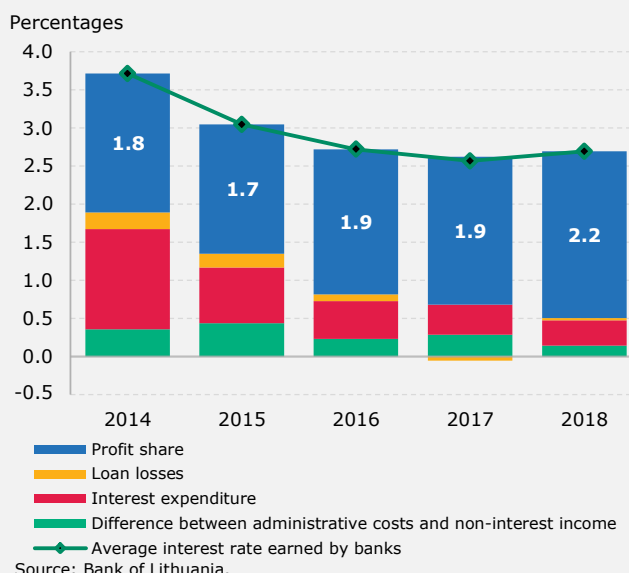Chart A. Interest rates on new loans and deposits

Percentages

Credit margin of new housing loans in euro
6-month EURIBOR
Interest rate on new housing loans in euro
Interest rate on new corporate loans in euro
Interest rate on new deposits in euro

Source: Bank of Lithuania.
Note: To avoid fluctuations, all interest rates are expressed as 12-month moving averages.

Chart B. Estimated components of average interest rates on bank loans

Percentages

Profit share
Loan losses
Interest expenditure
Difference between administrative costs and non-interest income
Average interest rate earned by banks

Source: Bank of Lithuania.

CREDIT DEVELOPMENTS AND INDEBTEDNESS

Borrowing in Lithuania has continued to increase, yet banks are more willing to lend to households than businesses. At the end of the fourth quarter of 2018, the country's annual growth of credit comprising all types of financing sources[11] stood at 8.9%, which is slightly less than a year ago (10.7%), yet still exceeded the country's overall economic growth. As a result, the credit-to-GDP ratio increased from 64.4% to 65.6%. Lending to households remained active.[12] The annual growth rate of the household loan portfolio increased from 7.4% (at the beginning of 2018) to 8.5% (April 2019) (see Chart 10). At the same time growth in the corporate loan portfolio decelerated from 4.9% to -0.6%, while lending to the general government further declined. Still, companies continued to boost their non-bank funding: for instance, trade credits were on a rise, the volume of loans issued by other Lithuanian and foreign undertakings was increasing, and funding through the bond market became more prevalent (see Chart 11). Unlike the private sector, general government institutions continued to reduce their financial liabilities, mostly as a result of declining municipality debts to credit institutions (10.1% throughout 2018). Simultaneously, the total debt of Vilnius City, which boasts the greatest debt level, dropped by 16.4% (one third in 2016-2018).

Firms are becoming more reliant on non-bank funding, yet the importance of bank loans for investment purposes has not waned. In recent years, firms have been rapidly increasing their financial liabilities to non-financial corporations (see Chart 11). Since 2015, corporate debt to suppliers – i.e. trade credits through which firms tend to finance their working capital needs – have increased the most. Growth in such credits may be linked to the rebound of the economic cycle in Lithuania and rising corporate turnovers, yet it cannot be either excluded that many firms often find such form of funding more affordable than

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[11] In this case, "credit" covers loans granted by all lenders (credit institutions, other financial institutions, non-financial corporations, foreign residents, etc.) to the private non-financial sector.
[12] Based on MFI data.

borrowing from banks. Surveys reveal that in 2018 some banks were tightening their lending conditions. Moreover, quite a number of non-financial corporations were more keen on applying for loans offered by other companies, the volume of which rose by 16.5% in 2018. In recent years, issuance of corporate bonds has increased. For example, the value of bonds issued amounted to €280 million in 2017 and reached as much as €516 million over the first three quarters of 2018. The corporate leasing portfolio has been also rapidly expanding. Surveys conducted by the Bank of Lithuania reveal that around a fourth of the companies surveyed are considering using alternative financing sources for their funding needs. Despite growth in non-bank funding, banks continue to be the main external source of financing for long-term investment purposes. In 2018, the share of bank loans in the structure of corporate investment financing went up from 23% to 26%.

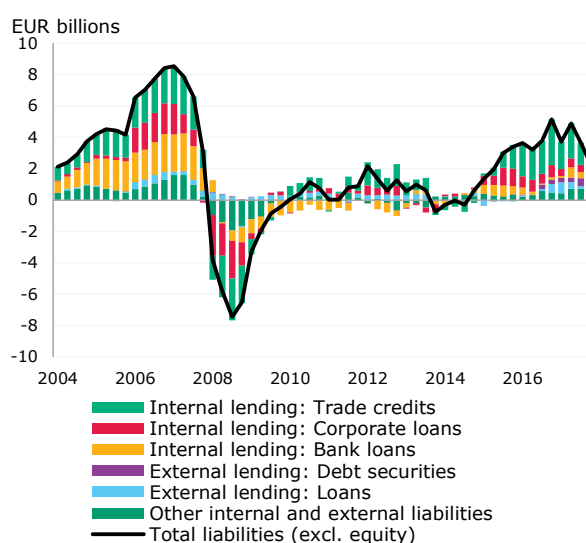**Lending to households has been accelerating, while corporate crediting – decelerating**

Chart 10. Annual change in the MFI loan portfolio
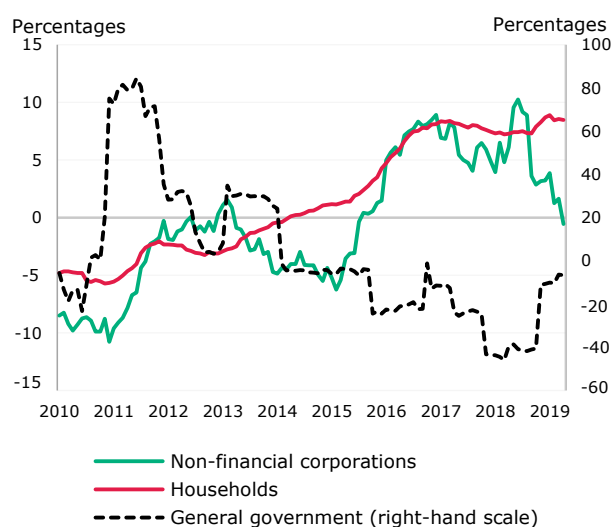
Source: Bank of Lithuania.

Non-bank funding is becoming more prevalent among firms

Chart 11. Annual change in credit granted to non-financial corporations

Source: Bank of Lithuania.

Bank lending to transport, trade, and holding companies accelerated, yet crediting of the RE sector, which comprises the largest share of the loan portfolio, reduced. Although the overall corporate loan portfolio has been growing at a slow pace, bank lending flows to trade, transport, and holding companies[13] have significantly increased (see Chart 12). At the end of the first quarter of 2019, their loan portfolios were, respectively, €118 million, €114 million and €105 million (20.3%, 6.1% and 18.0%) larger than a year ago. Buoyant borrowing by the transport sector was driven by considerable investments in the fleet renewal and expansion. A number of large-scale borrowing transactions were concluded with holding companies for the purpose of financing the acquisition of shares. However, some loan portfolios stabilised or contracted. Bank lending to RE companies – their largest corporate borrowers – declined. At the end of the first quarter of 2019, the RE loan portfolio reduced by €23 million (1%) year on year, despite significant growth recorded until 2016-2017. The loan portfolios of the energy and IT (including telecommunications) sectors shrunk the most, decreasing by €98 million and €29 million respectively. The downsizing of the loan portfolio of the energy sector, however, was spurred by the repayment of several large short-term loans.

Small-scale corporate lending has been dropping, possibly due to bank concentration. Data on lending shows that in 2018 the volume of corporate micro-loans (up to €0.25 million) reduced by a third. The portfolio of loans granted to micro-enterprises (up to 10 employees) and large enterprises (more than 250 employees) was also decreasing, while lending to small and medium-sized enterprises (10 to

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[13] These companies are commonly attributed to the sector of professional, scientific and technical activities.

249 employees), conversely, continued to increase (see Chart 13). As the decline in the loan portfolio of some banks was outweighed by the upsurge in the loan portfolio of other banks, it cannot be excluded that this might reflect customer migration between banks. It is therefore likely that banks were less focused on smaller loans that require relatively higher servicing costs. For instance, bank surveys show that in 2018 the number of banks tightening their credit standards increased, particularly in regard to short-term loans and loans to smaller enterprises. This is also evidenced by survey indicators, which show a notable rise in the number of rejected loan applications. The share of rejected loan applications increased from 16% in 2017 to 27% in 2018 (from 40% to 61% in the case of lending to small enterprises).

Bank lending to transport, trade, and holding companies accelerated

Chart 12. Annual change in the loan portfolio by industry
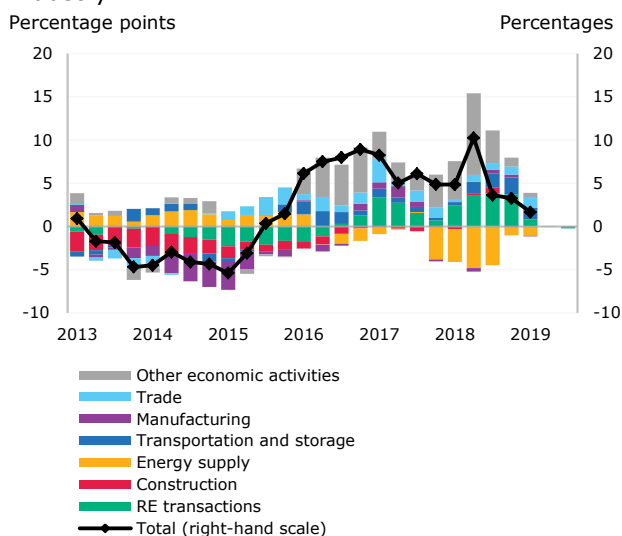
Source: Bank of Lithuania calculations.
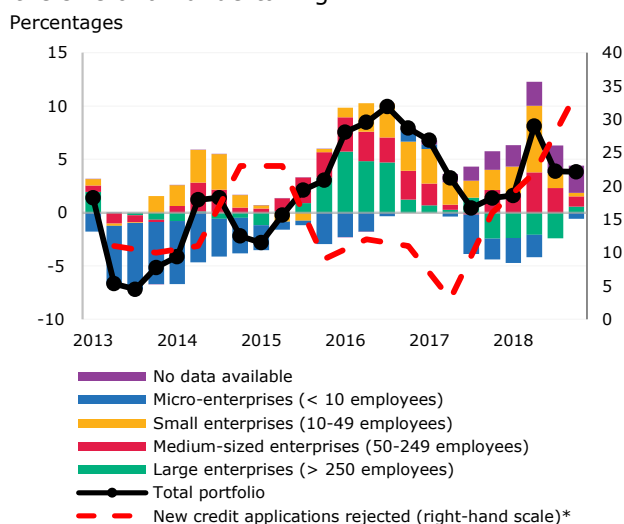Note: The names of some economic activities have been abbreviated.

Lending to micro-enterprises and large enterprises was subdued, banks rejected loan applications more often

Chart 13. Annual growth in the loan portfolio by the size of an undertaking

Source: Bank of Lithuania.
* Including applications for changing the conditions of previously granted credits.

Household borrowing has been at peak levels since the pre-crisis period, a trend that should prevail amid improving expectations. At the end of the first quarter of 2019, the annual growth rate of the housing loan portfolio increased by 9.1% year on year, while new lending flows rose by 11.1% (see Chart 14). As previously, lending activity remained concentrated in the Vilnius region, which accounts for the largest share of all new housing loans (46%, an increase of 2.2 percentage points in 2018). Borrowing rates in other regions remained largely unchanged. Lending for consumption purposes has been also increasing. At the end of the first quarter of 2019, the portfolio of consumer loans issued by banks grew by an annual 6.2%. Borrowing for consumption purposes from non-credit institutions has been rising at an even more rapid pace: in 2018 their loan portfolios increased by a third. The ongoing rise in household income, historically low interest rates, and the recent lift in household expectations have contributed to the increase in demand for consumer and housing loans. The consumer confidence indicator has been the highest since 2008. Surveys show that throughout 2018 the number of households claiming that now is the right time for making larger purchases (furniture, household appliances, etc.) increased from 23% to 28%.

Despite the marked rise in liabilities, increasing revenue and reserves have been improving the financial health of households and enterprises. On the one hand, active non-bank funding has been recently contributing to the strengthening of the corporate financial leverage. The corporate debt-to-asset ratio has been notably increasing since the beginning of 2017 and stood at 43.6% at the end of 2018, virtually reaching the levels recorded during the 2008-2009 crisis (see Chart 15). On the other hand, growth in corporate debt has been generally in line with rising revenue and developments in the domestic economy.

Corporate revenue surged by 11.5% year on year, profits[14] grew by 11.6%, while liquidity buffers (amount of cash) increased by roughly 25% since the beginning of 2017. Moreover, at the end of 2018 the overall corporate debt-to-GDP ratio in Lithuania was 33.7% (one of the lowest in the EU), remaining stable for the fifth consecutive year. Similar trends prevailed in the household sector, where liabilities have been increasing in line with household income.

<table>
<tr><td>

New lending flows to households have been increasing

Chart 14. Annual flow of new housing loans

EUR millions

Source: Bank of Lithuania.

</td><td>

Corporate indebtedness has increased, while household indebtedness remained rather stable

Chart 15. Corporate and household indebtedness indicators

Percentages

Source: Bank of Lithuania.

</td></tr>
</table>
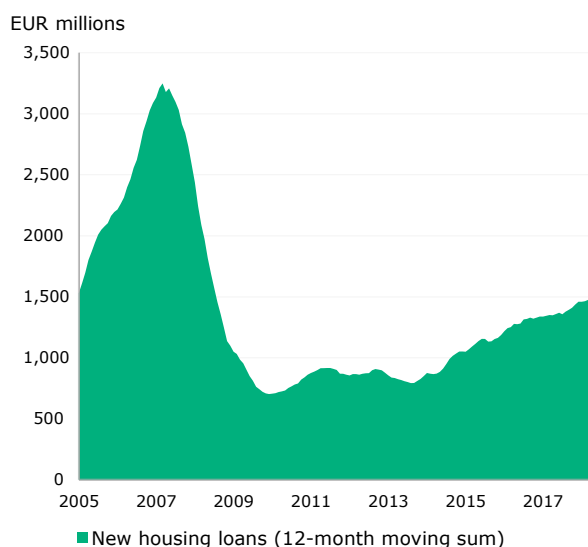
REAL ESTATE MARKET DEVELOPMENTS

In 2018, the number of housing deals was the highest since 2007 (in terms of total population – the highest since 1998). According to the data of the Centre of Registers, the number of hous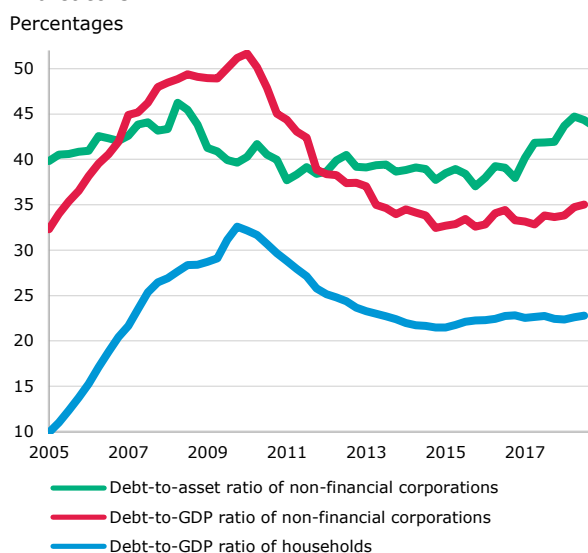ing units[15] sold in Lithuania over the period under review continued to rise, increasing by an annual 1.9% (see Chart 16). The housing market saw striking regional differences: the increase in the number of housing deals in 2018 was mostly driven by the markedly higher activity in Vilnius and Kaunas housing markets (8.1% and 7.5% respectively). Conversely, the number of housing units sold in Klaipėda and the rest of the country declined by 0.7% and 1.7% respectively over the year. The sales of new housing units accelerated (see Chart 16), totalling 20.6% of all housing deals year on year (in 2017 – 18.5%). The amount of funds designated for their acquisition comprised one third (32.3%) of the total turnover in the housing market. Given stronger increases in housing market activity, the share of mortgaged housing units has risen from 40.8% to 41.1%. In 2018, activity in Vilnius primary apartment market played a crucial role in driving activity in the capital's housing market. According to market participant data[16], in 2018 RE developers sold or reserved 5.6% more new housing units year on year. The total turnover of Lithuania's housing market reached 4.2% of GDP, the highest it has been since 2008.

The supply of new housing has remained at historical highs, stifling growth in house prices. According to Statistics Lithuania, the number of housing units completed in 2018 rose by 10.9% compared to the previous year. It mostly increased in Vilnius and Kaunas regions, where the largest share of housing units

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[14] Earnings before interest, taxes, depreciation and amortisation (EBITDA).

[15] Housing units comprise flats in multifamily buildings and single-family or semi-detached houses.

[16] UAB EIKA.

(70.1%) was completed. On the other hand, the number of housing units completed in the Klaipėda region and the remaining part of the country decreased by, respectively, 6.0% and 3.8%. The number of single-family homes completed in Lithuania continues to be higher than that of apartments in multifamily buildings even though the latter increased by 31% in 2018, while the number of single-family and semi-detached homes remained virtually unchanged (-0.6%) (see Chart 17). In the review period, 3.1% more new construction permits were issued in Lithuania year on year, reflecting expectations that housing supply will continue growing. Overall, while the number of permits increased mainly due to the more active planning of housing construction in the Vilnius region (11.8%), the number of construction permits issued in the remainder of the country contracted by an annual 6.0%.

The share of new housing sales has been increasing

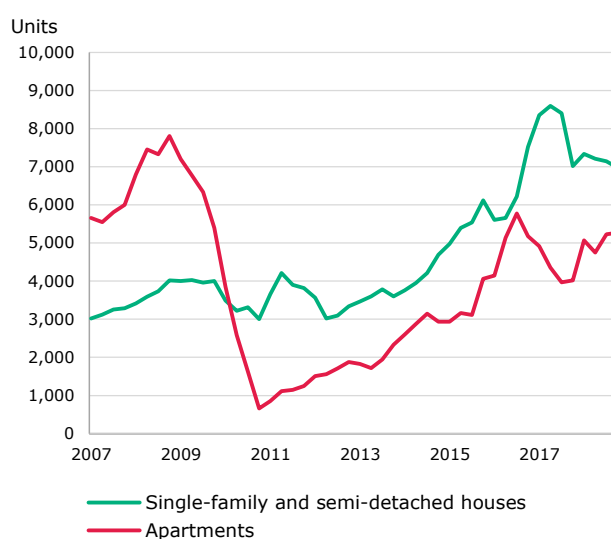Chart 16. Annual number of housing deals
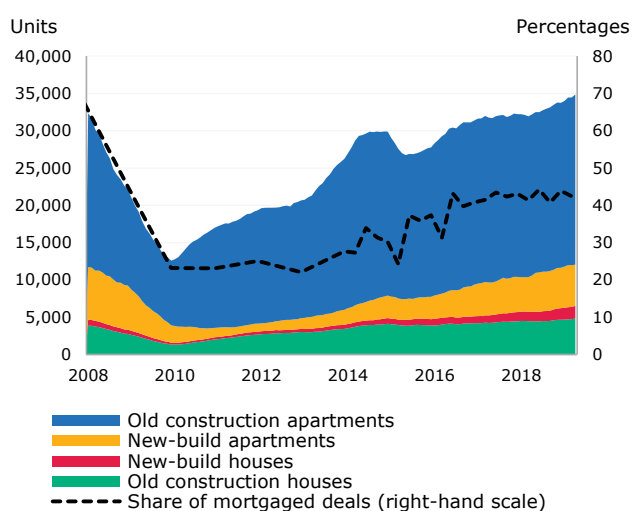
Source: Centre of Registers.
Note: The number of deals is presented as a 12-month moving sum.

Housing supply remains historically high, yet construction of individual houses, as opposed to 2008, has been increasing

Chart 17. Number of housing units completed in Lithuania over the year

Source: Statistics Lithuania.

House prices have been growing in line with household income and the entire domestic economy. According to Statistics Lithuania, the annual growth rate of house prices in Lithuania stood at 7.4% at the end of 2018, which is slightly higher than a year ago (6.9%) and above the EU average[17] (4.2%). Over the year, prices of new housing in Lithuania rose by 8.2%, i.e. nearly twice as high as the construction costs of residential buildings. House prices increased by 4.1% in Vilnius and 10.1% in the remaining part of the country. Thus growth in house prices continued to be stronger outside the country's largest cities (see Chart 18). Nonetheless, housing there is still up to several times cheaper as compared to the capital of the country[18], yet household income does not differ as significantly. Moreover, rapid growth in house prices in smaller Lithuanian towns is likely to be influenced by the attractive (as compared to cities) return on rent as well as state support for housing acquisition offered to young families. However, house price growth in Lithuania has not gained momentum and is in line with household income growth. It thus might be considered as balanced.

Market expectations for a rise in new-build house prices have strengthened, however no significant changes in old-construction apartment prices are to be expected in 2019. Surveys of households, banks, and RE market participants conducted by the Bank of Lithuania show that both residents and professional market participants continue to expect moderate price increases (less than 5% per year; see

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[17] Based on the latest data of the fourth quarter of 2018.
[18] For more information, visit the website of the Centre of Registers.

Chart 19). However, expectations of stronger growth in new-build housing prices have been markedly increasing, in part reflecting the gradual rise in construction costs. The Bank of Lithuania estimates that in 2019 house prices will be increasing at a slightly slower pace, largely in line with household income, due to higher interest rates on housing loans and the continuously growing housing supply (for more information, see Box 2). These factors and the existing macroprudential measures have a dampening effect on the expectations for house price growth, thus they cannot be considered excessively optimistic and do not stir additional tensions in the housing market. In turn, moderate expectations concerning house price dynamics curb speculative transactions as well as limit house price overvaluation and excessive and risky lending.

House price dynamics have not been consistent in the capital and the rest of the country

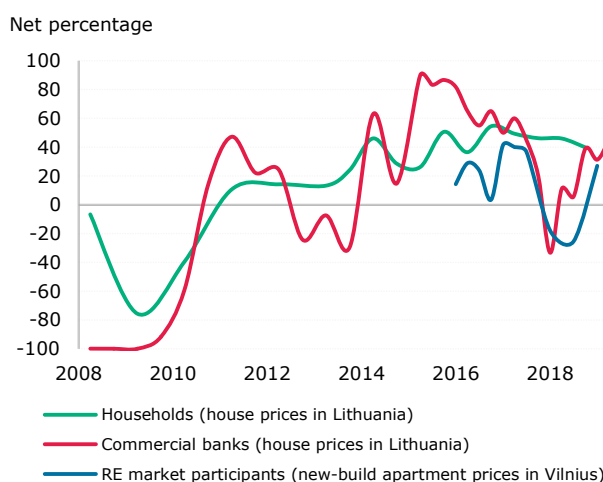Chart 18. House price level in Lithuania and annual growth rates in the fourth quarter of 2018
Index: 2015 = 100
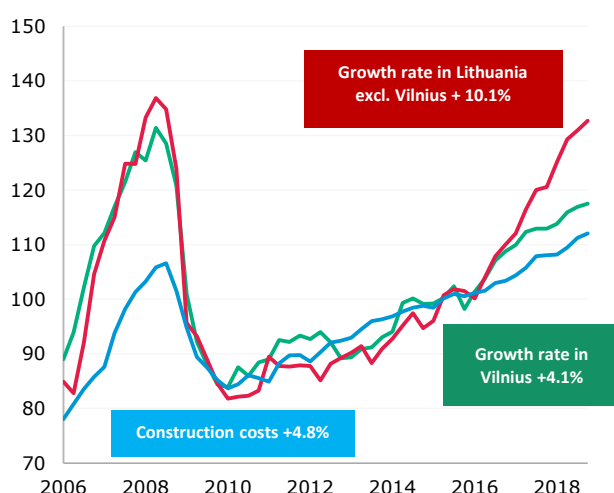
Source: Statistics Lithuania.

Banks and RE market participants have heightened, yet still moderate expectations of a rise in house prices

Chart 19. House price growth expectations

Net percentage

Source: Bank of Lithuania.
Note: The difference in percentage is defined as the difference between the percentage of respondents reporting that prices will increase and the percentage of respondents reporting that they will decrease.

Although housing rent prices continue to increase, the number of those willing to invest in residential property is dropping, which might dampen housing demand in the future should this trend persist. According to Statistics Lithuania, house rent prices in Lithuania have risen by 7.5%. According to the data of RE market participants[19], the most rapid growth in house rent prices was recorded in Šiauliai (30%) and Panevėžys (50%), reaching its peak since the beginning of observations in 2004. Meanwhile in Vilnius, Kaunas, and Klaipėda, average house prices in residential areas increased by, respectively, 3.1%, 5.6%, and 1.9%. Despite the increase in rent prices, surveys indicate that investors have been losing interest in housing for rent purposes. According to the data of a survey conducted by the Bank of Lithuania, in 2018 the share of rental housing units in Vilnius contracted from 30% to 20% of total sales (see Chart 20). The shrinking investor demand for housing may dampen growth in house prices. Structural factors, such as the deteriorating demographic situation in Lithuania and the dwindling number of young people, may also reduce housing demand in the long run.

Bearing major significance to the banking sector, the Lithuanian commercial RE market has been expanding. The expansion of the commercial RE market has been the most robust in Vilnius and Kaunas regions, which generate the greatest share of GDP in Lithuania. In 2018, the supply of new office and storage premises increased by, respectively, 7.0% and 6.5% in Vilnius and, respectively, 25% and 8.2% in Kaunas, where the market of modern office spaces is still developing. Overall, the volume of investment in commercial RE objects increased by a fifth[20] in 2018, amounting to 1.0% of GDP – similarly to other Baltic States. The
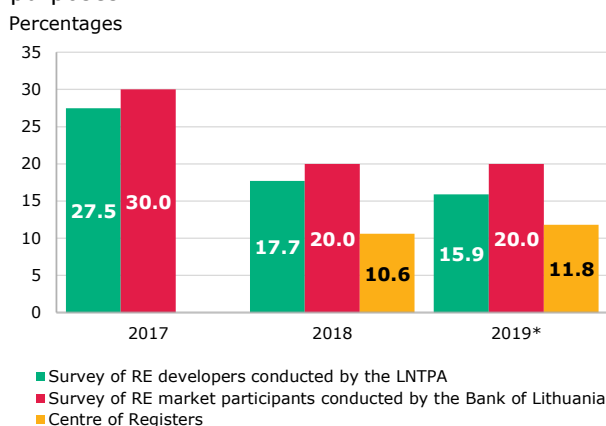
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[19] UAB Ober-Haus.

[20] Based on the data of CBRE.

share of loans to the RE and construction sectors comprises roughly a tenth of the loan portfolio of banks operating in Lithuania, while loans collateralised by RE property – approximately one fifth (see Chart 21). Consequently, banks might incur significant losses in the event of a market shock and a decline in the value of commercial assets. Given rapid expansion in the commercial RE market, the risk of an increase in vacant premises is becoming ever more relevant as demand for office spaces weakens. Rent prices could therefore subside. Furthermore, the commercial RE market in Lithuania may also face subdued demand: with electronic trade gaining traction, the share of vacant premises in shopping centres may significantly rise.

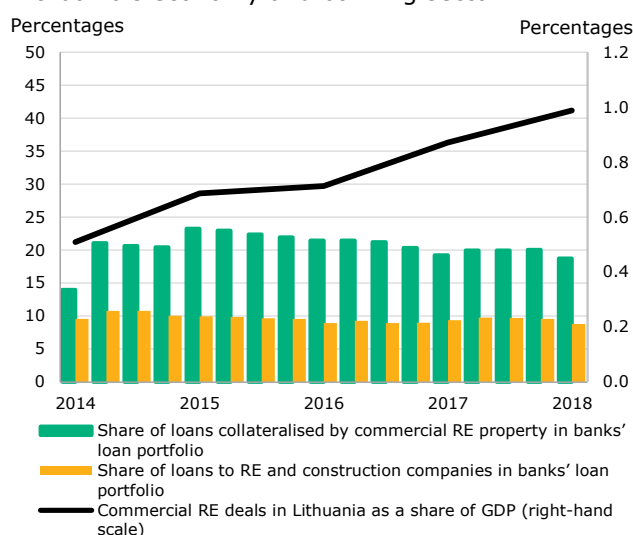**The share of apartments acquired for rent purposes in Vilnius has declined in recent years**

Chart 20. Share of apartments acquired for rent purposes
Percentages

- Survey of RE developers conducted by the LNTPA
- Survey of RE market participants conducted by the Bank of Lithuania
- Centre of Registers

Sources: LNTPA, Centre of Registers, and Bank of Lithuania calculations.
Note: The Centre of Registers presents the share of secondary housing units against all housing deals in Lithuania; the survey by the Bank of Lithuania covers the share of new housing in Vilnius, while the survey by the LNTPA – the share of new housing in Lithuania; the LNTPA survey includes a forecast for 2019, while the data of the Centre of Registers covers the first quarter of 2019.

The importance of the commercial RE market has been growing, while a shock in this sector might lead to significant bank losses

Chart 21. Importance of commercial RE to Lithuania's economy and banking sector
Percentages   Percentages

- Share of loans collateralised by commercial RE property in banks' loan portfolio
- Share of loans to RE and construction companies in banks' loan portfolio
- Commercial RE deals in Lithuania as a share of GDP (right-hand scale)

Source: Bank of Lithuania.

Box 2

CONTRIBUTIONS TO HOUSE PRICE DEVELOPMENTS AND FORECASTING

House price forecasts and the assessment of factors affecting price growth are an important monitoring tool that helps ensure efficient implementation of macroprudential policy. This box describes a specific house price forecasting methodology and the output it generates. It was used to quantify the factors that had affected past house price developments and to predict future house price changes. The output is intended to provide experts with a deeper insight into different interactions within the RE market as well as enable a faster and more accurate assessment of the need for possible macroprudential measures and/or their time frame.

House prices were modelled using a statistical method for generating all possible combinations of variables. When modelling house prices, all possible combinations of model variables were generated with one, two, three or four explanatory variables and their different lags[21]. By applying various methodologies for testing the accuracy of forecasts, such as testing in all data sample or samples of different sizes, 20 most accurate forecasting models were selected from more than 100 thousand possible models. The final forecast is a linear combination of the selected models. With a modification to the ARDL model proposed by D. E. Rapach and J. K. Strauss (2007)[22], house prices are forecasted for four quarters ahead without forecasts of

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[21] Modelling used exogenous lagged variables of orders 4, 5 and 6.

[22] For more details, see here.

explanatory variables (see Chart A). The generated forecast shows that house price growth might moderate slightly in 2019, compared to 2018.

House prices are inert, while their dynamics are highly influenced by the size of interest rates and supply factors, such as residential construction permits or investment in housing (see Chart B). The low interest rate environment currently exerts a positive effect on house price dynamics, however, once interest rates start rising, house prices may decrease. A rather rapidly growing number of permits for construction of new residential housing increases the supply of apartments and houses and, in turn, puts downward pressure on house prices. Slower growth in house prices in the short term is mainly underpinned by growth in interest rates and rising housing supply. The model output also shows that house price dynamics depend on past house price developments. This supports the widespread belief that housing supply is inert, while market expectations are adaptive, i.e. rising house prices lift expectations of further price growth.

Chart A. House price dynamics and forecast

Index: 2010 = 100

RE price index
Forecast
Lower limit
Upper limit
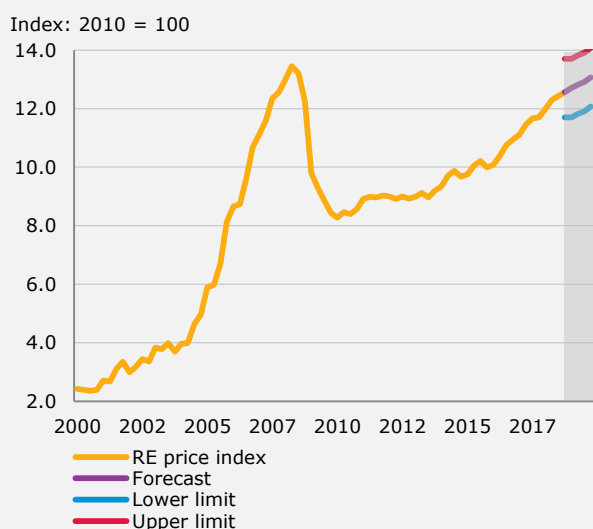
Source: Bank of Lithuania.
Notes: The model used data for Q1 2000 - Q4 2018. The upper and lower limits constitute a 95% confidence interval of the forecast.

Chart B. Impact of variables on the annual change in RE prices

Percentages

Population (+)
Transactions
Investment (−)
Interest rate (−)
Quarterly growth one year ago
Consumer confidence indicator (+)
Loans (+)
Other factors
Permits (−)
RE price index
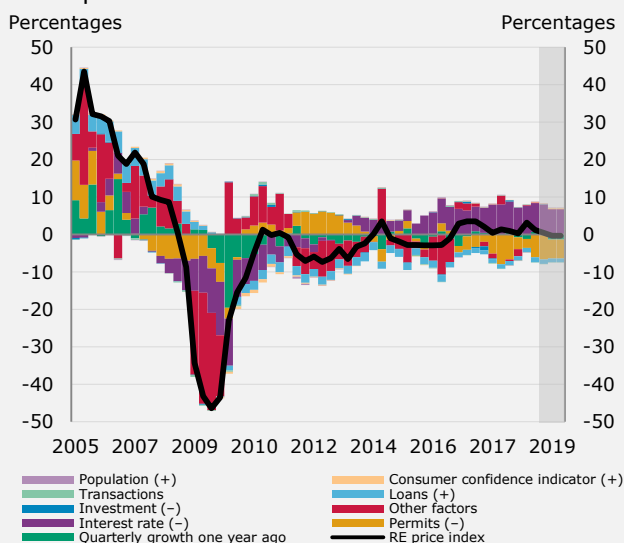
Source: Bank of Lithuania.
Note: (+/−) defines the effect that a factor has on house price dynamics.

II. RISKS TO THE FINANCIAL SYSTEM

SYSTEMIC RISKS IN LITHUANIA

RISK OF A POTENTIAL CORRECTION OF IMBALANCES IN THE NORDIC COUNTRIES		RISK OF A POTENTIALLY UNSUSTAINABLE FINANCIAL CYCLE IN LITHUANIA
Lithuanian banks have become less dependent on parent banks Growth in Sweden's RE prices has moderated	POSITIVE DEVELOPMENTS (+)	Household income has increased Corporate profits and reserves have strenghtened The financial cycle has decelerated
Household indebtedness in the Nordic countries increased further Money-laundering scandals pose reputational risks to Nordic banks Outlook for Sweden's economic growth has deteriorated	NEGATIVE DEVELOPMENTS (−)	Growth in the housing loan portfolio gained traction The RE market is booming The number of unsold housing increased The level of non-performing loans in the construction sector has risen
Weaker credit growth Higher lending rates Growing depositor concerns	RISK CHANNELS	Weaker credit growth Drop in RE prices Diminishing activity in the construction sector Loan losses incurred by households, RE and construction companies

SHORT-TERM CHALLENGES TO LITHUANIA'S FINANCIAL SYSTEM

CHALLENGES FOR LITHUANIAN EXPORTERS DUE TO GLOBAL HEADWINDS

RISK OF A POTENTIAL CORRECTION OF IMBALANCES IN THE NORDIC COUNTRIES

The Lithuanian financial sector is dominated by Nordic banks. For this reason, the correction of imbalances in the Nordic countries could have an adverse effect on the Lithuanian financial system and economy. At the beginning of 2019, Nordic-capital banks[23] held 83% of the assets of the Lithuanian banking sector and 86% of its equity.[24] High concentration of the Nordic banks makes the Lithuanian banking sector vulnerable to the corrections of imbalances in these countries, in particular, Sweden. Imbalances in the Nordic countries stem from high household indebtedness and elevated house prices. Moreover, there have recently been more negative signals concerning the worsening outlook for economic growth and money-laundering scandals involving Nordic banks, which could lead to the correction of existing imbalances. Such corrections could potentially impact the Lithuanian banking sector through the following channels: 1) a decrease in overall lending or restriction of lending to business sectors with higher risk profiles; 2) an increase in funding costs for parent banks and in credit costs in Lithuania; and 3) increased volatility of deposits.

In 2018, uncertainty in Sweden's financial system was mounting. Increasing household indebtedness and high house price levels have continued to fuel imbalances. High household indebtedness increases household sensitivity to changes in interest rates, unemployment rates, and house prices. Simultaneously, elevated RE prices raise the likelihood of the correction of house prices, which could cause disturbances in the Swedish financial system. The increase in risks to the Swedish financial system in 2018 is evidenced by the fact that the financial vulnerability index reached historic highs, mainly reflecting stronger growth in household indebtedness as compared to household income (see Chart 22). Over the last four years, the household debt-to-income ratio has, on average, risen by 5 percentage points year on year; in 2018, however, its growth decelerated (0.6 percentage points). Sweden's household debt-to-income ratio currently exceeds 185% and, in combination with other Northern European countries, is one of the largest in Europe (comprising 280% in Denmark, 235% in Norway, and 139% in Finland). By contrast, the equivalent in Lithuania stands at 44%, remaining markedly lower compared to the pre-crisis period (56%).

Sweden's RE prices, which were rapidly increasing until mid-2017, have stabilised, yet remain elevated. Rising housing supply and the introduction of the amortisation requirement led to a price correction in Sweden at the end of 2017 (the house price index fell by 5.5%). The central bank of Sweden has noted that the increase in uncertainty during the time of the correction made households more cautious about purchasing decisions, especially involving pre-sale agreements for housing projects under production. This curbed the volume of housing sales, thus leading smaller construction companies to incur losses. Since Swedish banks limit their lending to small construction companies, they were not significantly affected. As a result, the Swedish financial system withstood the correction and, according to the latest data, house prices stabilised, increasing by 2.1% at the end of 2018 (see Chart 23). Nonetheless, uncertainty over the sustainability of price levels in Sweden persists. The deterioration of the situation of the major RE developers could fuel systemic risk as their losses would be significantly higher. Price levels are also largely affected by structural imbalances in supply, including low competition in the construction sector, strong regulation in the rental housing market, and the mortgage interest tax relief. Meanwhile, due to favourable economic conditions and increasing population, housing demand is continuing on an upward path.

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[23] Considering banks from Sweden, Norway, Finland, and Denmark.

[24] Following the merger of DNB and Nordea and the relocation of the headquarters of the newly-established Luminor bank to Estonia, the bank is no longer formally treated as a Nordic bank, however, this review classifies it as a Nordic bank, since its main shareholders as at 1 May 2019 were the DNB and Nordea groups, which were incorporated in, respectively, Norway and Finland.

Growing household indebtedness has increased vulnerabilities in Sweden's financial system

Chart 22. Build-up of financial vulnerabilities in Sweden
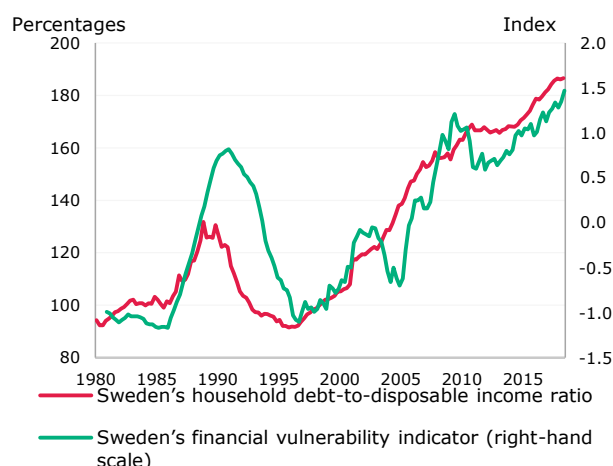
Sources: Statistics Sweden and Sveriges Riksbank.
Note: The financial vulnerability indicator is based on changes in lending to households and companies in relation to GDP, real house prices and the stability of Swedish banks' funding sources.

House prices and construction activity remain high

Chart 23. Developments in Sweden's RE market
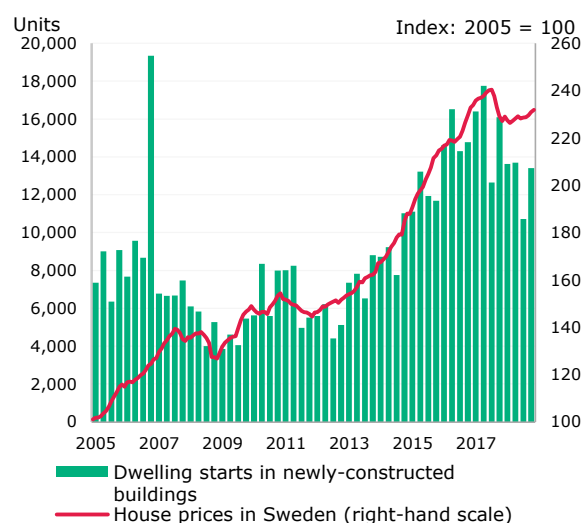
Sources: Valueguard and Statistics Sweden.

The active commercial RE market and its interconectedness with the Swedish banking sector have also entailed risks. The Swedish commercial RE market is exceptional in terms of size: it comprises 34% of Sweden's GDP[25], i.e. the largest share across the entire EU. Due to its volatile nature and substantial importance to Swedish banks, commercial RE historically has always contributed significantly to shocks in the financial system. Activity in the Swedish commercial RE market has recently been more pronounced. Consequently, it could cause more prominent bank losses in the event of an economic shock. Bank lending for RE activities and construction exceeds 30% of GDP (the EU's third highest value). Furthermore, a significant share of bank exposures is collateralised by commercial RE, comprising 90% of banks' Tier 1 capital.

Most stability indicators of Sweden's major banks are good, yet their leverage ratio remains low. Swedish banks are above the EU average in terms of their asset quality, solvency and profitability indicators (see Chart 24). For instance, at the end of 2018 Swedish banks' return on equity stood at 13.4%, while the level of non-performing loans – 0.5%. Their capital adequacy ratio is also higher, comprising 21.5% as compared to the EU average of 18.9%. Although due to technical factors the ratio contracted notably over the year, these technical changes made it more comparable to other EU countries.[26] Still, the capital adequacy ratio is pushed up because risk weights on Swedish loans are low due to historically small losses. Meanwhile, the financial leverage ratio (the equity-to-asset ratio) remains rather low, thus attesting to banks' limited capacities of resisting negative shocks. The losses arising from an economic shock would quickly draw capital adequacy ratios closer to the set requirements. Therefore, banks might need to reduce their risk appetite not only in Sweden but also at the bank group-level. This could potentially downsize credit provision in Lithuania.

Dependency of Lithuanian banks on their Nordic parent banks has been consistently diminishing. At the end of 2018, the deposits of parent banks and other credit institutions[27] comprised 10% of their assets, a year-on-year decrease of 3% (see Chart 25). Taking into account that Luminor, one of the largest banks in Lithuania, is changing its financing structure and increasing the share of financing through local deposits, it is likely that parent bank funding will continue diminishing across the entire sector. By contrast, during the

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[25] Based on the analysis on risks in the commercial RE sector prepared by the ESRB and included in its report (November 2018).

[26] The capital adequacy ratio of Swedish banks has decreased due to the inclusion of a risk weight floor for Swedish mortgages in risk-weighted assets.

[27] Based on MFI data.

pre-crisis period, foreign bank deposits accounted for over 40% of the Lithuanian banking sector's total assets.

Capital adequacy and profitability ratios of Swedish banks are good, yet their equity level is low
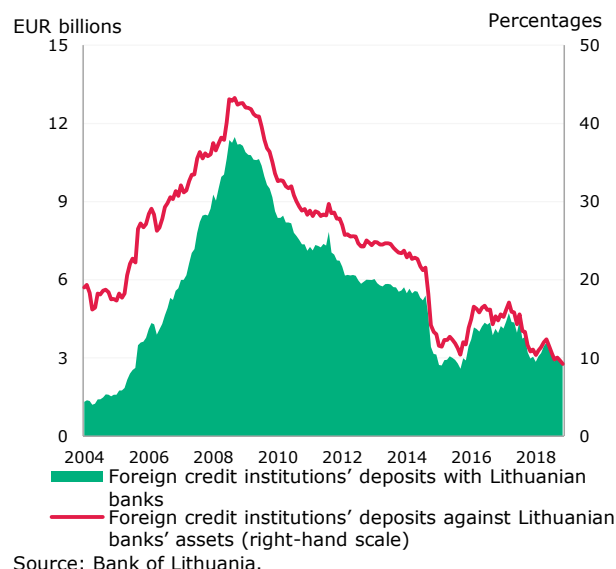
Chart 24. Banking sector indicators in Lithuania, Sweden, and the EU
(Q4 2018)

Percentages

- Lithuania
- Sweden
- EU average
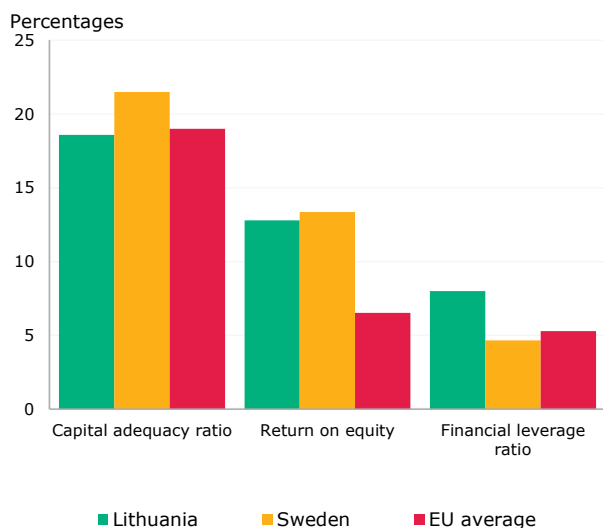
Sources: Bank of Lithuania and EBA.

Lithuanian banks' funding through their parent foreign banks has further declined

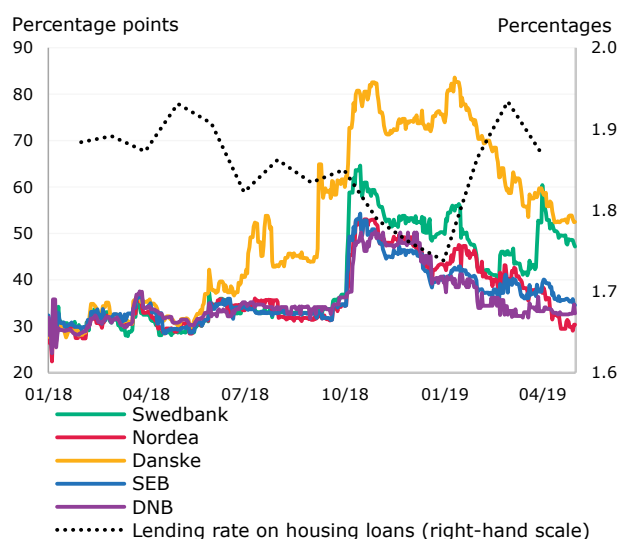Chart 25. Foreign credit institutions' funds with Lithuanian banks

EUR billions / Percentages

- Foreign credit institutions' deposits with Lithuanian banks
- Foreign credit institutions' deposits against Lithuanian banks' assets (right-hand scale)

Source: Bank of Lithuania.

The slowdown in global growth could have an adverse effect on Swedish banks. Compared to its autumn 2018 economic forecast, in May the European Commission revised its 2019 forecast for growth in Sweden's GDP downwards from 1.8% to 1.4%, while the EU GDP growth forecast was downgraded from 2% to 1.4%. The slowdown in economic growth could take a toll on household income growth and corporate activity, as well as increase the cost of financing in the financial markets that the Swedish banks are highly reliant on. Since Sweden is a big exporter, the deteriorating economic situation is further exacerbated by the recent escalation in geopolitical tensions and trade wars. The deteriorating external environment raises the likelihood of an economic shock in the Nordic countries, which would steer the correction of existing imbalances. As Lithuania's economy, too, is largely dependent on exports and Sweden is an important trade partner and the largest investor (24% of foreign direct investments comes from Sweden), it is likely that, in light of the slowdown in the global and Swedish economies, Lithuanian companies and households would also run into difficulties.

Money-laundering scandals linked to several Nordic banks pose reputational risks to the financial system of the entire Nordic-Baltic region. Following allegations about potential money laundering transactions, in 2018 the value of Danske Bank shares halved, while the price of credit default swaps increased significantly and remains higher than prior the scandals (see Charts 26 and 27). Similar trends were also observed at the beginning of 2019, when money laundering allegations against Swedbank were reported. The bank's stock prices plummeted, bearing a negative effect on the shares of other Nordic banks. Low valuations push up the Nordic banks' cost of borrowing in financial markets and could adversely affect their profitability. Since the Swedish banking sector is highly inter-connected, difficulties in one bank can have repercussions to the entire banking sector, while increases in the cost of financing can resonate to the subsidiary banks in Lithuania. For instance, the latest data shows that the interest rates on new housing loans in Sweden, which had been gradually decreasing, rebounded at the end of 2018 – at the end of April 2019 they were 0.1 percentage point higher than at the end of November 2018 (see Chart 26). It is therefore likely that this was the outcome of an increase in financing costs. In general, money laundering scandals may incite distrust of the public and depositors in banks and trigger bank runs.

**Money laundering scandals have pushed up Swedish banks' funding costs**

Chart 26. Nordic banks' risk assessment and interest rates on housing loans in Sweden

Percentage points — Percentages

- Swedbank
- Nordea
- Danske
- SEB
- DNB
- .... Lending rate on housing loans (right-hand scale)

Sources: SNL Financial and Sveriges Riksbank.

Money laundering scandals led to an immediate drop in the Nordic banks' stock prices

Chart 27. Stock prices of Nordic banks

Index: 2018 = 100

- DNB
- Nordea
- SEB
- ---- STOXX Europe 600 Banks
- Danske
- Swedbank
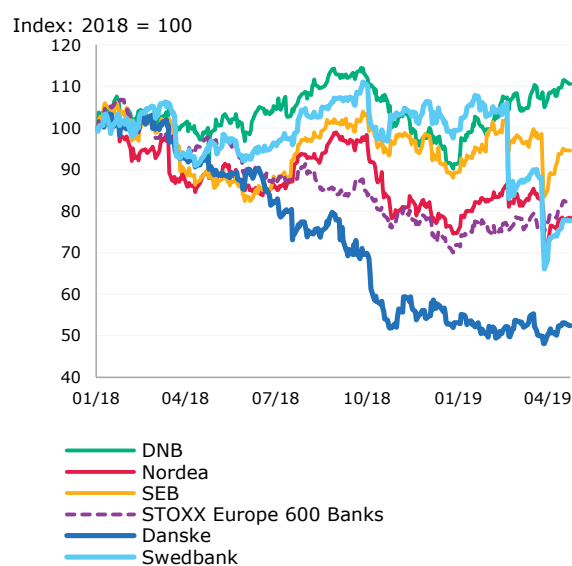
Source: SNL Financial.

Active implementation of macroprudential policy in the Nordic countries mitigates potential risks, yet structural problems still pose a serious challenge. In response to the rapidly increasing corporate and household lending and the elevated level of risks, in September 2018 the Swedish Financial Supervisory Authority reported it would be increasing the countercyclical capital buffer from 2% to 2.5%. The buffer rate currently applied in Norway equals 2%. Sweden and Finland also apply the risk weight floors for mortgages in order to make banks keep more own funds to cover the losses from such loans. However, Sweden still faces structural imbalances in its RE market and a high bank financial leverage. For this reason, the Swedish central bank proposed to introduce a leverage ratio requirement of 5% and to implement the tax and housing market reforms, which could reduce risks stemming from the household sector. The implementation of structural reforms in Sweden is crucial, since the current macroprudential measures only help to somewhat slow down the escalation of RE prices and household indebtedness, yet they cannot solve the root cause of these problems.

**RISK OF A POTENTIALLY UNSUSTAINABLE FINANCIAL CYCLE IN LITHUANIA**

Robust credit growth might impose a too heavy burden on households and in turn provoke the formation of imbalances in the country's RE market. On the one hand, crediting of productive activities increases production output, encourages investment, maintains a high level of consumption and thus contributes to the country's overall economic growth. On the other hand, excessive lending to less efficient activities might fuel imbalances in the economy, exorbitant jumps in household and corporate indebtedness or asset bubbles. Under such circumstances, once the cost of loans surges and income growth is at a halt, the burden of debt might significantly escalate, leading debtors to insolvency and causing credit losses. Furthermore, RE prices that are over-inflated due to excessive lending might suddenly plummet, thus reducing the value of assets pledged to credit institutions as well as the welfare of households and firms managing these assets. In Lithuania, robust credit growth (especially in the housing loan segment) has been observed for a relatively long time. In addition, the RE market is booming. This might pose a risk of an unsustainable financial cycle, which, although currently on an upswing, might start inciting the formation of imbalances in the credit and RE markets.

Growth in the household loan portfolio in Lithuania is among the highest in the EU. The portfolio of loans issued by credit institutions to the private non-financial sector has been growing for the fourth consecutive year and has increased by ¼ since the beginning of 2015. Borrowing for house purchase has been

particularly active. For the last two years, the annual growth rate of the housing loan portfolio stood at 7-9%, surpassing the country's GDP growth. Growth in the housing loan portfolio in Lithuania has been among the fastest in the EU, a trend that has prevailed for several years (see Chart 28). Nonetheless, the still negative gap between the credit-to-GDP ratio and its long-term trend (-3.8 percentage points in the fourth quarter of 2018), the country's balanced current account and other indicators point to no significant imbalances in the credit market. The financial cycle index calculated by the Bank of Lithuania shows that the cycle is currently on an upswing, yet no higher acceleration has been recorded (see Chart 29). However, improving household expectations due to rising wages might lead to even more robust credit growth in the future, therefore it is essential that loan takers assess their financial capacities.

Growth in Lithuania's housing loan portfolio is among the fastest in the EU
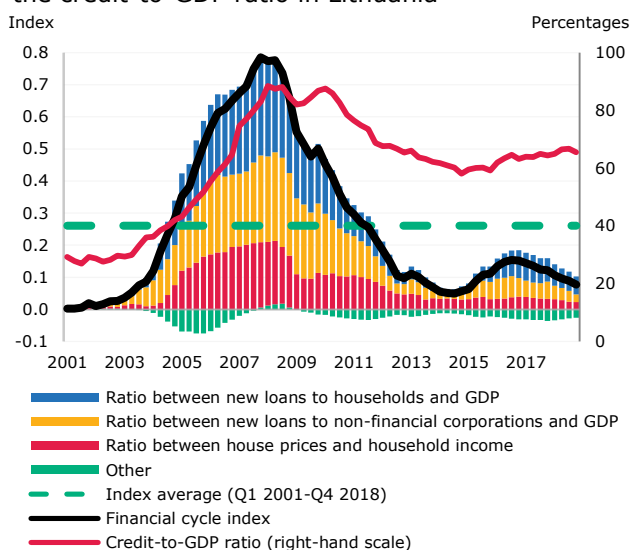
Chart 28. Annual growth in the housing loan portfolio in the first quarter of 2019
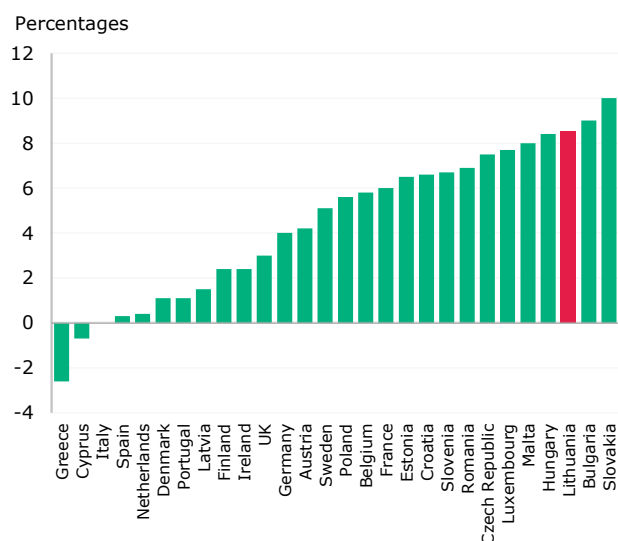
Source: Bank of Lithuania.

The financial cycle in Lithuania has started decelerating

Chart 29. Financial cycle index and the credit-to-GDP ratio in Lithuania

Sources: Statistics Lithuania and Bank of Lithuania calculations.

Bank credits have been recently contributing to the historical robustness of the RE market. In 2016-2018, banks increased the amount of new housing loans granted to households by ¼, on average, each year, while growth in market turnover nearly halved in the same period. Overall, the share of mortgaged housing deals has been increasing since 2012 and currently comprises 41.1% (55% in the country's most active market, i.e. Vilnius) (see Chart 30). Moreover, apartments account for a relatively larger share in Vilnius RE market and are bought with a mortgage more frequently than single-family homes.[28] Therefore, activity in Lithuania's RE market is not only historically high but also increasingly dependent on bank loans, in particular, in Vilnius. Against this background, it is becoming more likely that tightening bank lending conditions would set the currently booming RE market on a downward path, slashing house prices.

Increasingly more homebuyers acquire dwellings with a smaller down payment and a longer loan maturity. In the second quarter of 2018, the average down payment on a housing amounted to 18.8% and was the lowest since the pre-crisis period of 2007-2008 (see Chart 32). In recent years, the number of loans when the down payment approximated the minimum requirement of 15% has been increasing. According to the latest data, a third of loan takers paid a 15% down payment in the third quarter of 2018 (25% in 2014). The higher number of loans taken with a smaller down payment entails certain risks: should, in the case of an adverse scenario, house prices fall more than the share of the down payment, the household concerned would remain indebted to the bank even if it had returned the property pledged to the bank. In recent years, the maturity of new housing loans has been also increasing. According to the latest data, the average maturity of

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[28] According to the data of the surveys of commercial banks conducted by the Bank of Lithuania, in 2018 loans for single-family homes accounted for 11.7% of all housing loans granted during the year.

There have been more housing units acquired with a mortgage

Chart 30. Housing deals with mortgage

Thousand deals | Percentages

- Housing deals with no mortgage
- Housing deals with a mortgage
- Share of housing deals with a mortgage (right-hand scale)
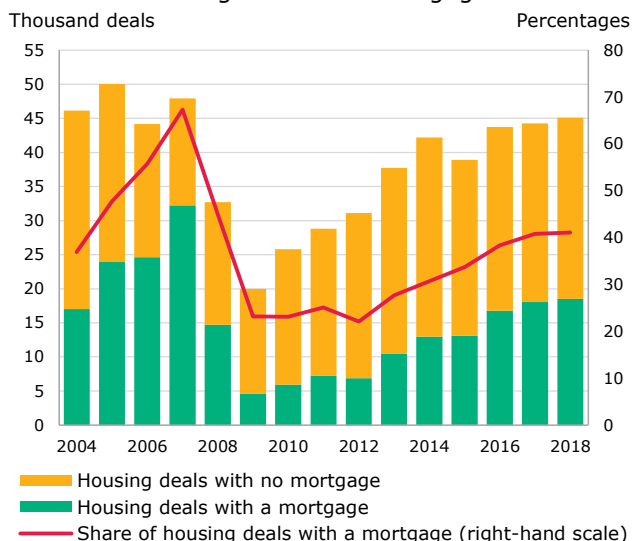
Sources: Centre of Registers and Bank of Lithuania calculations.

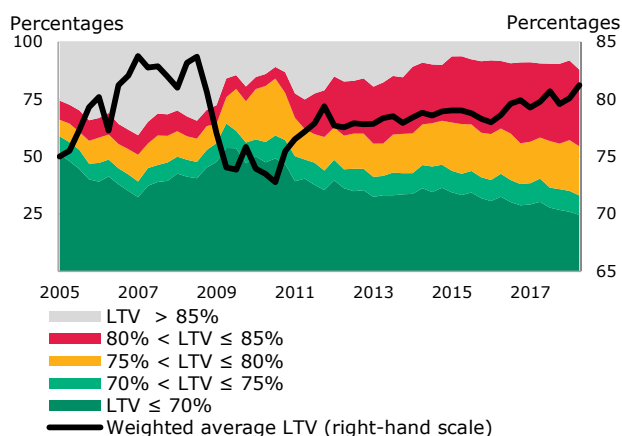a housing loan equalled 25.7 years in the second quarter of 2018 (see Chart 32). On a year-on-year basis, the loan maturity for housing deals was one year longer. There has been a marked increase in the amount of borrowers who took out loans for the maximum possible term: in the fourth quarter of 2017, 46.4% of borrowers were granted housing loans for the period of 25-30 years, a year-on-year increase of 4.2 percentage points. Such trends also stem from the fact that households have been more active in buying new housing, which is more expensive and requires larger loans (see Chart 32).

As the demographic situation in the country continues to deteriorate, in the coming years the number of first-time homebuyers and renters in Lithuania may significantly decline. The population aged 25-35 comprised the main bulk of new housing loan takers (around 50%). Moreover, the younger population also accounts for a significant

portion of the demand for rental housing. At the beginning of 2019, the number of young people – a key group of homebuyers in Lithuania – was declining for the third consecutive year. According to the European Commission's forecasts, the number of young people in Lithuania will continue on its downward path. Such trends might not only result in deceleration of growth in house prices, but also in subsiding investors due to reduced return on rent, which would in turn cut down housing demand even further.

There have been more borrowers paying the minimum down payment

Chart 31. LTV distribution

Percentages | Percentages

- LTV > 85%
- 80% < LTV ≤ 85%
- 75% < LTV ≤ 80%
- 70% < LTV ≤ 75%
- LTV ≤ 70%
- Weighted average LTV (right-hand scale)

Source: Bank of Lithuania.
Note: The share of housing loans with the LTV ratio exceeding 85%, which consists of refinanced loans and individual loans for housing construction (the loan is paid in instalments, indicating the total credit amount and value of the housing in construction).

The maturity of new housing loans has been increasing

Chart 32. Average amount and maturity of new housing loans

Years | EUR thousands

- Average maturity
- Average amount (right-hand scale)
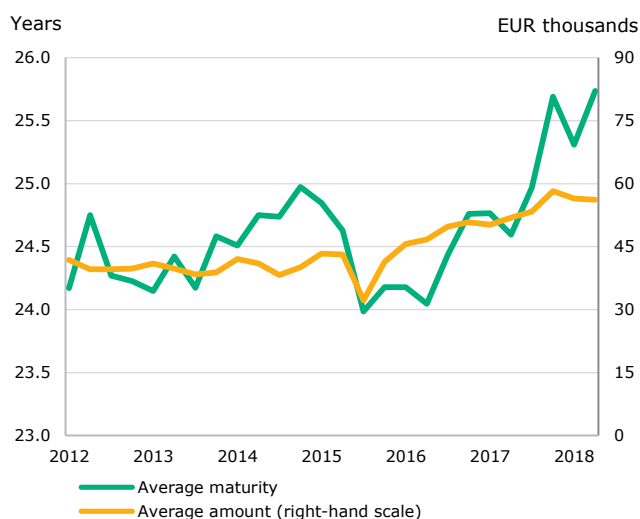
Source: Bank of Lithuania.

There have been increasingly more indications that the financial health of construction companies is deteriorating. In 2018, the share of non-performing loans granted to construction companies rose from 14.5% to 17.2% and was the largest among all Lithuanian economic sectors (see Chart 33). Furthermore, the share of companies facing financial difficulties increased from 14.3% to 15.0% in the construction sector, while in other sectors it was decreasing. According to the data of RE market participants, projects developed by less experienced companies account for an increasingly larger share in Vilnius new-build apartment market. Weaker demand, lower prices and difficulties faced by RE development companies in selling

completed apartments could lead to corporate solvency issues (this, in particular, relates to companies that have been active participants of the RE market for a shorter period of time and have not accumulated a sufficient working capital). At the end of 2018, the share of loans granted to construction and RE development companies in the corporate loan portfolio accounted for roughly a third of all corporate loans granted by banks operating in Lithuania. Consequently, banks that have granted loans to these companies might incur significant losses.

**The increased number of unsold housing units also adds to the vulnerabilities of RE development and construction companies.** With rising housing demand, the amount of unsold but completed new apartments has been recently increasing in Vilnius and Kaunas. According to market participant data[29], the number of unsold apartments in Vilnius amounted to 4.6 thousand at the end of 2018 (see Chart 34). In 2018, the number of unsold apartments in Vilnius and Kaunas increased by 7.9% and 82.8% respectively. They comprised, respectively, 40.6% and 48.4% of total new apartments registered in these cities over the year. On the one hand, strong RE market activity leads to believe that the accumulated apartments will be sold in the near future. Yet lower demand for new-build apartments could bring significant losses for RE developers, put downward pressure on house prices and add to a further decline in expectations. Surveys show that more than half of credit institutions noticed imbalances in Lithuania's RE market caused by the supply-demand mismatch. Both statistics on new construction permits and RE market participant predictions confirm that growth in housing supply should remain solid in 2019.

Stronger corporate financial interconnectedness might increase the risk of an unsustainable financial cycle. Higher inter-company lending increases the risk that a significant deterioration in the financial situation of some companies could cause disruptions in settlements with other companies, which in turn would also trigger financial difficulties for the creditors. Under this scenario, massive corporate insolvency would magnify the losses of the banks that had funded these companies, which could undermine stability in the country's financial system. In 2018, companies' liabilities to other corporates increased by 16.5%, or from 20.5% to 22.5% of the overall corporate financing structure. Inter-company lending is likely to only gain traction since bank lending conditions have recently tightened and companies accumulate more liquid assets that can be used for both investing and lending to other companies.

The volume of non-performing loans granted to construction companies has increased

Chart 33. Financial performance indicators of construction and RE companies

Percentages

Legend:
- Share of non-performing loans granted to construction companies
- Share of non-performing loans granted to RE development companies
- Share of failing construction companies
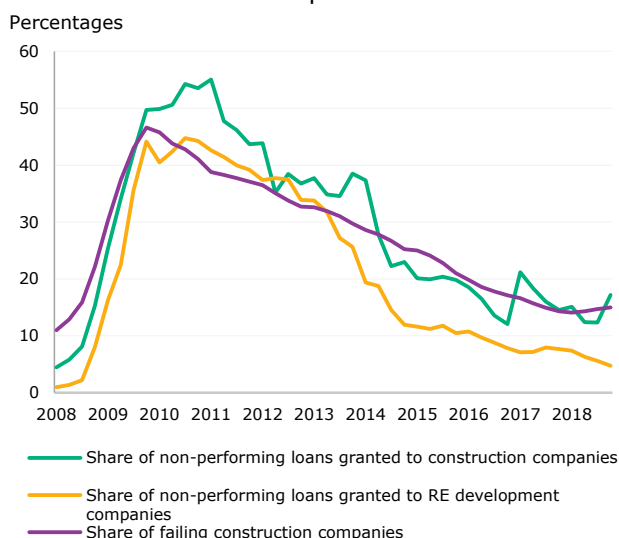
Source: Bank of Lithuania.

The share of unsold apartments in Vilnius has been increasing

Chart 34. Number of unsold apartments in Vilnius

Units (thousands)

Legend:
- Number of unsold apartments in Vilnius
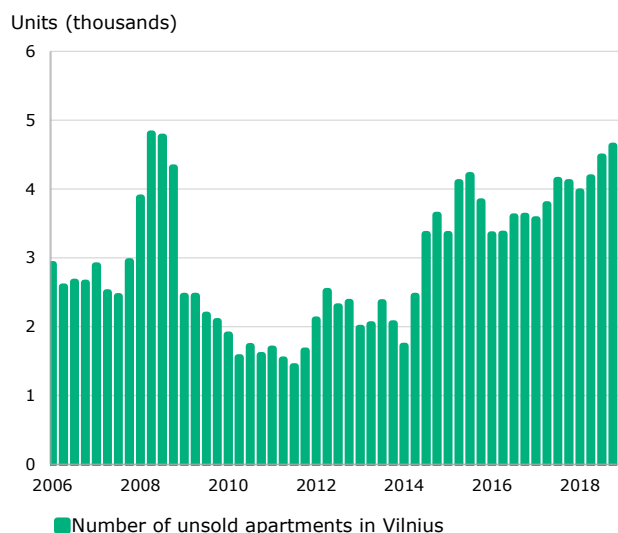
Sources: UAB Eika and UAB Inreal.

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[29] UAB Ober-Haus.

Box 3

FORECASTING THE IMPACT OF FINANCIAL IMBALANCES ON GDP GROWTH

In order to gain a thorough understanding of the significance of emerging financial imbalances, it is important to quantify the resulting risks to growth of the domestic economy. In their economic growth forecasts, institutions usually evaluate the most likely scenario of economic development. Although forecasts may suggest strong economic growth, imbalances may be still building up, increasing the risk of an economic downturn. In 2005-2007, many institutions forecasted that Lithuania's economy would continue to rapidly grow; however, the said forecasts did not reveal the rising risk of a sharp economic contraction. When analysing GDP growth, it is important to take into account financial imbalances building up in the country and other risk factors. This box presents the GDP-at-Risk (GaR) indicator[30], which allows quantitatively linking the level of financial imbalances with potential risks to economic growth.

GaR provides more information about the possible depth of the fall in GDP, should the adverse scenario materialise. This indicator is calculated using quantile regression[31]. It[32] shows the maximum likely fall in GDP to which the economy may be exposed due to a correction of financial imbalances with a given probability (for a chosen confidence level, e.g. 95%). When applying this method in practice, the usual assumption is that GaR depends on the GDP growth itself and the state of the financial cycle. Accordingly, this analysis is based on an analogous assumption that Lithuania's GaR depends on the GDP growth in Lithuania and Lithuania's financial cycle indicator.[33]

Lithuania's GaR indicates that the risk of an economic downturn increased rapidly, in parallel with widening imbalances in 2005-2007. On the other hand, currently imbalances are moderate, hence a potential fall in GDP due to their correction would be modest. In 2005-2007, the escalating imbalances contributed significantly to the build-up of risks to GDP growth (see Chart A). For example, in 2008, the worst 5th percentile of the real GDP forecast suggested that the economy could slump as low as 15%. In 2009, Lithuania's economy suffered roughly the same downturn. However, there are currently no signs of the formation of internal imbalances, and a possible economic slowdown due to internal imbalances is modest. In this regard, it is important to emphasise that an economic downturn could be triggered not only by the correction of internal imbalances, but also by various external factors (such as poor harvest, economic downturns in other countries, turbulence in international financial markets). In this analysis, the above is not taken into account for the calculation of the GaR indicator.

Notwithstanding its deficiencies, the GaR indicator may eventually become one of the key quantitative estimates of systemic risks, which could be used to assess the efficiency of macroprudential policy. In the case of Lithuania, the GaR indicator is calculated on the basis of the data from only one financial crisis. Consequently, the calculation of this indicator can take into account only a limited number of factors, which implies difficulties in assessing the impact of non-financial factors on the value of this indicator. Despite various deficiencies, the indicator can have a significant role in implementing macroprudential policy. One of the main macroprudential policy objectives is to decrease the build-up of systemic risks and thus ensure a sustainable contribution of the financial sector to economic growth. Indeed, the GaR indicator helps in quantifying the potential impact of various systemic risks on future economic growth.

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[30] The indicator was proposed by Adrian T., Boyarchenko N., Giannone D., *Vulnerable Growth*.

[31] Linear regression helps assess how the conditional mean of a dependent variable (GDP growth in this case) is affected by exogenous variables. Quantile regression helps obtain more comprehensive information on interlinkages, for example, making it possible to assess how the 5th or 95th percentile of GDP growth depends on exogenous variables.

[32] The indicator is closely linked to the value at risk (VaR), an indicator that is widely used in the financial field. VaR is the maximum amount of losses expected to be incurred as a result of possible fluctuations in the value of assets or liabilities over a given period of time with a given probability (for a chosen confidence level, e.g. 95% or 99%).

[33] These are the usual assumptions used to measure GaR; see, for example, Aikman et al., *Measuring Risks to UK Financial Stability* or *Financial Conditions and Growth at Risk,* IMF GFSR*,* Chapter 3*.*

Chart A. Expected real GDP growth distribution

Percentages
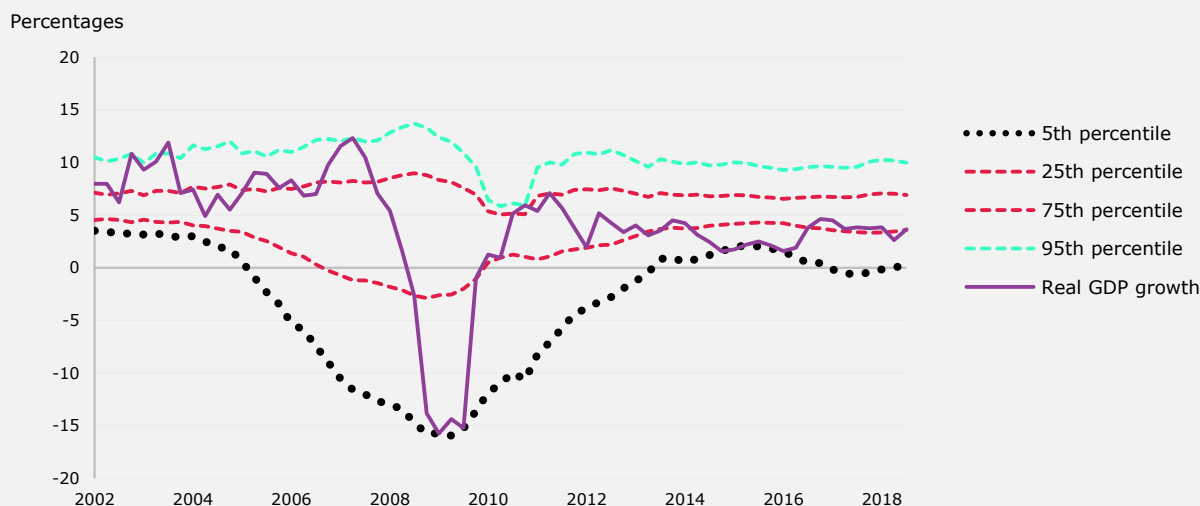
Source: Bank of Lithuania.
Note: At each point, the annual real GDP growth distribution is forecasted using data for the previous four quarters. The chart presents the 5th, 25th, 75th and 95th percentiles of the real GDP growth forecast.

CHALLENGES TO THE FINANCIAL SYSTEM: GLOBAL HEADWINDS AND LITHUANIAN EXPORTERS

The year 2018 saw a sharp increase in global uncertainty, which under adverse conditions could turn into an economic slowdown and expose Lithuanian exporters and their lenders to potential shocks. In 2018, all major global economies experienced a slowdown. Economic growth in Europe was not only stifled by trade wars, but also one-off factors disrupting production in the EU's largest Member States[34]. Economic activity might further weaken due to lingering uncertainty over Brexit, potential escalation of trade wars, and economic weaknesses in China. The consequences of the uncertainty concerning Brexit are already palpable in the UK: some companies are relocating their headquarters and part of their operations or employees to continental Europe, immigration flows are moderating, and investments are contracting. Following the Brexit referendum, sharp movements in the British pound and rising inflation had also been observed. By 2021, a no-deal Brexit, as compared to the soft Brexit scenario, would cut the EU's GDP by 0.6%.[2] In the context of trade wars, growth in the EU would also be dampened by the possible raise of tariffs on US imports. This is a likely scenario given that the US hiked its tariffs on Chinese exports in May 2019. In light of the above, Europe's Economic Policy Uncertainty Index increased in 2018. At the same time, investor expectations deteriorated, the cost of borrowing rose, and bank stock prices dropped (see Chart 35). Persistent adverse developments in the external environment would also weigh on Lithuania's export demand.

Were growth in trading partners' economies to deteriorate, Lithuania's financial sector would be adversely affected through links to the exporting sectors. Lithuania is one of the EU's top exporters (exports comprise 80% of GDP). This makes it sensitive to external changes, which would most quickly bear upon Lithuanian exporting companies. Loans issued by Lithuanian banks to the tradable sector account for around 10% of the entire portfolio of loans issued to the private sector. For the last several years, lending to export-oriented transport companies has been increasing at a rapid pace (see Chart 36). In addition, the GDP share of Lithuania's exports rose from 8% to 13%, while as many as 10% of all persons employed in Lithuania are recruited in the transportation and storage sector. The transportation sector is pro-cyclical in nature. It is therefore likely that weaker foreign demand could cut the number of orders, leading to corporate losses and
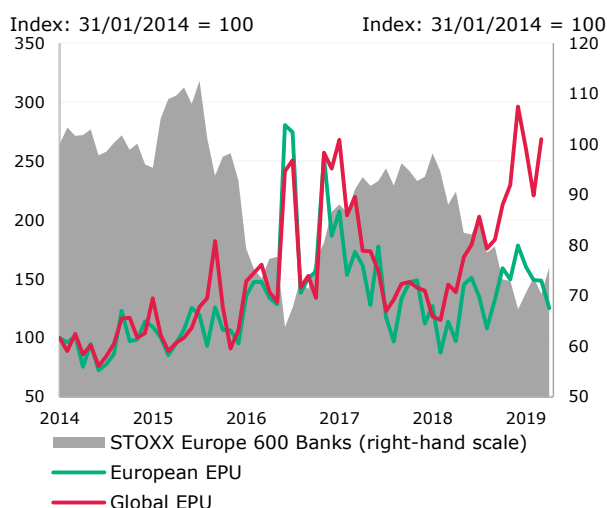
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[34] Changes in emission standards, causing problems in the German car industry, record-low water levels of the Rhine river after a drought, impeding the transportation of raw materials and goods in Germany, yellow-vest protests in France, political uncertainty in Italy.

[2] Based on IMF projections.

forcing companies to dismiss workers and reduce personnel-related costs. The introduction of the EU Mobility Package would cause further aggravation, as it would boost export costs. Under such circumstances, the volume of non-performing bank loans would rise, thus negatively affecting the Lithuanian financial sector. Bank lending to the transportation and storage sector still comprises a relatively small share of the total bank loan portfolio (3.2%), however, given the sector's growing importance to the entire economy, a potential shock could produce knock-on effects.

**Mounting uncertainty over economic policy raises the probability of financial market shocks**

Chart 35. Economic Policy Uncertainty Index (EPU) and stock prices

Index: 31/01/2014 = 100   Index: 31/01/2014 = 100

STOXX Europe 600 Banks (right-hand scale)
European EPU
Global EPU

Sources: SNL Financial and EPU.

Exports of transport services and their significance to the Lithuanian banking sector have increased

Chart 36. Share of bank loans to the tradable sector and exports of transport services

Percentages   Percentages

Share of bank loans to the tradable sector* (excl. the transportation and storage sector)
Share of bank loans to the transportation and storage sector
Exports of transportation services as a share of GDP (right-hand scale)
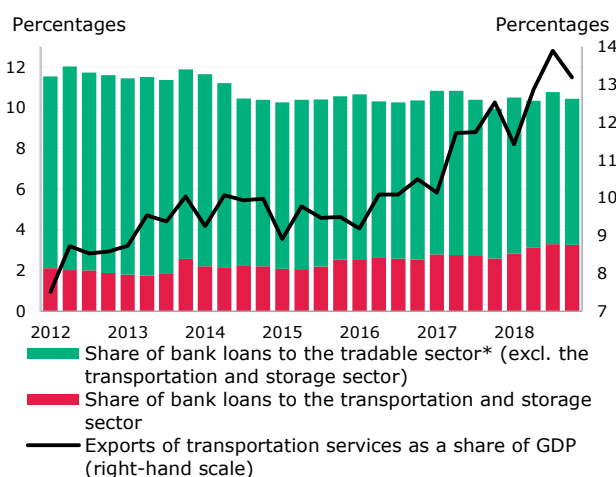
Sources: Bank of Lithuania and Statistics Lithuania.
* Agriculture, forestry, fishing, manufacturing, transportation and storage sectors.

STRESS TESTING
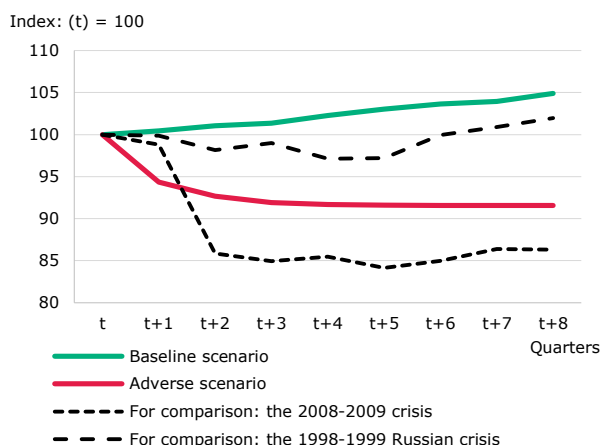
BANK SOLVENCY TESTING

The main purpose of bank solvency stress testing is to assess changes in the capital adequacy ratios of the domestic banking sector and its constituent banks[35] **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, thus the conclusions presented are conditional.

Stress testing was performed under an adverse scenario, which is calibrated to take into account business, RE market and credit cycles currently prevalent in Lithuania. The main assumptions underlying this scenario were as follows: 1) a slump in RE prices; 2) a decline in domestic demand and exports to foreign markets. As a result, Lithuania's real GDP would reduce by 6.1% in 2019 and 1.1% in 2020. The key macroeconomic indicators and their evolution under the stress test scenarios are presented in Chart 37 and the table below.

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[35] The following four banks were assessed: AB SEB bankas, AB Šiaulių bankas, Swedbank, AB, and UAB Medicinos bankas.

Under the cyclical adverse scenario Lithuania's GDP would be around 13% lower than under the baseline scenario

Chart 37. Lithuania's real GDP development under stress test scenarios and during economic recession

Index: (t) = 100

- Baseline scenario
- Adverse scenario
- - - - For comparison: the 2008-2009 crisis
- — — For comparison: the 1998-1999 Russian crisis

Sources: Statistics Lithuania and Bank of Lithuania calculations.
Note: t = Q4 2018.

Evolution of the key macroeconomic indicators under stress test scenarios

Changes in indicators
(percentages)

| Indicator	Actual indicator	Baseline scenario[36]		Adverse scenario	
	2018	2019	2020	2019	2020
GDP (annual change)	3.4	2.7	2.6	-6.1	-1.1
Exports of goods and services (annual change)	4.9	4.0	3.7	-9.2	-1.5
Private consumption expenditure (annual change)	3.9	3.9	3.6	-5.4	-1.3
Unemployment rate (annual average)	6.2	6.0	5.9	8.2	8.6
Wages (annual change)	9.6	8.1	6.7	-5.1	-2.2
Average annual inflation (measured by HICP)	2.5	2.4	2.3	1.2	-0.1
Housing price index (annual change)	7.4	5.1	7.0	-22.4	-4.7

Sources: Statistics Lithuania and Bank of Lithuania calculations.

Stress testing results show that the banking sector, as a whole, remains resilient to economic shocks. Under the adverse scenario, bank credit losses would amount to €582 million in 2019-2020, or roughly 4.4% of the total loan portfolio at the end of 2018. The weighted capital adequacy ratio would decline to 16.0% over the testing period (the difference from the baseline scenario would be -4.6 percentage points) (see Chart 38). One bank would fail to comply with the capital adequacy requirement by a small margin (see Chart 39). The least resilient bank would need approximately €0.2 million in additional capital to successfully complete the stress-testing exercise. Compared to the size of the banking sector, the capital shortfall identified during the stress test is not significant enough to pose risk to the sector's stability.

## The banking sector remains resilient to economic shocks

Chart 38. Banking sector's capital adequacy ratio by scenario

Percentages

- Modelling period
- Baseline scenario
- Adverse scenario
- Historical data
- Minimum capital adequacy requirement
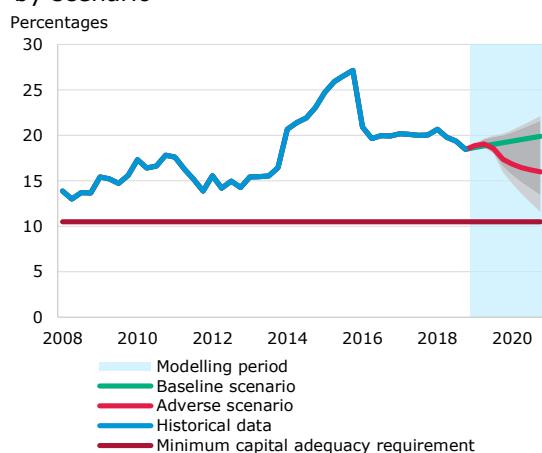
Sources: Bank-level data and Bank of Lithuania calculations.
Note: The capital adequacy ratio density under the adverse scenario is shown in the darker bars that correspond to 10/16/84/90 percentiles.

One bank would fail to comply with the capital adequacy requirement by a small margin

Chart 39. Dispersion of bank capital adequacy ratios under the adverse scenario

Percentages

- Capital adequacy ratio dispersion
- Minimum capital adequacy ratio requirement
- Weighted average of the capital adequacy ratio
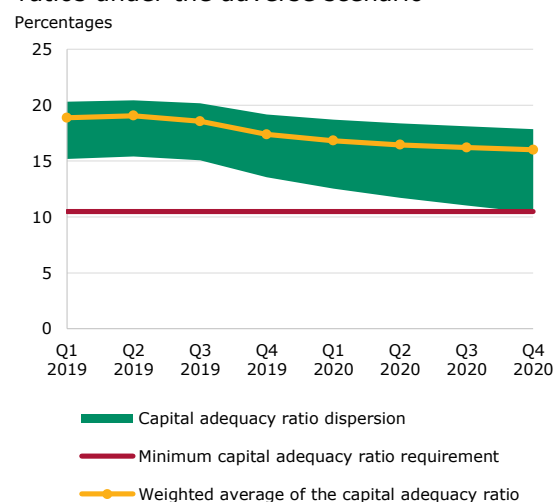
Sources: Bank-level data and Bank of Lithuania calculations.

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[36] The baseline scenario has been compiled using the official macroeconomic projections published by the Bank of Lithuania in March 2019. The scenario is used to assess sustainability of banking operations under the most probable economic situation.
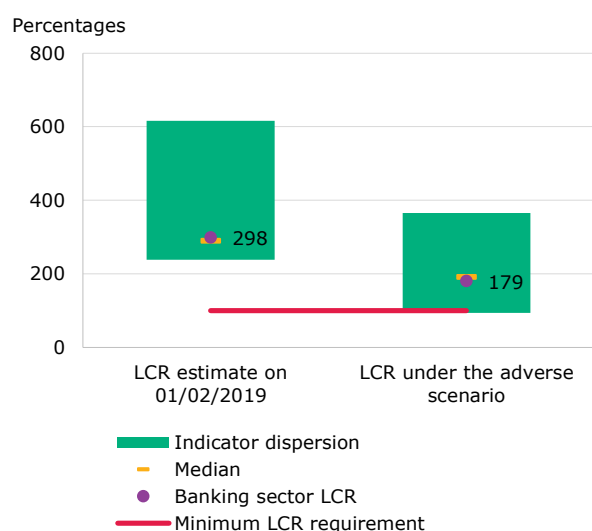
BANK LIQUIDITY TESTING

The banking sector is resilient to short-term liquidity shocks; however, the resilience of one bank is lower. 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 the cash inflows of banks.[37] In February 2019, the sector's actual LCR was 298%[38], yet under an adverse scenario it would fall to 179%; still, the banking sector would outperform the 100% liquidity coverage requirement with a considerable margin (see Chart 40). Nevertheless, the LCR of one bank would decline to 94%. Although the quality of its liquid assets is good, its liquidity buffer is not particularly large, whereas the overall sensitivity of liabilities to shocks is higher than the sector's average.

Banks would overall be able to cover a 26.4% decrease in deposits with liquid assets, however, their liquidity situation varies (see Chart 41). Results for individual banks fluctuate from 9% to 42%. For comparison: the largest monthly decline in deposits in the banking sector (6.2%) was recorded in October 2008, when depositors started to have doubts regarding the sustainability of one bank (deposits in the said bank dropped by 9.3%). Looking at individual banks, the largest unexpected decline in deposits over a month (28.7%) was registered in November 2008 in AB Parex bankas (currently – AB Citadele bankas), when its parent bank came into liquidity difficulties and the Government of Latvia had to provide financial support.

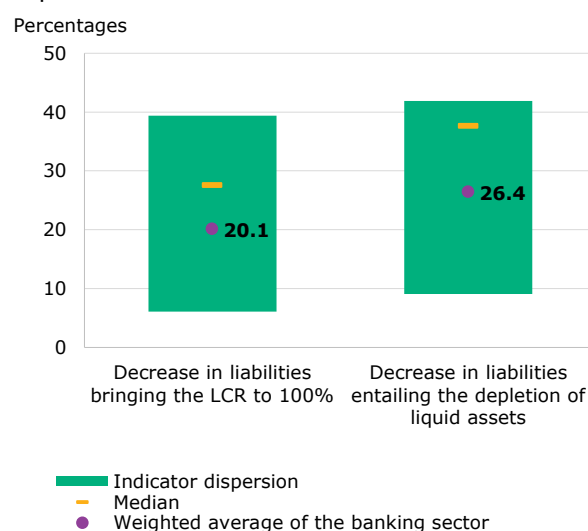|	
Should the adverse scenario materialise, one bank would fail to comply with the LCR requirement	**The banking sector would be able to cover a 26.4% decline in deposits, however, some banks have significantly smaller reserves of liquid assets**

Chart 40. Bank liquidity stress testing results

Chart 41. Decline in deposits that banks would be capable to withstand

Percentages

Indicator dispersion
Median
Banking sector LCR
Minimum LCR requirement

Source: Bank of Lithuania calculations.

Percentages

Indicator dispersion
Median
Weighted average of the banking sector

Source: Bank of Lithuania calculations.

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[37] Assumptions for testing bank liquidity are presented in the 2017 Financial Stability Review.

[38] The LCR is calculated as the ratio of liquid assets to net cash outflow. The LCR of banks operating in Lithuania is sufficiently high since the structure of bank liabilities and inflows is relatively stable. It should be noted that the main bulk of liabilities of banks operating in Lithuania consists of corporate and household deposits, which are considered to be stable liabilities.

III. FINANCIAL STABILITY STRENGTHENING

Under its macroprudential policy[39] mandate, the Bank of Lithuania has taken an active role in seeking to mitigate potential risks to Lithuania's financial system. The mandate held by the Bank of Lithuania allows imposing macroprudential policy measures to prevent additional risks to financial institutions as they expand the range of their activities, thus ensuring a stable and reliable functioning of the financial system (for more information, see Box 4). The Bank of Lithuania also performs regular assessments of the adequacy of the applied macroprudential policy measures and periodically reviews the applied capital buffer rates and instruments established in the Responsible Lending Regulations. In 2018, major changes related to macroprudential policy measures reflected the tightening of capital requirements (see Chart 42, respective decisions are discussed below). In the near future, the Bank of Lithuania plans to consider the feasibility of applying risk weights as a macroprudential policy measure and the need of such a measure in Lithuania. Furthermore, in view of recent developments in the use of macroprudential policy measures, the Bank of Lithuania reviewed its macroprudential policy strategy, supplementing it with provisions concerning the framework for the reciprocation of macroprudential policy measures applied by other Member States, as approved by the Bank of Lithuania in 2017, and extending the list of available (or currently applied) macroprudential policy measures. As regards the credit union sector, the legislation implementing the reform of the sector, which came into force on 1 January 2018, has contributed to further solidification of the goals and objectives of the reform.

Measures applied and constantly reviewed by the Bank of Lithuania improve financial stability

Chart 42. Macroprudential policy measures effective in Lithuania
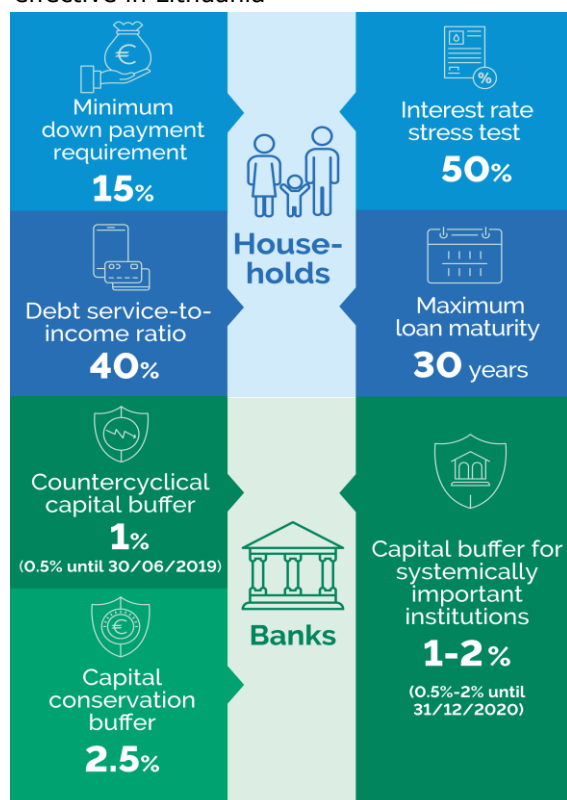
Source: Bank of Lithuania.
Notes: The debt service-to-income ratio may in exceptional cases (no more than 5% of new mortgage credit agreements concluded by credit issuers over the calendar year) amount to as much as 60% of sustainable revenue; the interest rate stress test implies that the debt service-to-income ratio shall not exceed 50% of sustainable revenue when the interest rate of 5% is used for calculations; the down payment for the second and subsequent loan should exceed 15%; capital buffer requirements apply to banks, central credit unions, and groups of central credit unions.

With the economic and financial cycle on an upswing, on 20 June 2018 the Board of the Bank of Lithuania took a decision[40] to strengthen the resilience of the banking system and raised the CCyB rate from 0.5% to 1%. Credit institutions operating in Lithuania must accumulate the imposed capital buffer by 30 June 2019. The capital buffer could be used for covering potential bank losses in case of a more significant shock to the economy or financial system or during the slowdown of the economic or financial cycle. As long as there are no imbalances forming in the financial system and economy, the consistent and gradual accumulation of the CCyB would most likely have a more mild effect on crediting and the real economy. It would also reduce the possibility that the CCyB accumulated prior to the change in the direction of the financial cycle would be too low.

Following the increase in the systemic importance of AB Šiaulių bankas, the bank was imposed a larger – 1% – other systemically important institutions (O-SII) buffer[41]. AB Šiaulių bankas must accumulate the additional buffer by 31 December 2020 (until then, the previously applied buffer requirement of 0.5% remains valid for AB Šiaulių bankas).

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[39] The main objective of macroprudential policy is to contribute to maintaining the stability of the financial system, including strengthening the resilience of the financial system and reducing exposure to systemic risk, to ensure that the financial sector's contribution to economic growth is sustainable.

[40] Resolution No 03-105 of the Board of the Bank of Lithuania of 20 June 2018 on the application of the countercyclical capital buffer.

[41] Application of other systemically important institutions buffer requirement in Lithuania, Working Paper Series of the Bank of Lithuania, 2015, No 7.

Following the review in 2018, the list of systemically important institutions remained unchanged, with the same four systemically important institutions identified. As in the previous year, the 2% O-SII capital buffer remained valid for the three largest banks in the country, namely, AB SEB bankas, Luminor Bank AB, and Swedbank, AB.[42] Moreover, the methodology for identifying systemically important institutions was adjusted: the ratio of debt securities outstanding was abolished, since these securities comprised a small share of all liabilities of the Lithuanian financial system (the aggregate amount in the overall financial system was barely €20 million – 0.06% of the total liabilities of the financial system).[43]

In April 2019, the amendments to the Capital Requirements Directive and Capital Requirements Regulation were approved. They will introduce more flexibility and clarity with regard to the application of macroprudential policy measures. The amendments to the Capital Requirements Directive shall be transposed to the Lithuanian law[44] within a period of no more than 18 months after the enactment of the Directive. The key amendments to the Directive in the field of macroprudential policy relate to capital requirements: Pillar 2 requirements shall be applied exclusively for microprudential supervision purposes (individual financial institutions), a change which will be partly compensated by added flexibility in the application of other capital requirements. For example, in terms of the Lithuanian banking sector, which is dominated by several banks, amendments related to the possibilities of a more flexible application of the O-SII buffer are highly important. In addition, the new provisions of the Directive will allow setting a capital buffer of up to 3% for institutions of national systemic importance (the capital buffer requirement is currently limited to 2%). Another substantial amendment is that the O-SII buffer and the systemic risk buffer will have to be used to address different risks, while the aggregate amount of these buffers shall not exceed 5%.[45] The systemic risk buffer may be used for sectors as well (until now, it could be exclusively used for all positions or domestic positions). This improves the ability to react to risks arising in certain lending segments (e.g. the segment of loans collateralised by residential or commercial RE) in a targeted manner. Finally, the legislative amendments introduce a leverage ratio requirement of 3%, which will be in effect in parallel with the minimum capital adequacy requirements.

Box 4

INCREASING SIGNIFICANCE OF FINANCIAL INSTITUTIONS AND RISK SAFEGUARDS

Both the Bank of Lithuania and its functions in the field of financial market supervision, regulation, and macroprudential policy have significantly evolved during the 10 years after the financial crisis. The tightening of the microprudential supervision requirements and reinforcement of the legal regulation of the macroprudential supervision and bank resolution framework have laid the conditions for a stable, reliable, and secure functioning of the banking sector. However, factors related to business risks and possible criminal activities will always exist in parallel. Through its bank supervision and decision-making system, the Bank of Lithuania seeks to identify the threats posed by banks and eradicate them in a quick and efficient manner, ensuring that the negative impact on the economy and the entire financial system is minimum.

Specific mandatory capital and liquidity requirements are established for all banks, irrespective of their size. Taking into account their inherent risks, banks might be also subject to additional requirements on capital, liquidity, and large exposures, as well as other microprudential supervision requirements. In addition,

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[42] On 2 January 2019, Luminor Bank AB, which had been operating in Lithuania, became the branch of the Estonia-based Luminor Bank AS, therefore, the previous O-SII capital buffer established by the Bank of Lithuania is no longer valid; however the entire Luminor Bank group is, on a consolidated basis, subject to the same-size – 2% – O-SII capital buffer established by the central bank of Estonia.

[43] The failure to remove this ratio from the applicable methodology would result in relatively significant distortions to the systemic importance of the financial institutions under review.

[44] These amendments will be made in parallel with the amendments to Resolution No 03-51 of the Board of the Bank of Lithuania of 9 April 2015 on the rules for the formation of capital buffers.

[45] The establishment of a combined buffer requirement exceeding 5% is subject to the approval of the European Commission.

banks must perform an annual stress testing against inherent risks[46] and prepare their business continuity and contingency plans. These requirements serve as certain safeguards that help ensure that banking activities are secure and reliable, banks are efficiently governed and their assumed risks are properly managed. Depending on the bank's business model and the type of licence it was granted, some requirements applied in the early stages of operation might be different. For example, lower initial capital requirements (€1 million instead of €5 million) are applied to specialised banks, which are allowed to provide regular banking services but have no right of providing investment and other financial services of a similar kind.

The larger and more important to the country's financial system a financial institution is, the stricter and more extensive its regulation. It is important to note that in carrying out the supervision of the Lithuanian financial market, the Bank of Lithuania follows the risk-based supervision model and directs its resources primarily to the financial market participants that are of a higher systemic importance or financial services and products that pose the highest risk to the stability of the financial system or consumers. Implementation of banking supervision takes into account the impact that major banks exert on Lithuania's economy and financial system: Lithuania's largest banks are subject to more stringent capital requirements, i.e. the additional O-SII capital buffer. This macroprudential measure is established at the end of each year in order to enhance the resilience of Lithuania's commercial banks of major systemic importance and discourage them from assuming excessive risks. In addition, banks of major importance must also be subject to the MREL requirement[47].

The increasing significance of a bank sets off additional safeguards, helping to ensure that the risk to the state budget is minimum. For instance, where a bank reaches the status of an institution of national importance, its supervision is handed over to the EU's Single Supervisory Mechanism (SSM), whereas the bank's resolution would be conducted in conformity to the rules of the Single Resolution Mechanism. One of the main objectives of the SSM is to ensure that banking supervision is consistent across all countries participating in the SSM. Lithuania joined the single supervisory system following its accession to the euro area in 2015. Currently, the ECB is directly responsible for the prudential supervision of the two largest banks[48] in Lithuania and the issuance of new banking licences.[49] Together with the ECB, the Bank of Lithuania carries out the supervision of these banks and applies uniformly high standards in relation to the supervision of less significant financial institutions in Lithuania. It is to be also noted that financial system regulation in the euro area is becoming increasingly more harmonious and is based on common regulation principles.

The Single Resolution Mechanism was created so that the banks of significance to the country's economy and financial stability would be resolved according to a pre-existing plan rather than liquidated. As a national resolution authority, the Bank of Lithuania, together with the Single Resolution Board – the central resolution authority of the euro area countries, helps to ensure an orderly resolution of failing banks performing crucial functions and to facilitate their continuous operation without state aid, thus mitigating any adverse effects on the economy. The risk assumed by a financial institution also determines the amount of the contribution to be transferred to the European Single Resolution Fund and the national Deposit Insurance Fund (DIF) – institutions with a higher bankruptcy risk pay larger contributions to the DIF than less risky financial institutions. Furthermore, there are also future plans for setting up a pan-European deposit insurance fund. In such a case, should it still prove necessary to use the funds of the national DIF, the losses incurred by a particular state would be markedly smaller.

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[46] Credit risk, liquidity risk, market risk, concentration risk, interest rate risk, and other related risks.

[47] MREL – the minimum requirement for own funds and eligible liabilities intended to ensure that there are sufficient own funds that a failing bank could use for loss absorbing or restoring capital positions.

[48] Luminor Bank AB, which had been operating in Lithuania, used to be classified as one of Lithuania's largest banks and was directly supervised by the ECB, yet following the reorganisation of the bank into a branch of the Estonia-based Luminor bank AS on 2 January 2019, its supervision is now carried out at group level.

[49] Having made a request to issue a banking licence and initiated the verification procedure of the documentation submitted, the Bank of Lithuania reports all data to the ECB. From that moment on, the Bank of Lithuania and the ECB evaluate in parallel the submitted documents, while the ECB takes the final decision on the issuance of the licence with respect to the opinion of the Bank of Lithuania.

In summary, it should be noted that, following the financial crisis, the banking regulation system has undergone substantial changes, the financial system has gained stability, and more attention has been paid to the supervision and regulation of the financial system as a whole. In turn, the elements of the banking union, i.e. the single supervisory and resolution mechanisms, are primarily oriented towards ensuring a reliable and secure functioning of the largest and most significant banks. As banks become greater in terms of size and importance, risks to the stability of the financial system increase, yet the likelihood of their materialisation is accordingly reduced by means of additional microprudential and macroprudential supervisory measures applied by the Bank of Lithuania, as well as the requirements related to the resolution of respective institutions.