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Kontakt/Contact

ZBW – Leibniz-Informationszentrum Wirtschaft/Leibniz Information Centre for Economics
Düsternbrooker Weg 120
24105 Kiel (Germany)
E-Mail: [rights\[at\]zbw.eu](mailto:rights[at]zbw.eu)
<https://www.zbw.eu/>

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LIETUVOS BANKAS
EUROSISTEMA

Financial Stability Review

2020

Country codes

AT	Austria	FR	France	MT	Malta
BE	Belgium	GB	United Kingdom	NL	Netherlands
BG	Bulgaria	GR	Greece	NO	Norway
CY	Cyprus	HR	Croatia	PL	Poland
CZ	Czech Republic	HU	Hungary	PT	Portugal
DE	Germany	IE	Ireland	RO	Romania
DK	Denmark	IT	Italy	SE	Sweden
EE	Estonia	US/USA	United States	SI	Slovenia
ES	Spain	LT	Lithuania	SK	Slovakia
EU	European Union	LU	Luxemburg		
FI	Finland	LV	Latvia		

Abbreviations

AB	public limited liability company
CCyB	countercyclical capital buffer
CDS	credit default swap
DSTI ratio	debt service-to-income ratio
EBA	European Banking Authority
EBITDA	earnings before interest, taxes, depreciation and amortisation
ECB	European Central Bank
EU	European Union
EURIBOR	Euro Interbank Offered Rate
GDP	gross domestic product
GHG	greenhouse gas
HICP	Harmonised Index of Consumer Prices
IMF	International Monetary Fund
LCR	liquidity coverage ratio
LIBOR	London Inter-bank Offered Rate
LTV ratio	loan-to-value ratio
MFI	monetary financial institution
MREL	minimum requirement for own funds and eligible liabilities
O-SII	other systemically important institution
SME	small and medium-sized enterprise
UAB	private limited liability company

The review was prepared by the Economics and Financial Stability Service of the Bank of Lithuania. It is available in PDF format on the Bank of Lithuania's [website](#).

The cut-off date for data used in the review was 1 May 2020, unless otherwise specified.

The analysis of the banking sector was based on consolidated data on banks operating in Lithuania, including foreign bank branches, unless otherwise specified.

The Financial Stability Review is also available in the EBSCO Publishing, Inc., Business Source Complete [database](#).

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SUMMARY

The outbreak of COVID-19 will deal a devastating blow to the economy and the financial system all across the world, including Lithuania, in 2020. Lithuania's economy will suffer the severest impact of the coronavirus pandemic in the second and third quarters of 2020. The recent economic forecasts released by the Bank of Lithuania suggest that the economic downturn under the baseline scenario will wipe 9.7% off GDP in 2020. Household income may shrink by 2.6% in the course of year and the unemployment rate may almost double.

Lithuania's financial system followed a sustainable path of development prior to the outbreak of the pandemic, but the economic downturn triggered by COVID-19 will affect all market participants. A significant number of undertakings have found themselves facing operational restrictions, lack of demand and liquidity challenges, which are further aggravated by extremely close financial interconnections among Lithuania's firms due to the use of trade credits and loans from other companies for business financing. With business coming to a halt, a large number of households have seen their income decrease, which dampens the demand for goods and services and gives rise to other knock-on effects, such as corrections in the real estate market and a deterioration in the quality of banks' assets.

Moreover, banks operating in Lithuania remain dependent, albeit on a much smaller scale, on a potential correction of imbalances in the Nordic countries, in particular Sweden. The debt of Swedish households has increased substantially over the past several years. Meanwhile, house prices continued to drive upward after a correction that took place in 2017. Hence the economic shock triggered by the unexpected outbreak of COVID-19 leads to a higher likelihood of a correction of these imbalances.

Nonetheless, stress tests indicate that banks operating in Lithuania are capable of weathering a significant economic downturn. An economic contraction of 9.7% would have a material impact on bank capital, yet the capital adequacy rate would still be well above the minimum requirement. Moreover, liquid asset holdings would put banks in a position to withstand a roughly 30% fall in deposits.

Strong resilience of banks operating in Lithuania is underpinned by the solid performance displayed by the banking sector over the past several years. The Lithuanian banking sector continued to outperform the banking industries of many EU countries in 2019. For instance, Lithuania was among the five EU countries with the best return on assets and on equity delivered by respective banking sectors. Even though bank profits shrank by approximately 6.5% in 2019 due to an increase in interest costs and a 10.6% surge in administrative costs, they nonetheless exceeded €330 million and were among the largest over the past four year years.

Credit provision decelerated in 2019, yet lending for house purchase remained active. Banks operating in Lithuania boosted their portfolio of existing loans at a rapid pace in 2019, while housing loans evolved into an increasingly important line of their business. However, the portfolio of loans issued by credit institutions to non-financial corporations contracted by 1.4% over the same period of time. Despite that, domestic businesses saw a rise in their financial leverage driven by funding from alternative sources, such as trade credits and loans extended by other firms. However, a spike in uncertainty triggered by the outbreak of COVID-19 will likely subdue credit growth in 2020. Recent data suggests that the portfolio of loans granted to non-financial corporations shrank by an annual 2.2% in March 2020.

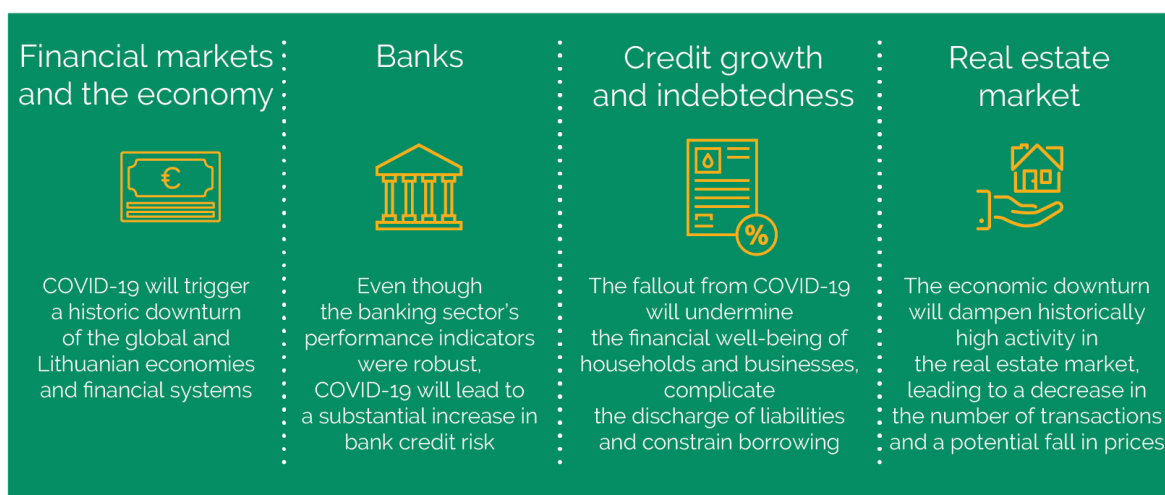
Lithuania's housing market reached high activity levels in 2019 against the backdrop of an overall positive economic situation, yet growth in sales recorded in early 2020 was overshadowed by a serious downturn in the housing market in March. Even though the number of housing transactions registered in 2019 rose by approximately 5% on a year-on-year basis and the new apartment markets of the country's biggest cities developed a particularly rapid pace of growth, the importance of credit for house purchase waned. The share of mortgaged house transactions decreased in 2019, as did the flow of new residential mortgages, expressed as a share of housing market turnover. With the economy in downturn and household income in decline, demand for housing credit will likely decrease as well.

The Bank of Lithuania has taken a proactive approach in terms of challenges faced by the financial system and the country's economy. The central bank of Lithuania has resorted to monetary policy, financial stability and consumer protection instruments in a bid to support households and businesses hit by the fallout from COVID-19. The aim of these tools is to ensure adequate credit availability for businesses and households. In March 2020, the Bank of Lithuania reduced the CCyB rate to 0%. Moreover, households and firms facing difficulties due to the impact of the pandemic have been offered an opportunity to defer their credit payments. In response to the current situation, the Bank of Lithuania has moved to reduce the regulatory burden on financial institutions *inter alia* by rescheduling planned inspections to later dates and adopting a more flexible approach towards accountability assessment.

RISKS TO THE FINANCIAL SYSTEM



THE FINANCIAL SYSTEM AND ITS OUTLOOK



STRESS TESTING



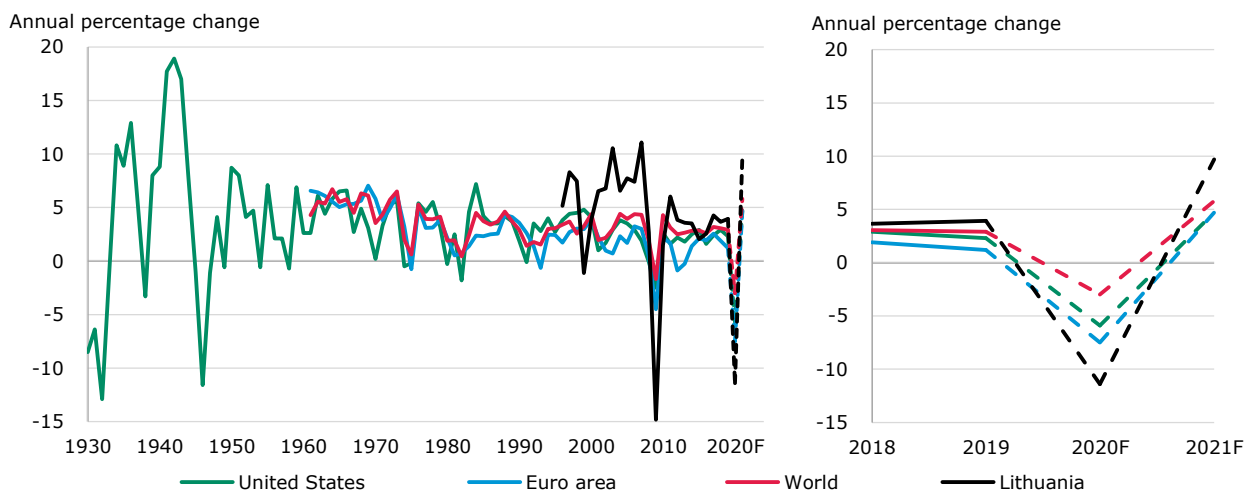
I. THE FINANCIAL SYSTEM AND ITS OUTLOOK

FINANCIAL MARKET AND ECONOMIC DEVELOPMENTS

In 2020, the global economy will suffer the steepest recession since the end of World War II due to the COVID-19 pandemic. According to the [IMF](#), the global economy expanded by 2.9% in 2019. The threat posed by trade wars and a no-deal Brexit that hanged heavy on global growth prospects faded, at least partly, in early 2020 following the signing of intergovernmental agreements (between the United States and China and the EU and the United Kingdom respectively). Nonetheless, the COVID-19 pandemic, which swept through the world in February 2020, and the ensuing economic restrictions are likely to trigger the biggest global economic downturn since the end of World War II. As the pandemic continued to unfold, the IMF revised its 2020 growth forecast for the global economy from 3% to -3% in April 2020 (see Chart 1). Advanced economies are likely to experience an even more severe downturn as GDP is projected to contract by 5.9% in the United States and by 7.5% in the euro area. The recession of such severity would far surpass the downturn seen during the global financial crisis a decade ago, when global GDP shrank by 1.7%, while US GDP would suffer the biggest annual decline since 1946.

In 2020, the global economy is likely to suffer the steepest downturn in more than 70 years

Chart 1. Actual and projected dynamics of GDP at constant prices



Sources: World Bank, IMF, St. Louis FED, Statistics Lithuania and Bank of Lithuania calculations.

Notes: 2020F and 2021F are the forecasts for 2020 and 2021 released by the IMF for US, euro area and global GDP, while Lithuania's GDP forecasts were produced by the Bank of Lithuania in March 2020.

The recent elevated growth of Lithuania's economy is crumbling, hit by a large economic shock, which will pose numerous challenges to the stability of the domestic financial system. The pace of Lithuania's GDP growth accelerated somewhat on a year-on-year basis in 2019 (following a 3.9% increase in 2018), underpinned by private consumption and stronger exports. Rapid wage growth (14.1%) continued to boost households' purchasing power and financial health. Despite the rapid increase in household lending, the household debt burden remained among the lowest across the EU, whereas net household financial assets, as a percentage of GDP, rose to 54.3% at the end of 2019, hitting the highest level since 2007. Nonetheless, the fallout from COVID-19 will trigger a huge shock to the Lithuanian economy as the country's GDP is projected to contract by nearly 10% in 2020. The effects of lockdowns imposed in foreign countries will lower the demand for goods and services of Lithuanian origin, the contraction of production will trigger a spike in unemployment levels, whereas wages may shift to a downward trajectory from the recent path of rapid growth. This will drive parts of population into financial hardships, yet the improvement in the ratio between the household net stock of financial assets and GDP, which has been observed for several years, means that households have built up sufficient resources (see Chart 3). The situation for firms is different, however.

Weaker demand will expose parts of non-financial corporations to difficulties with both liquidity and solvency. The position of businesses will be further aggravated by a decrease in net assets, as a percentage of GDP, which resulted from substantial growth of their financial liabilities in recent years.

The creaking international economy brought tremendous uncertainty to global financial markets.

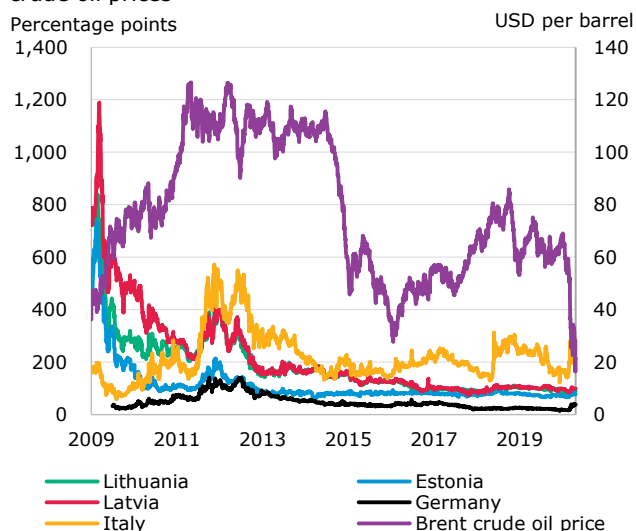
The stock markets of advanced economies lost nearly a third of their value in a rather short span of time in the first quarter of 2020, whereas risk premia for investment-grade corporate bonds rose by 0.8-2 percentage points. The outbreak of COVID-19 has also triggered an increase in sovereign borrowing costs, pushing up 5-year CDSs for Spain and Italy – European countries that were hit by the coronavirus the hardest – by approximately 100 basis points (see Chart 2). It should be noted, however, that an increase in borrowing costs for the Lithuanian government has been relatively small, as opposed to the entire EU or Central and Eastern European countries, which is likely to be due to a relatively small incidence of COVID-19 cases and the containable spread of the virus. Crude oil prices collapsed nearly threefold in early 2020 and the futures price of West Texas Intermediate (WTI) crude – the US benchmark – slipped into the negative territory for the first time in history in late April. On the one hand, such a fall in prices will add to the economic downturn in countries dependent on commodity exports. On the other hand, cheaper commodities will have a positive effect on countries, including Lithuania, where commodities represent a substantial share of imports: the fall in crude oil prices will boost competition in exports and drive down consumer spending, thus mitigating the fallout from COVID-19.

The economic downturn has triggered an increase in operational risks for banks, as shown by the interbank interest rates shifting to an upward trend.

6-month US dollar LIBOR and EURIBOR rates rose by 42 basis points and 25 basis points, respectively, in April 2020, from the trough reached in the previous month. The low interest rate environment, which has prevailed in recent years, encouraged businesses to issue bonds and turn to financial markets for financing needs, which will make it more difficult to refinance liabilities at a time of an economic shock. In general, if EURIBOR exceeded 0%, households and businesses would have to spend more to pay off their debts and have reduced access to borrowing, which, in turn, would dampen consumer spending and investment and aggravate the economic downturn.

The outbreak of COVID-19 has triggered a rise in sovereign borrowing costs and a slump in crude oil prices

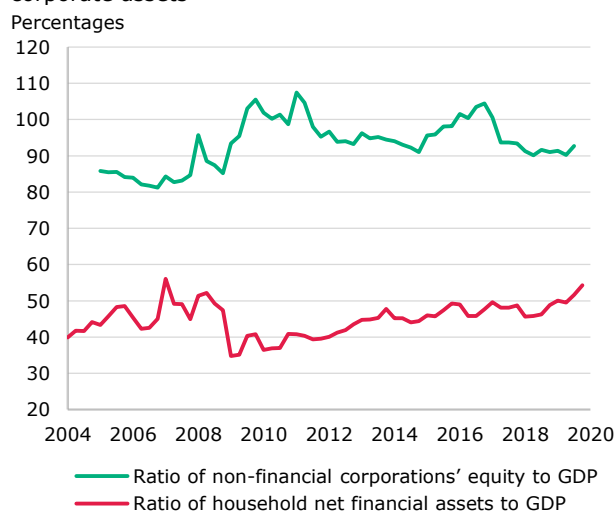
Chart 1. 10-year CDSs for euro area governments and crude oil prices



Source: S&P Global Market Intelligence.

Lithuania's households have been building up buffers, while firms have scaled up their liabilities

Chart 3. Performance indicators for household and corporate assets



Sources: Statistics Lithuania and Bank of Lithuania calculations.

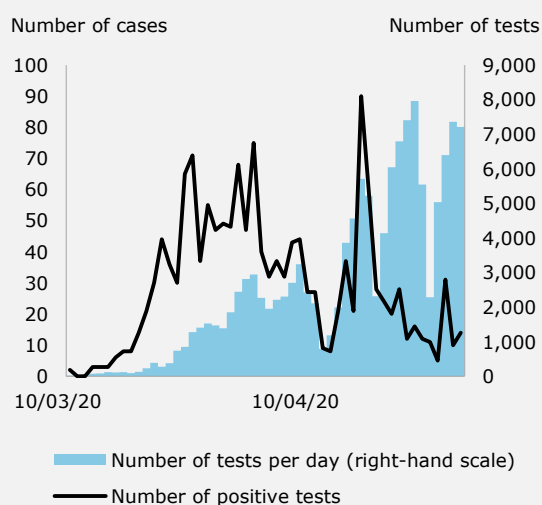
The central banks and governments of advanced economies have unleashed massive stimulus measures in a bid to mitigate the economic fallout from the outbreak of COVID-19. The US Federal Reserve has embarked on unlimited asset purchases, while its measures to secure financing for the private

and public sector will be equivalent to at least 12.2% of GDP in 2020. The Pandemic Emergency Purchase Programme (PEPP) announced by the ECB will match at least 6.3% of euro area GDP in 2020. Moreover, the ECB has included non-investment grade, or junk, bonds as eligible for purchases. The economic stimulus packages planned by governments have also been massive, equivalent to 11.5% of GDP in the United States and to at least 10.0% of GDP in the euro area as a whole. Meanwhile, the IMF has pledged to provide significant support to the governments of developing countries. Measures taken by central banks, governments and international institutions are likely to suffice to stave off a systemic global financial crisis, hence once the spread of the coronavirus is contained the global economy is expected to make a rapid rebound as early as in 2021.

Box 1. The effect of COVID-19 on Lithuania's economy: daily data signals the beginning of what might be the most severe economic downturn in Lithuania's history

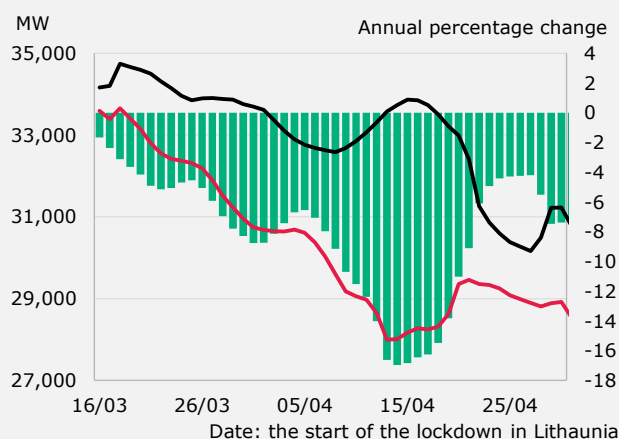
The implications of the COVID-19 outbreak, which emerged in early 2020, have already been reflected in Lithuania's economic and financial indicators. The coronavirus has spread all across the world after making its first appearance in China, triggering a downturn in the country's trade, manufacturing and services sectors. The first cases of infection in Lithuania – a small and open economy – were confirmed as early as in February, but their number surged in March (see Chart A). Due to the introduction of lockdown measures, a slump in external demand and a negative shift in business and consumer expectations, the COVID-19 outbreak is anticipated to hit Lithuania's economy with its hardest punch in the second and third quarters of 2020.

Chart A. New confirmed COVID-19 cases and the scale of testing in Lithuania



Sources: Ministry of Health of the Republic of Lithuania and Bank of Lithuania calculations.

Chart B. Electricity consumption



Sources: Litgrid AB and Bank of Lithuania calculations.
Note: 7-day moving average for daily data in 2019 and 2020.

A plunge in electricity consumption indicates that the historical slump in Lithuania's economic activity has already begun. Electricity consumption, which is one of the indicators for the level of economic activity, decreased by around 7% year-on-year in late April (see Chart B). Even though the fall in electricity consumption has apparently stabilised, its dynamics are certainly alarming, given that a 1% increase in GDP is estimated to entail a rise of 0.25-0.5% in electricity consumption during the upswing stage of the economic cycle.¹ Assuming that this elasticity is also symmetric during the downturn stage, the 7% fall in electricity consumption potentially signals an approximately 17% decrease in the output of goods and services in Lithuania.

¹ [Why electricity consumers have overtaken GDP growth.](#)

Recently, the number of jobseekers and people unable to find a job has been rising; the number of unemployed persons in 2020 will, at the very least, double compared to 2019. Hardships encountered by firms spill over onto households as well. The number of jobseekers in Lithuania increased by 130,000 (or more than 70%) between the introduction of the lockdown and the end of April, while the registered number of unemployed people increased by approximately 20% (see Chart D). The proportion of affected businesses in the total stock of corporates suggests that in the near future the unemployment rate will continue rising given that the accommodation and trade sectors (where COVID-19 has affected more than 80% of all enterprises) alone employed a workforce of about 250,000 in late 2019 (see Chart C). Growing unemployment leads to a weakening financial stance of the country's households. According to the latest Bank of Lithuania projections, household income will shrink by around 2.6% in 2020, while unemployment will almost double in size.

Approximately 40% of firms in Lithuania had their operations suspended or restricted as a result of the lockdown introduced by the government due to the outbreak of COVID-19. As of 6 May, the list of undertakings directly affected by the lockdown, which was compiled by the State Tax Inspectorate, included 55,300 businesses. In terms of economic activity, the lockdown has directly affected almost all firms engaged in accommodation and catering services, the vast majority of trade companies, and a somewhat smaller (more than 50%) but nonetheless significant share of enterprises in education, healthcare, arts, entertainment and recreational activities.

Chart C. Affected employed persons

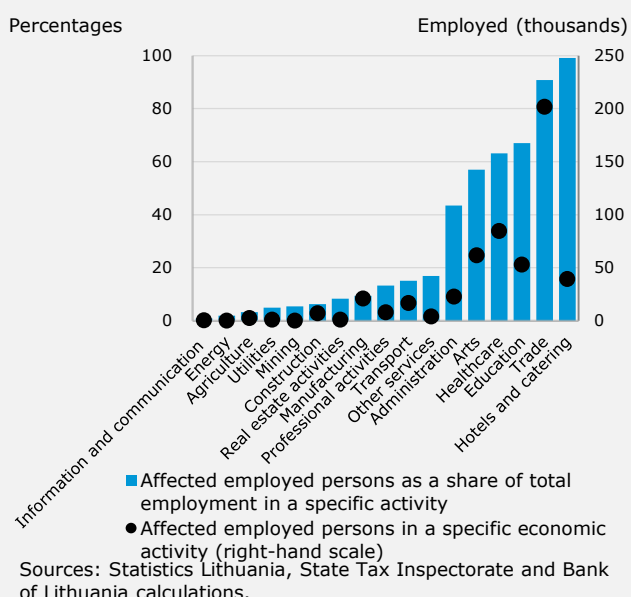
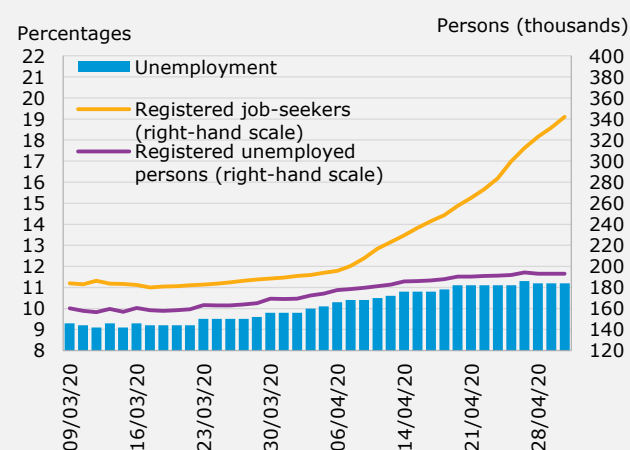


Chart D. Jobseekers, unemployed persons and the unemployment rate



Sources: Employment Services and Bank of Lithuania calculations.

Note: Jobseekers include the self-employed who have applied to the Employment Services for support, as well as workers in inactivity based on company reports.

BANKING SECTOR DEVELOPMENTS

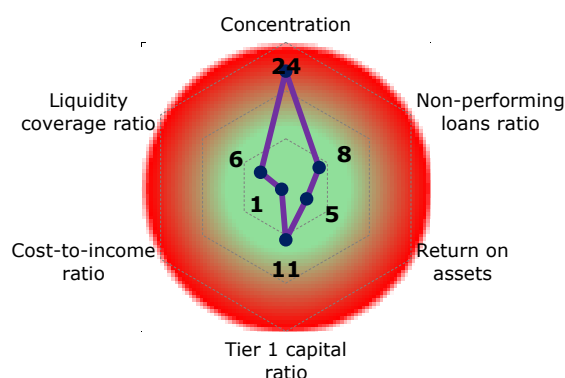
In 2019, Lithuania's banking sector continued to show strong performance in comparison to other EU countries. In the

current low interest rate environment, most banks in the EU faced difficulties in maintaining high profitability, whereas banks operating in Lithuania continued to show good results, with Lithuania's banking sector ranking among the top five best-performing banking sectors in the EU in terms of return on assets and return on equity (see Chart 4). High profitability was primarily driven by operating efficiency, as evidenced by the fact that Lithuania's cost-to-income ratio was the lowest in Europe. This indicates that banks operating in Lithuania have optimised their operations and do not have excessive structures, unlike in some major EU countries. On the other hand, concentration in Lithuania's banking sector was one of the highest. Under such market conditions high operating efficiency could imply lower availability of financial products, poorer physical accessibility of services, increased online provision of services and higher service prices.²

In 2019, Lithuania's banking sector was in good shape, yet concentration was one of the highest in the EU

Chart 4. Comparison of banking performance indicators in Lithuania and other EU countries (Q4 2019)

Place among EU countries



Sources: EBA, ECB and Bank of Lithuania calculations.

Notes: Concentration is measured by the Herfindahl-Hirschman index. Due to a lack of data, the chart shows concentration data for 2018. The green colour indicates where the Lithuanian indicator is better than most other EU countries, the red colour – worse.

The capital adequacy ratios of all banks operating in Lithuania have been improving, which will help banks to withstand COVID-19 related losses. The capital adequacy ratio of the Lithuanian banking sector has increased significantly compared to the 2008 financial crisis, which means that banks entered the current crisis being more resilient (see Chart 5). In 2019, the capital adequacy ratio continued to improve and stood at 19.9% at the end of the year. This was also underpinned by a further decline in average risk weights, which have continued on a downward path over the last few years.³ Banks' financial leverage also increased; however, their share of equity has remained high, exceeding the EU average. When the economy slips into recession, profits will undoubtedly contract, while higher credit risk is expected to lead to an increase in risk weights and a decline in capital adequacy ratios.⁴

Credit risk will increase significantly due to the COVID-19 pandemic. Lithuanian banks operate under the traditional banking model, where the loan portfolio accounts for 67% of bank assets, while the share of debt and equity securities and financial derivatives that are sensitive to market fluctuations is below 5%. This means that banks will be particularly exposed to credit risk as a result of the COVID-19 outbreak. In 2019, the share of non-performing loans in banks continued to decrease (to 1.7%), dropping to its lowest level since 2008 (see Chart 5). However, the crisis is likely to cause a significant deterioration in the quality of loans and an increase in the non-performing loan ratio. The largest increase is expected in the riskiest segments of corporate and consumer loans, as also seen during the previous crisis. A high level of non-performing loans

² For example, improvement in the efficiency indicator of Lithuania's banking sector in 2013-2018 was one of the highest in the EU, but the number of branches of credit institutions decreased by 33% (16% in the EU) and the increase in interest rates was one of the largest over the same period.

³ In a favourable economic environment, risk weights applied to loans by major banks operating in the country – which were calculated using the internal ratings-based approach – have declined in line with the decreasing credit risk on loans.

⁴ For banks operating in Lithuania to have more free capital to cover losses or grant new loans, the Bank of Lithuania relaxed the CCyB requirement, reducing the rate from 1% to 0% with effect from 1 April 2020. For more details, see Chapter III "Financial stability strengthening".

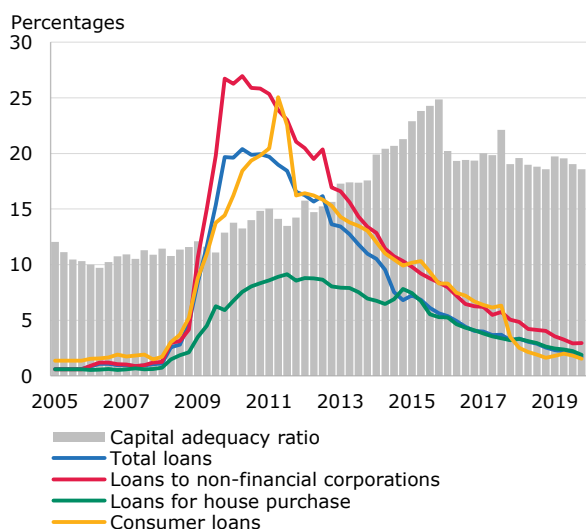
increases provision costs and squeezes banks' interest income, thus reducing their profitability results, lowering their equity level and undermining their ability to finance the economy.

Given the large share of loans to companies that are most sensitive to the impact of COVID-19, banks will face challenges brought about by their worsening financial situation. Most non-financial corporations were temporarily unable to carry out their normal activities because of the pandemic and the ensuing lockdown regime and may therefore run into difficulties in meeting their liabilities to banks.

Information in the Loan Risk Database shows that the total debt of businesses – those directly affected by the lockdown and included in the list published by the State Tax Inspectorate – to credit institutions has already reached €3.9 billion (43% of non-financial corporations' total debt, see Chart 6). The main bulk of this debt is owed by trade companies, yet still a considerable share is also attributed to real estate, administration and manufacturing companies, most of which were included in the State Tax Inspectorate's list as per their request. It should be noted that companies engaged in accommodation and catering activities as well as manufacturing, artistic, entertainment and recreational activities – which are all considered more sensitive to the effects of COVID-19 – were considered riskier even before the introduction of the lockdown. Such companies accounted for a larger share of non-performing loans in the overall portfolio, therefore, in the face of the crisis banks are likely to be more cautious about providing credit to these companies. Weaker economic growth and supply chain disruptions will also have negative effects on businesses that have not yet been included in the State Tax Inspectorate's list, thus, the share of bank loans to companies sensitive to the COVID-19 impact is likely to be even larger, which may significantly impair the quality of bank assets in the future.⁵

Banks' capital adequacy ratios have improved significantly since the previous financial crisis, while the share of non-performing loans has decreased

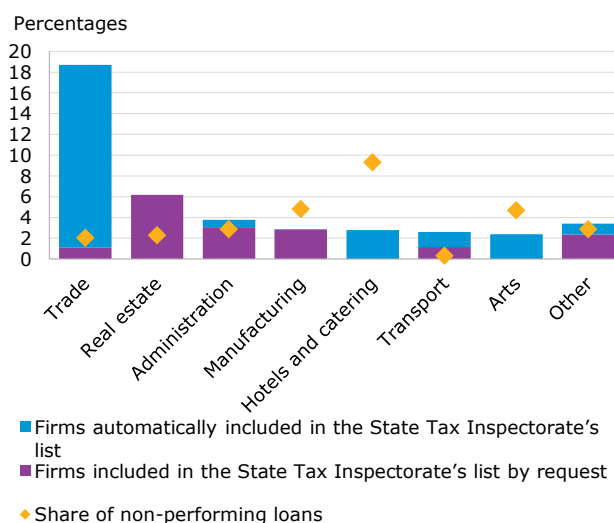
Chart 5. Non-performing loans by loan segment and bank capital adequacy



Source: Bank of Lithuania.

The largest amount of loans to companies directly affected by the lockdown is granted in the trade sector

Chart 6. Loans to coronavirus-affected businesses and the share of non-performing loans in banks' portfolio



Sources: State Tax Inspectorate, Bank of Lithuania and Bank of Lithuania calculations.

Notes: Loans to companies on the State Tax Inspectorate's list compared to the total stock of corporate loans. Based on the data of the State Tax Inspectorate's list for 7 May 2020. Data from the non-performing loan portfolio is for 2019. The names of some activities have been abbreviated.

In 2019, banks' profits remained high, although they will reduce in 2020 due to higher losses and declining income. Lithuania's banking sector maintained high profitability in 2019: although profits

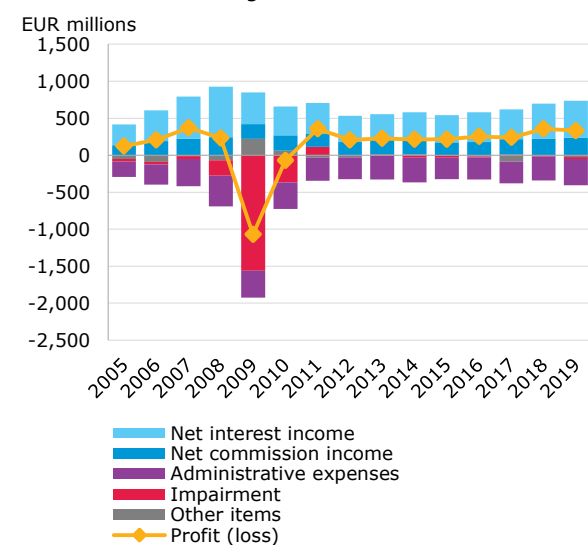
⁵ The corporate loan portfolios of the Lithuanian and EU banking sectors are compared in Chart 31.

contracted⁶ by 6.5% (to €332.7 million) compared to 2018, they were still 36% higher than the 2011-2017 average (see Chart 7). Nevertheless, the decline in profits was not caused by a contraction in net interest income and fee and commission income⁷ – the main income sources for banks – as they continued to grow, increasing by 6.9% and 4.1% respectively. Once the economy moves into recession, banks' profits will shrink as they will record higher loan impairments due to an increase in the stock of distressed loans and have to allocate more funds to cover losses, while declining credit supply will act as a drag on income. However, the profit structure is more sustainable with margins higher than before the previous financial crisis, whereas high profitability in the environment of sustainable credit provision is a sign of a healthy banking sector and will help banks to more easily absorb higher losses incurred due to COVID-19.

Having recorded fast growth, margins of corporate and housing loans stabilised in 2019. Margins for housing loans and corporate loans in Lithuania have been recently increasing,⁸ which coincided with higher concentration in the banking sector, especially in the housing loan market⁹. Lending margins stopped rising in mid-2019, with housing loans even showing a downward trend at the end of the year (see Chart 8). Margins started to stabilise as smaller banks became more active in the housing loan market: in terms of the monthly flow of new housing loans, the market share of the three major banks was 97.5% in December 2018, dropping to 88.7% in December 2019. Due to the COVID-19 outbreak lending for house purchase has recently declined and is likely to continue on its downward path in the coming months. Should banks' funding costs escalate or the credit risk of borrowers increase as a result of lower sustainability of income, margins for new loans could rise again.¹⁰

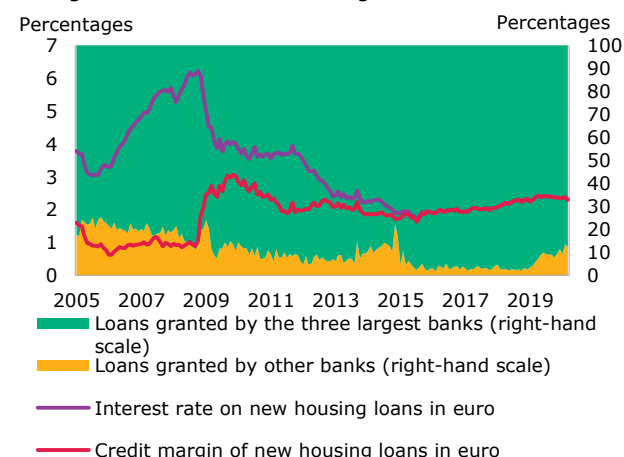
Albeit slightly declining over the course of the year, profits in the banking sector still remained high

Chart 7. Evolution of profits (losses) of the banking sector and contributing factors



Smaller banks became more actively engaged in granting loans for house purchase, while interest rates have stabilised

Chart 8. Monthly flow of housing loans by bank share and average interest rates on housing loans



⁶ Total profits declined mainly due to an annual increase of 10.6% in administrative expenses, which were driven up by higher personnel-related expenses and other administrative expenses relating to the reorganisation of two banks.

⁷ Net interest income is calculated by subtracting interest expenditure from interest income. Accordingly, net fee and commission income is obtained by subtracting fee and commission expenditure from fee and commission income.

⁸ For more details, see Box 1 "[Interest rates on bank loans grew in line with market concentration](#)" in the 2019 Financial Stability Review prepared by the Bank of Lithuania.

⁹ In response to the current situation, the Bank of Lithuania published a public consultation on enhancing competition in the housing loan market. For more information, see the Bank of Lithuania's [website](#) and Chapter III "Financial stability strengthening".

¹⁰ In a moratorium signed by credit institutions, it was agreed that the margins for restructured loans would not be increased. See Chapter III "Financial stability strengthening" and Box 3 "Government measures to mitigate the economic impact of COVID-19".

In 2019, resident deposits with banks continued to rise at a fast pace, while growth in the loan portfolio was subdued and is likely to weaken in 2020. Assets of credit institutions¹¹ grew by 7.1% (to €32.1 billion) over the year, yet the portfolio of loans to residents increased more modestly and reached 2.4%.¹² Banks continued active lending to households, more specifically, granting housing loans – the housing loan portfolio expanded by 37.1% over five years (see Chart 9). Meanwhile, the corporate loan portfolio grew by 16.2% over the same period, with a slight decrease (-1.4%) in 2019. Despite somewhat subdued growth in lending in recent years, the annual growth rate of resident deposits remained particularly robust, amounting to 11.9% in 2019 – deposits remained the main financing source for credit institutions. Over the last decade, the loan-to-deposit ratio decreased significantly from 208.0% (in 2008) to 92.4% (in 2019), which shows that loans can be fully financed with resident deposits and credit institutions are not thus dependent on funding from parent banks and their liquidity situation¹³.

Owing to a reduced risk appetite and more responsible lending, banks are now more resilient to shocks than a decade ago. Developments in the loan portfolio reflect, to a certain extent, lower risk appetite among banks, i.e. since 2009 the share of housing loans (which are considered safer) has increased, while the share of riskier consumer and corporate loans has contracted (see Chart 9). In the corporate loan portfolio, the largest decline was recorded in the segment of loans to SMEs, which was also reflected by declining flows of new smaller corporate loans in recent years.¹⁴ Better diversification of the loan portfolio increases the resilience of banks, making them less vulnerable to a deterioration in the financial health of any given sector. The lower level of loan risk is also reflected by a significant contraction of the share of housing loans with particularly high DSTI and LTV ratios and shorter housing loan maturity over the last decade due to a more conservative bank lending policy and the implementation of the Responsible Lending Regulations. These positive developments protect both borrowers and banks, as they ease the burden of debt on households and enhance their ability to meet liabilities during an economic downturn.

¹¹ Credit institutions include banks and credit unions whose assets are calculated on the basis of [MFI statistical reports](#); therefore, the values may differ from the [main indicators of banking activities](#) published on the Bank of Lithuania's website, which are calculated based on reports for supervision purposes.

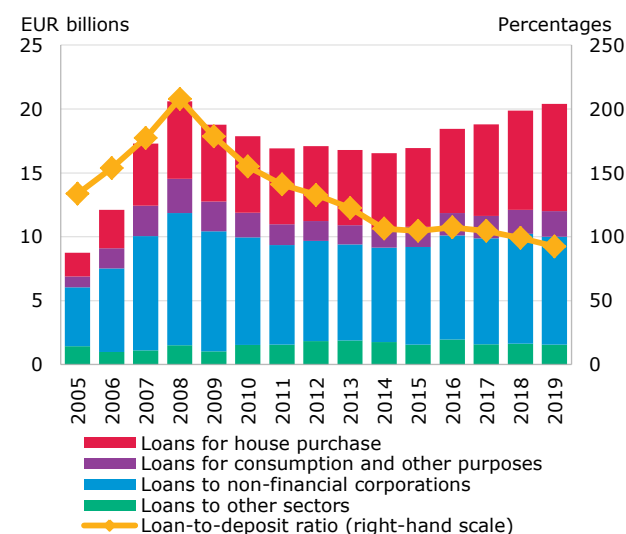
¹² Growth in assets was more so driven by the increase in the portfolios of loans to Lithuanian credit institutions and to other euro area residents, in the latter case mainly due to the transfer of the loan portfolio of Danske Bank A/S from the Estonian branch to the Lithuanian branch.

¹³ For more details, see section "Risk of a potential correction of imbalances in the Nordic countries amid high concentration in the banking sector".

¹⁴ For more details, see section "Credit developments and indebtedness".

In recent years, the housing loan portfolio has been growing the fastest

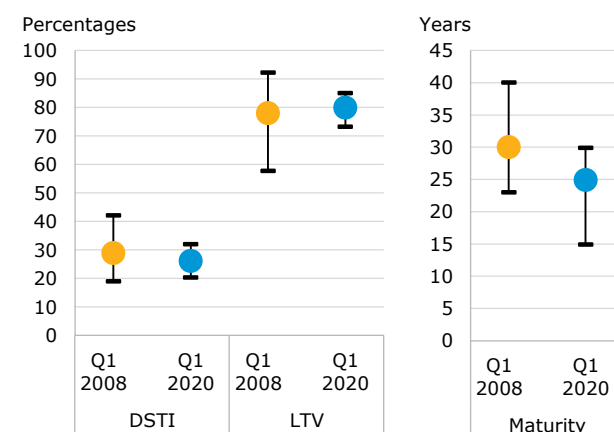
Chart 9. Loans to Lithuanian residents granted by credit institutions by sector



Source: Bank of Lithuania.

The level of new loan risk is lower than prior to the 2008 crisis

Chart 10. Comparison of medians and dispersion of risk indicators of new housing loans



Sources: Bank of Lithuania and Bank of Lithuania calculations. Notes: The yellow circle indicates the indicator median in Q1 2008, the blue circle – in Q1 2020. The black dashes indicate the 25th-75th percentile dispersion. Data are not directly comparable due to different databases and calculation methodologies.

CREDIT DEVELOPMENTS AND INDEBTEDNESS

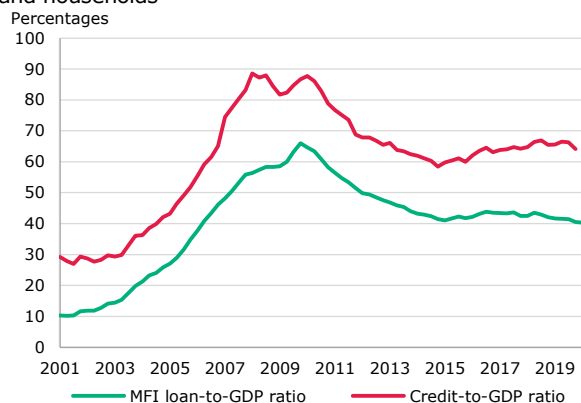
In 2019, bank lending to households was active, while businesses increasingly relied on funding through credit from other firms. At the end of the fourth quarter of 2019, annual growth of credit comprising all types of financing sources¹⁵ stood at 4.9%. Albeit moderating at the end of the year, credit volume grew at a rapid pace throughout 2019 in line with the country's economic development. As a result, the credit-to-GDP ratio remained stable, at 64.2%, while the ratio between loans granted by credit institutions¹⁶ and GDP even started to decrease and stood at 40.3% at the end of the first quarter of 2020 (see Chart 11). Such trends were led by the contraction of lending to non-financial corporations – in March 2020, the corporate loan portfolio posted a year-on-year decrease of 2.2% (see Chart 12). Credit institutions continued active lending to households. The annual growth rate of the household loan portfolio stood at 7.9%, supported by rapid growth in the housing loan portfolio, which amounted to 9.4%. General government institutions continued to reduce their financial liabilities to MFIs – their loan portfolio contracted by 10.7% over the course of the year, mainly due to the decrease in municipal debts to credit institutions.

¹⁵ 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.

¹⁶ Based on MFI data.

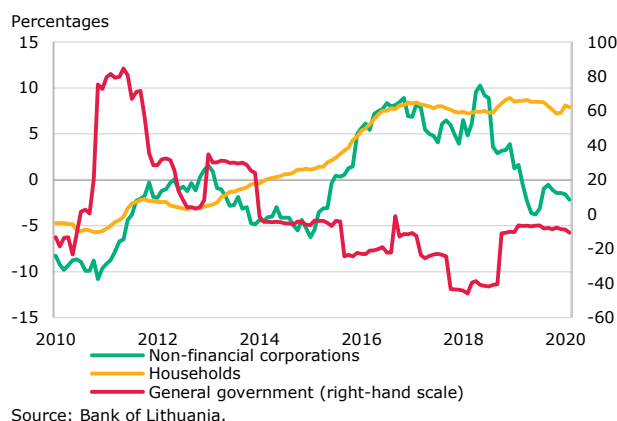
Credit growth in 2019 was in line with the country's economic development

Chart 11. Credit-to-GDP ratio of non-financial corporations and households



Lending to households has recently accelerated, while corporate lending contracted

Chart 12. Annual change in the MFI loan portfolio



Further credit provision may decline due to the impact of the COVID-19 outbreak. The nationwide lockdown introduced at the end of the first quarter of 2020 implies significant adjustments in lending trends observed so far. Due to increased risk,¹⁷ some stricter lending conditions and a lower value of newly-signed agreements were observed already in April (see Chart 13). The comparison of 8-week loan flows¹⁸ before and after the lockdown reveals that the value of new corporate loan agreements fell by 30%, of household loans for house purchase – by 30%, and of loans for consumption and other purposes – by 45%.

Growth in liabilities of both businesses and households in 2019 was driven by the favourable financial situation, but expectations about the future are turning gloomier. Prior to the COVID-19 outbreak and resulting restrictions, growth in corporate liabilities was underpinned by increases in production output and value added generated in the country. This, in turn, stimulated an increase in corporate income, which grew by 7% over the year, while profits¹⁹ rose even faster, by 11.7%. Household income was also rising rapidly (9.2%),²⁰ which contributed to the fact that the level of household indebtedness remained stable, even with significantly growing liabilities. Positive financial indicators also lifted consumer expectations; however, after hitting all-time highs, expectations started to weaken at the end of 2019, dipping further to a 10-year low in April 2020: the economic sentiment indicator dropped to -26%, while the consumer confidence indicator fell to -16%.

Surveys show that the share of rejected corporate applications for loans has increased in recent years, in particular in respect of smaller businesses. A survey conducted by the Bank of Lithuania in 2019 shows that about 60% of loan applications submitted by small enterprises (up to 10 employees) were rejected (see Chart 14). Respondents also claimed that the share of rejected applications from medium-sized enterprises was half as high, while applications from a vast majority of the surveyed large enterprises were approved. Even though smaller businesses often present greater risks and encounter more difficulties in accessing loans, surveys conducted by the European Commission reveal that the share of rejected corporate applications for loans in the EU was much lower than in Lithuania. For instance, in 2019 the share of rejected applications from enterprises with 1 to 9 employees in the EU was five times smaller than in Lithuania, accounting for just 12%. However, the proportion of rejected applications in terms of the size of the enterprise was the same: less than half of applications from medium-sized enterprises and only a few percent of applications from the largest ones were rejected.²¹

¹⁷ For more details, see Chapter II "Risks to the financial system".

¹⁸ Based on new data from the Loan Risk Database.

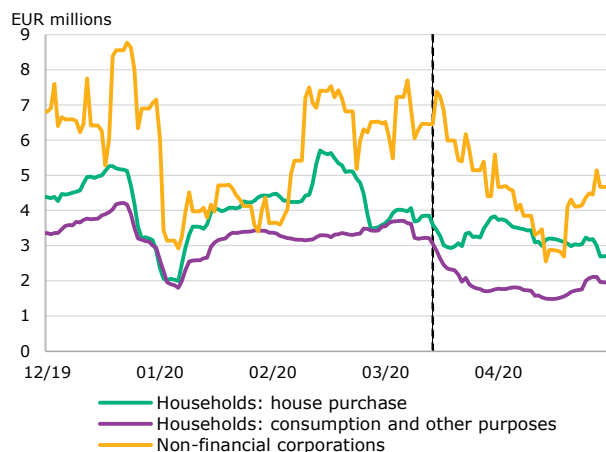
¹⁹ Earnings before interest, taxes, depreciation and amortisation (EBITDA).

²⁰ Based on data for Q4 2019 of Statistics Lithuania, domestic annual growth in gross wages, excluding sole proprietorships.

²¹ Based on the surveys on the access to finance of enterprises (SAFE) published by the European Commission.

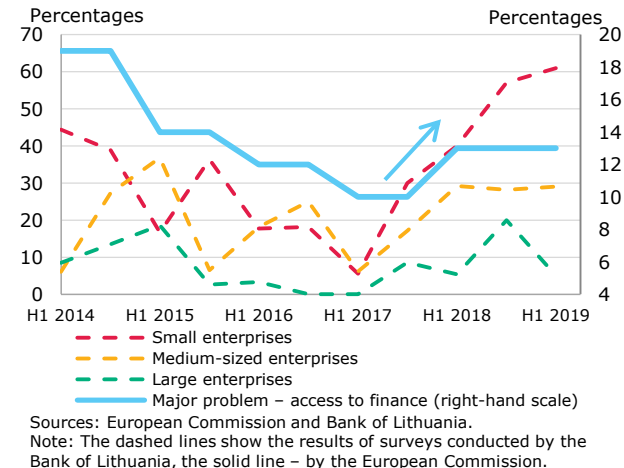
After the introduction of the lockdown, the flow of new loans has decreased significantly

Chart 13. Value of newly-signed agreements between credit institutions and the private non-financial sector (14-day moving average)



Since 2017, small enterprises have found it more difficult to access credit or change the terms of existing credit agreement

Chart 14. Changes in access to finance and the share of rejected corporate applications for a new loan or for changing the terms of existing credit agreement

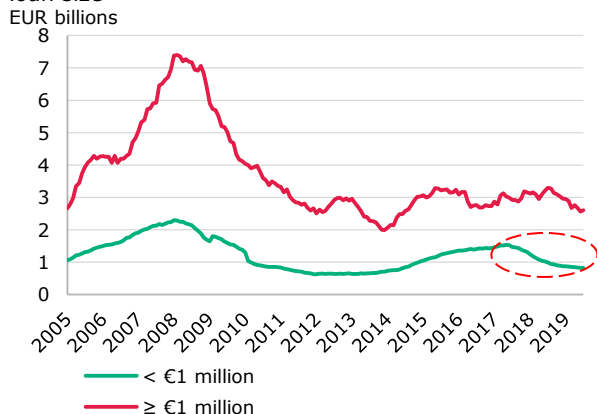


Bank lending for a shorter term and to smaller businesses has been subdued over the last few years.

At the end of 2019, the annual flow of loans up to €1 million, which are often granted to smaller businesses (including renegotiated loan agreements), decreased by 22.6% year on year (see Chart 15). The portfolio of loans to small enterprises has contracted by around 10% since 2018. The flow of loans exceeding €1 million decreased by roughly 6%, while the portfolio of loans granted to larger enterprises remained rather stable. Lending for longer-term investment is likely to have maintained momentum – corporate investment through bank loans followed an upward trend in 2018-2019. However, according to the data of Statistics Lithuania, businesses that have been active in the market for a longer period of time continued to make successful use of accumulated reserves, thus making about half of long-term investment with their own funds (see Chart 16).

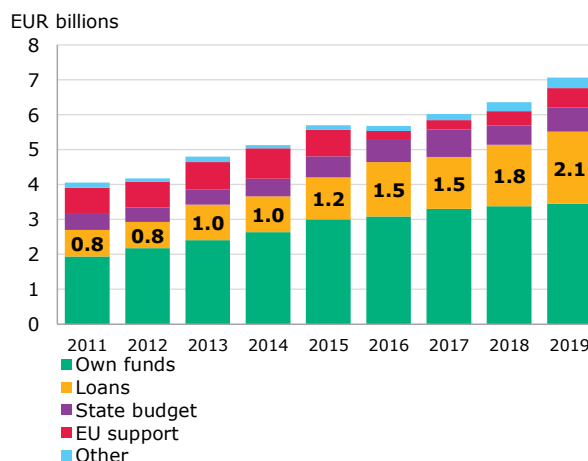
The decline in corporate lending is mostly attributable to decreasing financing through small loans

Chart 15. Flows of loans to non-financial corporations by loan size



Credit institutions remain active in financing corporate investment

Chart 16. Tangible investment by financing source



Although corporate borrowing decreased, the corporate financial leverage remained high (see

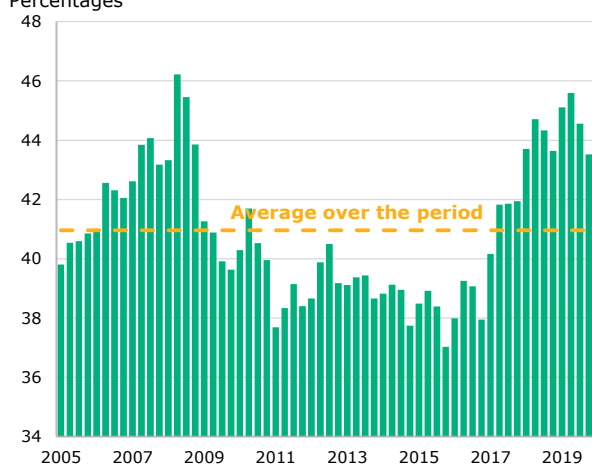
Chart 17). This means that businesses continued to fund their activities through other sources: financial accounts for the fourth quarter of 2019 show that the highest year-on-year increase in long-term funding came from foreign funding (€215 million, or 8%), loans from other non-financial corporations (€154 million, or 11%) and bonds (€138 million, or 13%). Short-term funding came mainly from other non-financial

corporations (€134 million, or 5%). Businesses having a strong need for working capital are likely to recourse to trade credit, which increased by roughly €264 million (3%) over the year. Liabilities to other non-financial corporations accounted for the main bulk of the increase in other short-term payables (€662 million). Consequently, due to the economic recession caused by COVID-19, those businesses that have not accumulated their own liquidity reserve but have a number of short-term liabilities or corporate interconnections may face difficulties.²²

In 2019, most loan portfolios contracted. Overall, corporate lending decreased by more than 2% (see Chart 18). Some of the loan portfolios of the largest corporate segments (real estate and manufacturing) expanded by, respectively, €97 million (5%) and €37 million (1%) over the year. On the other hand, the trade sector reduced its debt by €232 million (11.6%). This can be attributed to individual large transactions. However, operations in the trade sector were overall profitable in 2019, with the EBITDA margin standing at about 4.4%. Thus, the time was possibly right for smaller trade companies to pay off some of their debts as well. To survive the downturn in 2020, most companies will likely dip into their reserves and start borrowing money to cover working capital needs and current liabilities. Moreover, the need for investment funds may be considerably weaker.

Corporate indebtedness has recently increased

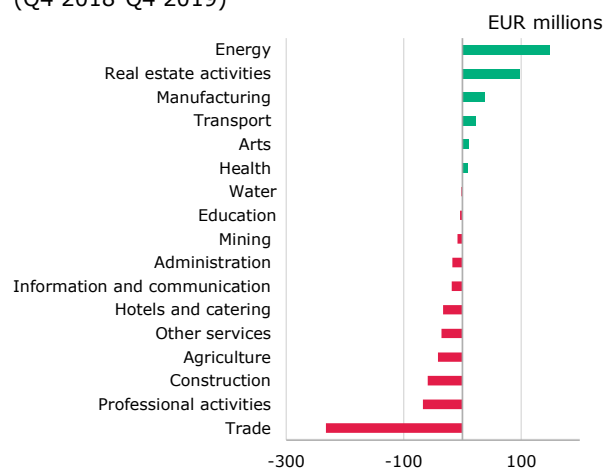
Chart 17. Liability-to-asset ratio of non-financial corporations
Percentages



Sources: Statistics Lithuania and Bank of Lithuania calculations.

The loan portfolios of trade activities have contracted the most over the past several years

Chart 18. Change in the corporate loan portfolio
(Q4 2018-Q4 2019)



Source: Bank of Lithuania.

Note: The names of some activities have been abbreviated.

In recent years, lending for house purchase accelerated across Lithuania; however, the introduction of the lockdown and heightened uncertainty should somewhat adjust these trends. At the end of March 2020, the annual growth rate of the portfolio of housing loans²³ stood at 9.4%, the fastest pace recorded since the 2008 financial crisis. The annual flow of real new housing loans²⁴ increased at a more moderate pace (4%), yet it was still strong in March, amounting to nearly €1.4 billion. Following the introduction of lockdown restrictions in March, the flow of new housing loan agreements increased by 4.8% (see Chart 20). In 2019, 45% of all new housing loans were granted in Vilnius, albeit the housing loan portfolios expanded in all regions.²⁵ The effect of the COVID-19 outbreak in the housing loan market should become tangible a bit later given that lending flows after several weeks following the introduction of the lockdown reflected provisional housing loan agreements. Amid rising uncertainty and the worsening financial situation of households, credit demand is subsiding. Credit institutions are also likely to become more cautious

²² For more details, see section "Risks brought by the COVID-19 pandemic".

²³ According to MFI data.

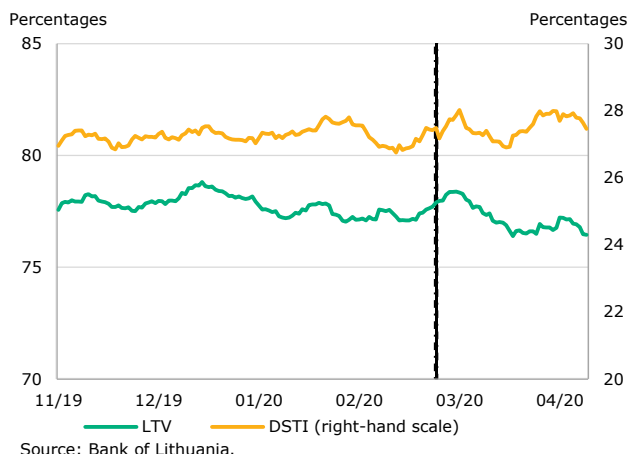
²⁴ Real new loans include agreements that specify, for the first time, the loan terms and the share of loans increased as part of the revision of agreements.

²⁵ Also including large cities.

about new housing loans – there has been movement towards somewhat stricter LTV requirements already in April (see Chart 19).

Following the introduction of the lockdown, lending conditions have remained largely unchanged, while the LTV ratio somewhat decreased

Chart 19. Averages of LTV and DSTI ratios of housing loans



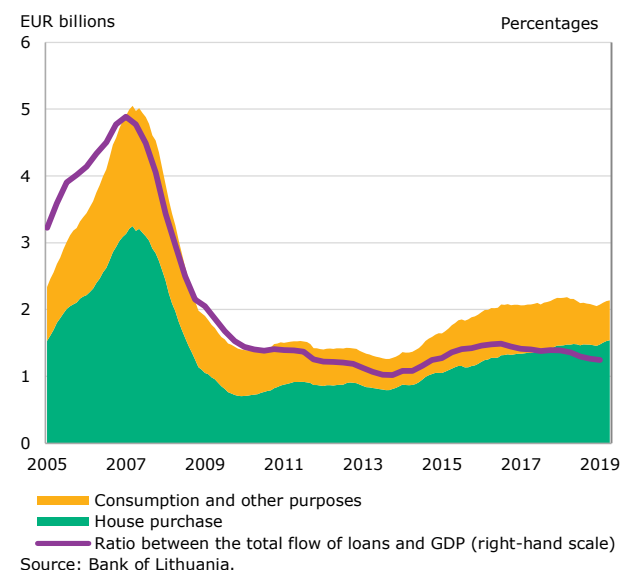
In 2019, households were active in borrowing for consumption purposes, especially from non-bank lenders; however, following the outbreak of the COVID-19 pandemic, provision of new loans has declined considerably. The

value of new consumer loans granted by non-bank consumer credit providers amounted to €520 million in 2019 and accounted for a 25% increase in the portfolio. The average value of loans increased by 20% over the course of the year. On the other hand, consumer lending by banks was more reserved – the value of MFI consumer loans amounted to €263 million in 2019, whereas the annual growth rate of the portfolio stood at 11.9%. Moreover, the volume of loans granted by credit institutions for other household purposes (mainly to sole proprietorships) started to decline. The annual flow of such loans contracted by slightly more than

20% over the year. The flow of new consumer loans has noticeably decreased after the lockdown (see Chart 21). In March 2020, new consumer loans contracted by 28% year on year.

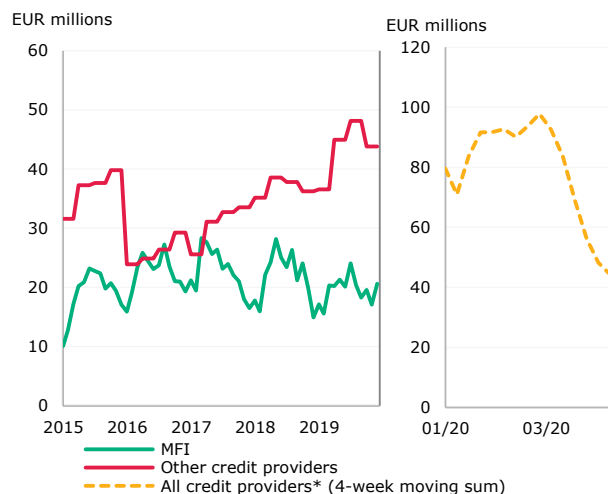
Household crediting prior to COVID-19 was on the upturn, but, unlike in 2008, it grew in line with economic activity

Chart 20. Annual flow of new MFI loan agreements with households



Following the introduction of the lockdown, the volume of new consumer loans has decreased

Chart 21. Monthly flow of new consumer loans



Note: * – the latest data from the Loan Risk Database covers new consumer loan agreements between MFIs and the majority of other consumer credit providers, including credit card credit, and part of loans for other purposes.

Box 2. Climate change challenges to financial stability

The fast-paced climate change prompted countries worldwide to join forces and take decisive action to combat global warming. In December 2019, EU countries²⁶ set a target of transitioning to a climate-neutral economic model by 2050, i.e. an economy with net-zero greenhouse gas (GHG) emissions, through the implementation of the [European Green Deal](#). While some of intermediate stages for implementing the European Green Deal have been postponed due to the COVID-19 pandemic, the fight against climate change remains an important long-term strategic goal in the region. The resulting impact on the financial system will depend primarily on the policy measures taken to fight climate change. To achieve the set goals, it is essential to develop a common framework for different economic policy areas, combining fiscal, monetary and macroprudential policies in a complementing way. To effect changes, Lithuania will need to make targeted use of the [European Green Deal Investment Plan and Just Transition Mechanism](#), including the [Just Transition Fund](#) (under which €97 million is earmarked for Lithuania over the period of 2021-2027), as well as attract private green investment.

Climate change has implications for financial stability due to more frequent natural disasters (physical risks), transition to a climate-neutral economy and changes related to the GHG emission reduction (transition risks). Physical risks are associated with increasing losses due to the consequences of temperature changes, storms, rainfall or drought. The increase in such risks has direct consequences for insurance activities, thus affecting decisions of insurance companies on the level of their risk appetite. Borrowers (households, corporates or public sector entities) may also suffer financial damage due to natural disasters, which might spill over onto credit providers. The transition to a climate-neutral economy will require significant changes in all or at least some GHG-intensive firms.

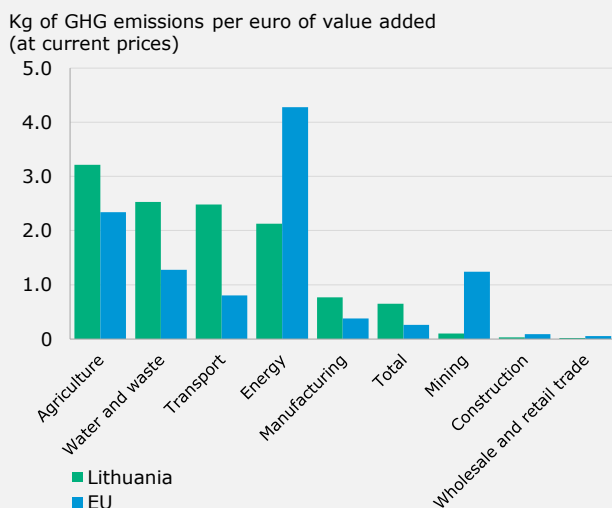
GHG emissions per capita in the Lithuanian transport sector are three times above the EU average and represent almost 40% of all GHG emissions in Lithuania, albeit generating relatively lower gross value added (see Chart A). In Lithuania's transport sector, the ratio of GHG emissions to gross value added is 2.5 kg of GHG per euro, while the EU average is 0.8 kg. A similar trend is also observed in the agricultural, water and waste, and manufacturing sectors. To mitigate climate change in Lithuania, the European Commission highlighted the importance of reducing the dependence of its transport sector on fossil fuels.²⁷ As regards Lithuania's energy sector, it should be noted that its GHG emissions per euro of gross value added are almost twice below the EU average. Such a high EU indicator reflects particularly large GHG emissions and the use of coal for heating in some EU countries. Overall Lithuania's economy is nearly twice as energy-intensive as the EU average. It is therefore essential for Lithuania to prepare in advance for the transition to a climate-neutral economy so as to minimise the negative effects on economic development and the stability of the financial system.

Loans to the two more polluting sectors – transport and manufacturing – account for nearly 25% of the corporate loan portfolio (see Chart B). Credit risk and respective mitigation measures should correlate with the individual situation of each company rather than a particular economic activity. For instance, a transport company using electric vehicles should not be viewed as more risky and incur additional borrowing costs simply because it belongs to a polluting economic sector. In order to manage credit risk posed by climate change, there is a need to collect and analyse more comprehensive operational data related to environmental pollution within the financial sector.

²⁶ Excluding Poland.

²⁷ [Commission Staff Working Document. Country Report Lithuania 2020. European Commission.](#)

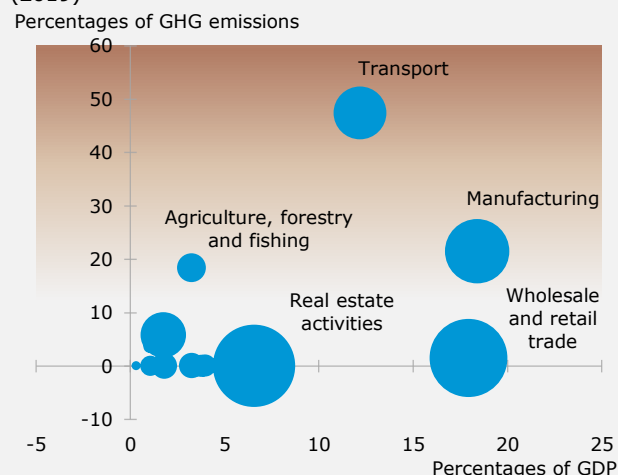
Chart A. GHG intensity in Lithuania and the EU by sector in 2018



Source: Eurostat.

Note: The names of some activities have been abbreviated.

Chart B. Connection between GDP (2019), GHG emissions (2018) and the size of the corporate loan portfolio by sector (2019)



Sources: Eurostat, Statistics Lithuania, Bank of Lithuania and Bank of Lithuania calculations.

Note: The size of each sector represented by bubbles resembles the size of the respective corporate loan portfolio.

In view of the growing importance of green finance, the Bank of Lithuania also seeks to make a significant contribution through engagement in international fora and research networks. Data

gaps and the need to develop new analytical methods make it complicated to properly assess climate change-related threats to the stability of the financial system; therefore, international cooperation is particularly beneficial. In spring 2020, the Bank of Lithuania, together with the Latvian and Estonian central banks, became a member of the international Network for Greening the Financial System (NGFS).

Representatives of the Bank of Lithuania will participate in two NGFS workstreams – Microfinancial and Scaling up green finance.

REAL ESTATE MARKET DEVELOPMENTS

In 2019, activity levels in Lithuania's housing market were the highest in more than a decade, whereas the number of transactions without mortgage finance increased.

According to the Centre of Registers, the number of housing transactions registered in Lithuania in 2019 rose by 4.9% on a year-on-year basis. The turnover of housing transactions accounted for 4.4% of GDP, which marked an annual increase of 0.2 percentage point. Based on the data provided by real estate market participants,²⁸ the new-home markets of the country's largest cities developed a particularly rapid pace of growth in 2019 as the number of new homes purchased in these cities soared by an annual 42.6%. Nonetheless, lending for house purchase grew at a slower pace than the overall housing market activity. Specifically, in 2019 the share of mortgaged home transactions shrank by an annual 1.2 percentage points, to 39.9%, while the flow of new residential mortgages, expressed as a share of housing market turnover, decreased by 6.5 percentage points year on year, to 62.2%. As compared to 2007, the number of housing transactions per capita in Lithuania rose by 12.3%, yet the share of transactions involving home mortgages decreased by 27.4 percentage points.

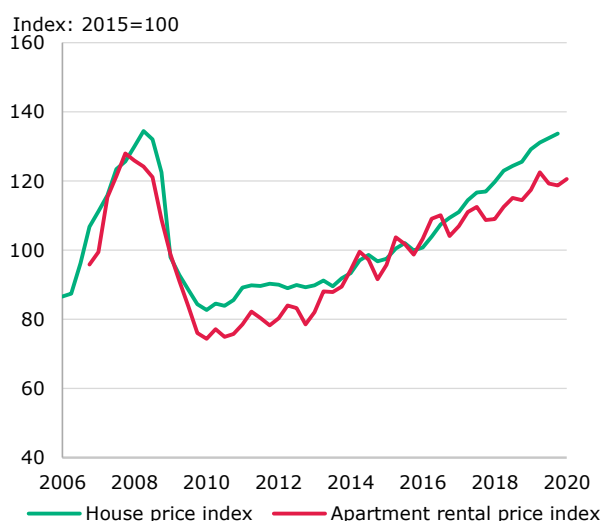
Various indicators suggest that in 2019 house prices in Lithuania were not overvalued. Growth in activity in the housing market was accompanied by a rise in house sale and rental prices, which increased by 6.5% and 3.8%, respectively, in 2019. However, they rose somewhat less compared to 2018 (see Chart 22). Even though activity in the housing market remained historically high, relative indicators and econometric models suggest that house prices in Lithuania were not inflated (see Chart 23). According to the house price valuation model developed by the Bank of Lithuania, house prices stood approximately 5% below their fair

²⁸ UAB Inreal.

value in the fourth quarter of 2019 and were far less inflated than in 2008 when they could overshoot their fair value by more than 25%. Since 2008, house prices in Lithuania have risen by 9.2%, whereas household income has soared by 67.1%.

Growth in house and rental prices decelerated in 2019 although remained robust

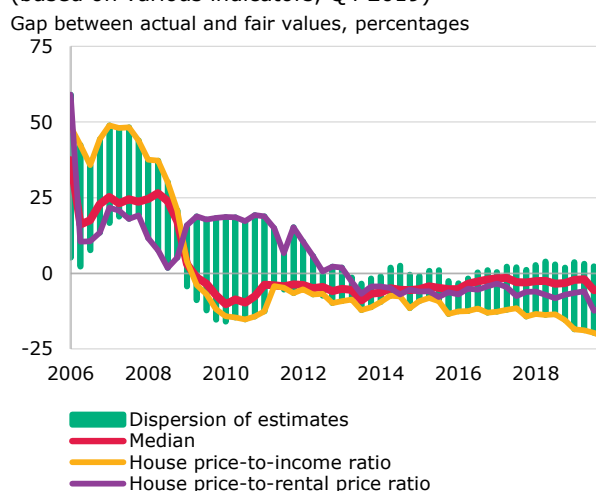
Chart 22. House price and apartment rental price indexes



Sources: Statistics Lithuania and Aruodas.lt.

Since 2010, house prices have not been inflated in terms of macroeconomic, credit and demographic factors

Chart 23. Gap between house prices and their fair values (based on various indicators, Q4 2019)



Source: Bank of Lithuania calculations.

Note: Estimates were made using the price-to-rent ratio, the price-to-income ratio, the econometric model and the HP filter.

Nonetheless, the economic slump may trigger a fall in house and rental prices. A decrease in household income and worsening expectations are likely to send house and rental prices spiralling downward. Household expectations regarding the dynamics of house sale prices over the next 12 months took a sharp turn for the worse in March 2020, while the number of agreements terminated by homebuyers in Vilnius primary market in early April outnumbered the number of concluded agreements (see Chart 24). House and rental prices in Lithuania plummeted by roughly 40% during the economic crisis of 2008-2009. A lower level of household debt, better demographics, more sustainable finances of real estate development companies and the absence of currency risk offer a hope that this time round a potential decline in prices for residential real estate will be less pronounced than during the previous financial crisis. Nevertheless, the potential fall in house prices may pose additional challenges to the domestic financial system (for more details, see section "Risk of a contraction in the housing market at the historical peak of activity due to rapid lending").

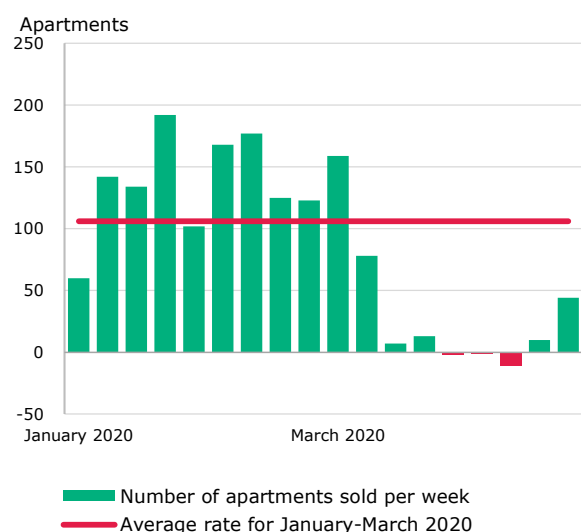
The supply of new-build homes reached historical highs in 2019. According to Statistics Lithuania, housing completions in Lithuania rose by an annual 2.8% in 2019. An increase in activity in the primary apartment market led to a 13.5% year-on-year decrease in the unsold stock of new-build apartments in the largest cities. However, apartment building completions accounted for merely a third of the stock of unsold flats in Vilnius and Kaunas.²⁹ A substantial fall in demand for new apartments is likely to trigger an increase in the share of unsold apartments, given that the number of apartment starts reached the highest level since at least 2014 (see Chart 26). Real estate market participants³⁰ expected the supply of new-build apartments in Vilnius to rise by an annual 23.2% in 2020, unless real estate developers suspended some of their construction projects amid decreased demand for housing.

²⁹ According to UAB Inreal.

³⁰ UAB OBER-HAUS.

Purchase agreement terminations in Vilnius primary apartment market outnumbered the conclusions of such contracts in early April

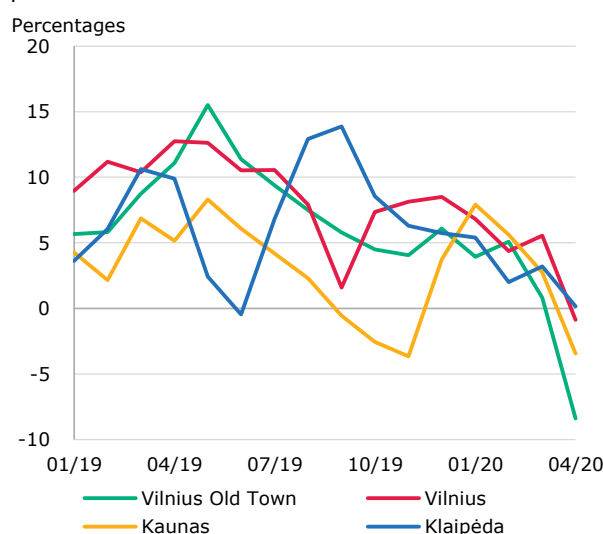
Chart 24. New apartment sales in Vilnius



Source: REALDATA.

Apartment rental prices in the largest cities went on a downward path

Chart 25. Annual change in apartment rental prices published in the classifieds



Source: Aruodas.lt.

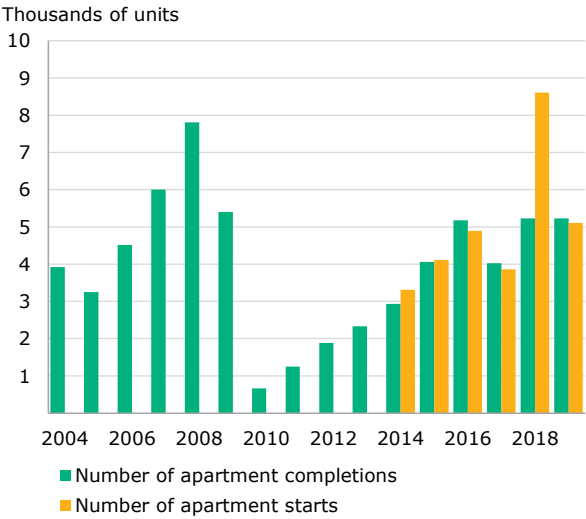
The search for yield spurred investor activity in Lithuania's commercial property market; the vacancy rate of commercial real estate remained relatively low despite the growing supply. The stable growth of the economy drove the demand in commercial real estate premises. Therefore, real estate developers continued to boost their supply, whereas investors stepped up investment in commercial properties in a bid to maximise yields. The volume of investment in commercial real estate in Lithuania increased by an annual 14.6%³¹ in 2019 and accounted for 1.0% of GDP (up by 0.1 percentage point compared to 2018). Return on investment in commercial property in Lithuania likely remained among the highest in the euro area and reached approximately 6-9%³² in end-2019 (roughly 3 percentage points higher than in Western European members of the euro area). According to Statistics Lithuania, the supply of retail and office space completions in Lithuania rose by 40.5% and 16.0%, respectively, in 2019. With economic growth continuing its rapid pace, the vacancy rate of these premises in Vilnius remained comparatively low (around 1-3%), whereas the increasing supply dampened the year-on-year growth in rental prices to approximately 1-2%. On the other hand, real estate market participants anticipate the office vacancy rate in Vilnius to surge amid growing supply (see Chart 27) and to put downward pressure on office rental rates and the value of office buildings (for more details, see section "Risk of potential value impairment of commercial real estate").

³¹ According to UAB OBER-HAUS.

³² According to UAB OBER-HAUS.

The supply of apartment completions remains historically high

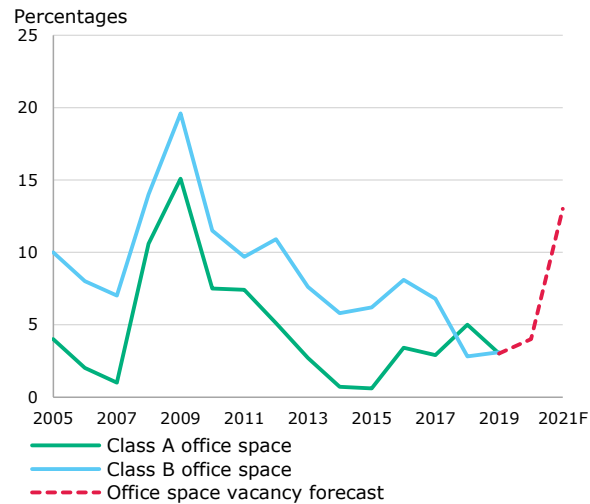
Chart 26. Annual apartment completions and starts in Lithuania



Source: Statistics Lithuania.

The office vacancy rate is expected to surge in Vilnius in 2020-2021

Chart 27. Office space vacancy rate in Vilnius



Sources: OBER-HAUS and CBRE.

Note: 2021F is the forecast for 2021.

II. RISKS TO THE FINANCIAL SYSTEM



The sustainable development of the financial system has faced a global challenge. The economic downturn will affect all market participants



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



Challenges to the resilience and profitability of the banking sector. The quality of bank assets will deteriorate along with the worsening debtors' financial position



COVID-19 is an unexpected challenge to the entire financial system



Losses in household income are increasing the risk of default



Businesses will face liquidity problems



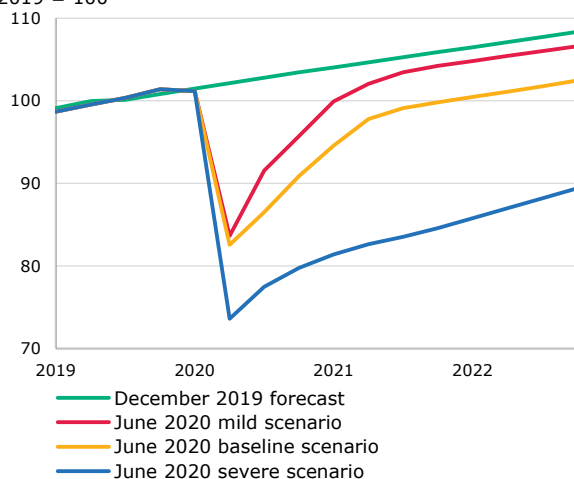
Potential corrections in the real estate market

RISKS BROUGHT BY THE COVID-19 PANDEMIC

The fallout from COVID-19 poses a systemic risk to financial stability, first and foremost, due to the elevated credit risk of businesses and households. The initial restrictions introduced in Lithuania had an immediate effect on approximately 40% of businesses and triggered falls in domestic consumption, demand for exports and production. The forecasts released by the Bank of Lithuania in June envisaged that the national output might contract by 9.7%, while the unemployment rate might almost double in 2020 (see Chart 28). The immediate impact of COVID-19 manifested itself in liquidity challenges faced by non-financial corporations, which were forced to suspend operations but nonetheless had to meet their liabilities. For some

An economic downturn in Lithuania is inevitable

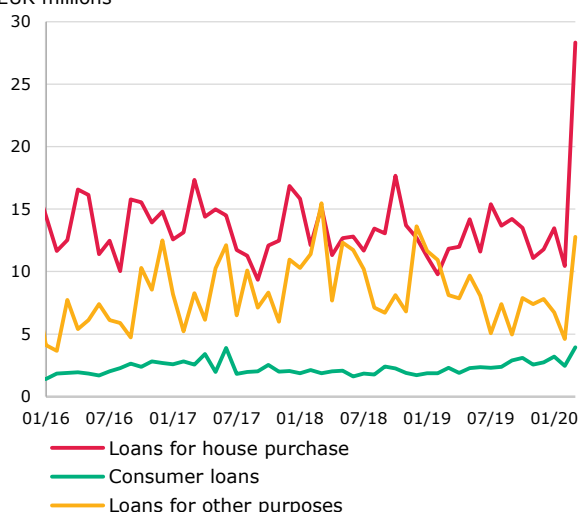
Chart 28. Scenarios of Lithuania's GDP development³³
2019 = 100



Sources: Statistics Lithuania and Bank of Lithuania calculations.

Housing loan renegotiations have risen considerably since the beginning of the lockdown

Chart 29. Monthly flow of renegotiated MFI loans to households
EUR millions



Source: Bank of Lithuania.

businesses and households, such liquidity challenges might grow into solvency issues in the near future, given that the decrease in household income will lead to a fall in domestic demand for goods and services and measures introduced in trade partner countries to contain COVID-19 will continue to dampen external demand. Hence difficulties faced by corporates and households in meeting their financial liabilities or refinancing existing debts will also elevate the risk of solvency problems for credit institutions.

Consumer loans pose a higher risk for

creditors. Consumer loans (without collateral) are the riskiest for lenders and the costliest (in terms of interest rates) for borrowers. Approximately 80,000 residents would lose a stable source of income under a baseline scenario, in which case the value of approximately 19% of consumer loans and loans for purposes other than house purchase would be undermined. A longer-than-expected economic downturn will push even more people into financial hardships, which will translate into even bigger losses for credit institutions and have an even greater impact on financial stability, given that the entire MFI portfolio of consumer loans and loans for purposes other than house purchase amounts to some €2 billion (or approximately 9% of the total loan portfolio). It should be noted that a moratorium introduced by credit institutions to provide for a deferral of credit liabilities has opened up an opportunity for retail borrowers to postpone their consumer loan payments for up to 6 months. However, the period after the expiry of the moratorium is also shrouded in great uncertainty as some residents may still not have a stable source of income in 6 months time.

Credit losses from housing loans should be

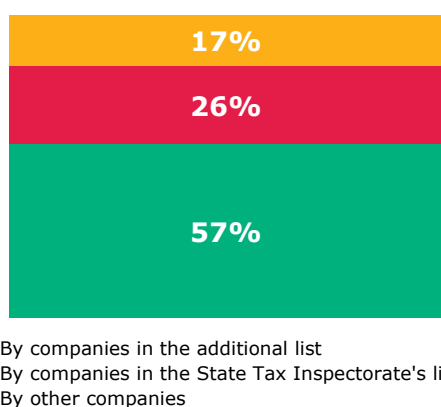
limited. Loans for house purchase account for 40%

³³ In line with the June forecasts of the Bank of Lithuania, the scenarios differ in terms of three underlying assumptions: the scale of the contraction in foreign demand, the magnitude of the domestic demand shock and the pace of economic recovery.

of the entire loan portfolio and therefore comprise a significant part of banks' assets. Estimates suggest that the fallout from COVID-19 will potentially affect roughly 20% of housing loans' value (€1.7 billion). A longer-than-expected economic downturn will affect an even larger share of housing loans. Even though the impact of COVID-19 will inevitably depress household income, housing loan providers should not sustain substantial losses. Firstly, losses stemming from housing loans will be contained by the Responsible Lending Regulations, for instance, the LTV ratio set for housing loans (which cannot exceed 85%). Secondly, the moratorium providing for a temporary deferral of credit liabilities has brought a possibility for residents to postpone the principal payments of their housing loans for a period of up to 12 months, whereas unemployment benefits payable for 9 months will guarantee some income for households that will be able to use this money to pay their housing loan interest. The option of principal payment deferral has already found its way into ample use, which is evidenced by a more than twofold surge in the value of renegotiated housing loans in March 2020 (see Chart 29).

Approximately 40% of corporate loans emerged as directly vulnerable from the onset of the lockdown alone

Chart 30. Debts owed to credit institutions by companies directly affected by COVID-19 and by other firms



Source: Bank of Lithuania.

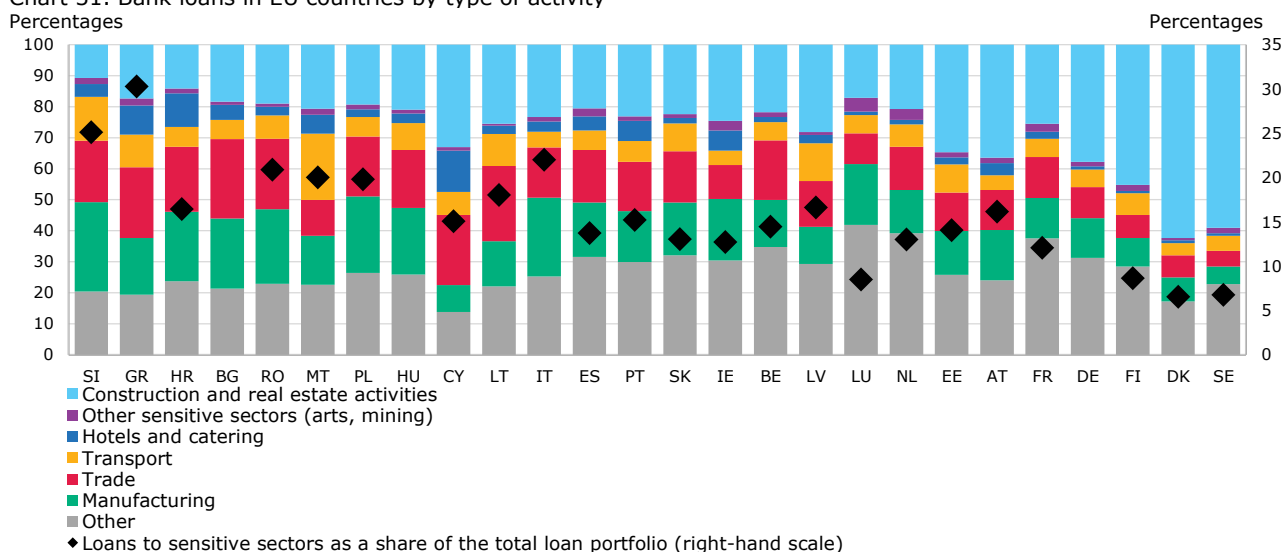
The bulk of losses for banks would be suffered from loans to corporate borrowers.

Stress tests have shown that corporate customers would account for approximately 80% of losses that would be sustained by banks during the present economic downturn. Over several recent months, COVID-19 has affected about 43% (€3.9 billion) of the total value of loans held by businesses (see Chart 30). The lockdown has forced the majority of sectors to suspend operations entirely and some of them – indefinitely, which has made it difficult for firms to meet their financial liabilities. This has triggered the adjustment of wages, labour force and the terms of debt repayment. Moreover, some businesses will be compelled to go bankrupt or shift to another business model after the lockdown as a result of changes in customer behaviour due to COVID-19 and more stringent risk profiling of borrowers.

Banks operating in Lithuania have significant loan exposure to economic activities that are more susceptible to shocks. Bank loans to some of the most affected sectors (such as trade, accommodation, arts, entertainment and recreational activities) comprise approximately 9% of the entire banking loan portfolio. However, when coupled with loans to transport and manufacturing activities, which will not take long to feel the spillover effects due to disruptions in settlement and production chains, such credit accounts for approximately 50% of the total amount of loans granted to businesses (see Chart 31). It is also worth mentioning the construction and real estate sectors, which will not be able to escape the effects of COVID-19 and which account for approximately 25% of total loans to businesses. Nonetheless, risks carried by loans to the real estate sector in Lithuania are slightly lower than in other EU countries, given that the corporate loan portfolio of banks operating in Lithuania has a much bigger share of loans secured by collateral. On the other hand, the guarantee of security of such collateral will depend on the scale of potential correction in real estate prices as well as the magnitude and duration of economic downturn.

Lithuania ranks among the ten EU countries with the relatively largest share of loans to sensitive sectors in the total corporate loan portfolio

Chart 31. Bank loans in EU countries by type of activity

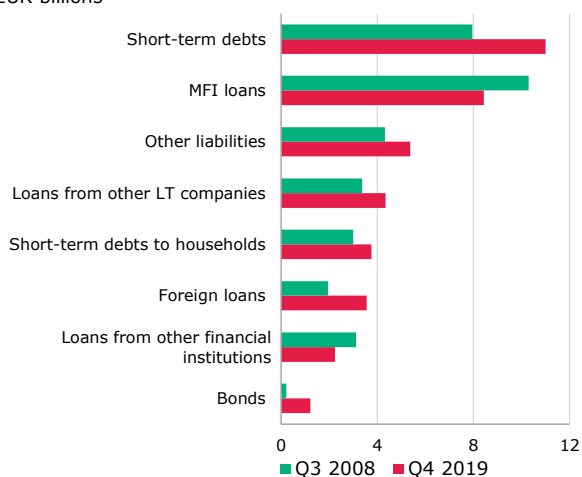


The threat of risks from the fallout of COVID-19 is also magnified by historically large short-term corporate liabilities, which may disrupt the chain of reciprocal debts. Mutual liabilities between businesses have increased substantially in recent years. For instance, the values of all types of liabilities, except for liabilities to financial institutions, surpassed those of the 2008 financial crisis in the fourth quarter of 2019 (see Chart 32). This entails a possibility that difficulties experienced by some companies may rapidly transmit to other businesses, which would put at risk, in the short-term alone, €8 billion in mutual corporate arrears in the form of trade credits, as well as nearly €3 billion in short-term debts to other undertakings and approximately €5 billion in other short-term debts to creditors other than financial institutions. On the other hand, the envisaged fall of 12.5% in private consumption would undermine the profits of many firms engaged in economic activities, which would also lead to disruptions in mutual settlements between businesses. Finally, such disruptions will also have a spillover effect on MFIs, in particular as corporate liabilities to such institutions reach approximately €9 billion.

Financially, the most vulnerable is the services sector. Even though the majority of economic activities are now better prepared to weather liquidity challenges than before the 2008 financial crisis, some of them were in a dire liquidity position even before the coronavirus outbreak (see Chart 33). Available data suggests that companies engaged in accommodation and catering, administrative and other support services faced the most difficult liquidity situation prior to the pandemic. Even though lately lockdown restrictions have been gradually relaxed, a fall in potential customers' income, potential changes in their behaviour and the still existing fear of infection mean that companies in the services sector will not be able to shift back into full gear for some considerable time. Moreover, the prevailing uncertainty over the reopening of national borders indicates that activity in such sectors as tourism or air transport may remain restricted for a long time. Hence, the debts of such heavily restricted activities pose the biggest credit risk to the credit institutions that provided them loans.

Financial interlinks between firms are stronger than before the 2008 financial crisis

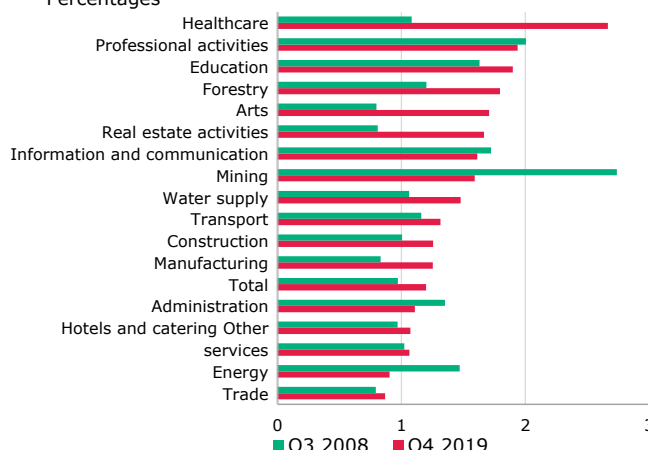
Chart 32. Corporate liabilities
EUR billions



Source: Bank of Lithuania.

Corporate liquidity position is stronger than before the crisis of 2008

Chart 33. Quick ratio
Percentages



Sources: Statistics Lithuania and Bank of Lithuania calculations.

Note: The quick ratio shows the rate of coverage of one euro in short-term liabilities by liquid short-term assets (excluding inventories).

In view of the significant fall in demand, local companies would be able to continue without external aid for approximately a month.

The assessment of the need for liquidity measures among businesses suggests that the overall financial needs among them depend on the scale and duration of the restrictions put in place.³⁴ If a stringent lockdown were in effect for 1 month,³⁵ the corporate sector would be able to cover its liquidity needs, on an aggregated level, thanks to the reserves of cash and equivalents built up before the introduction of lockdown measures. If such a regime continued for up to 2 months, the demand in liquidity would increase by up to €1,200 million, whereas 3 months of stringent lockdown measures would boost the demand by another €2,800 million, depending on receivable amounts (see Table 1). Businesses would need such funds to maintain operations during the economic downturn and to meet existing short-term liabilities. However, the aggregate analysis masks potential liquidity problems of individual undertakings or sectors, which implies that the actual shortage of working capital in the business sector may be significant even in the short term.

Firms would have enough funds to cover liabilities and production costs for merely a month

Table 1. Amounts of liquidity needed by firms to meet liabilities and continue operations (EUR millions)

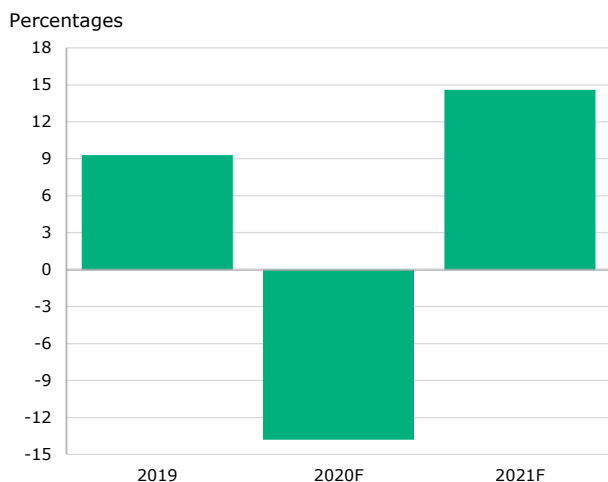
	Lockdown duration		
	1 month	2 months	3 months
Payments received for 0% of the output	0	1,200	2,800
Payments received for 25% of the output	0	600	1,500
Payments received for 50% of the output	0	10	300
Payments received for 75% of the output	0	0	0

³⁴ The analysis has been based on aggregated data and therefore does not show the imbalances in the distribution of liquidity. Some firms hold robust liquidity buffers, whereas others have insufficient buffers to withstand even a short-term shock. The assessment was based on two lists drawn up by the State Tax Inspectorate: the list of taxpayers affected by COVID-19 and the list of companies whose application for tax aid was granted by the State Tax Inspectorate.

³⁵ I.e. circumstances that were in place at the start of the lockdown and suspension of operations of some businesses, restriction of people's movement and gatherings.

Lithuania's exports will contract substantially in 2020

Chart 34. Lithuania's exports and forecast

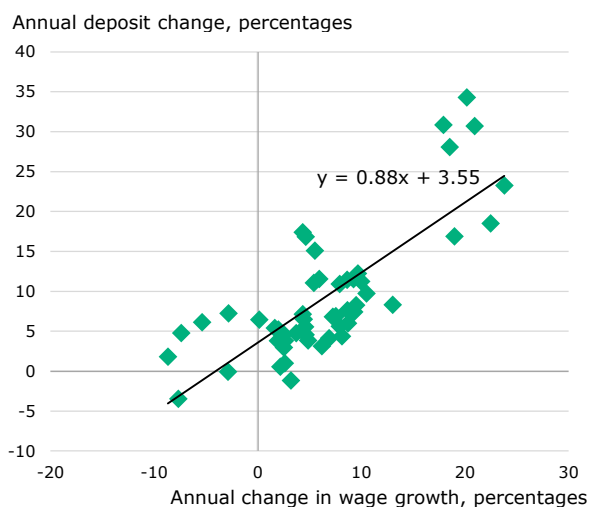


Source: Bank of Lithuania.

Note: 2020F and 2021F are the forecasts for 2020 and 2021.

Wage growth is strongly linked with deposits

Chart 35. Annual change in wages and deposits in 2007-2019



Sources: Statistics Lithuania, Bank of Lithuania and Bank of Lithuania calculations.

strong relationship between wage growth and deposits, which means that a fall in income entails the risk of generating no new deposits. It may also trigger a decrease in existing deposits (see Chart 35). This would also pose a challenge to banks' liquidity position.

Banks operating in Lithuania are rather well prepared to counter potential shocks.³⁶ This was made possible by the fact that banks achieved one of the highest levels of profitability from operations across the EU before the outbreak of COVID-19 and maintained a high capital adequacy ratio, which matched the EU average (see Chart 36). The Bank of Lithuania estimates that a 9.7% slump in GDP triggered in 2020 by the

The economic downturn entails corporate solvency risks due to weaker external demand.

With Lithuania being a small and open economy, the economic and financial situation in the country is dependent, to a considerable extent, on exports and trade partners. According to forecasts, Lithuania's exports might contract by approximately 14%, which would translate into a decrease in corporate turnover and, eventually, cuts to labour and corporate manufacturing capacities as well as a decline in added value (see Chart 34). Hence businesses, in particular the exporting manufacturing enterprises and transport undertakings, would suffer a fall in turnover, which would trigger risks to the discharge of existing liabilities and prompt more caution in assuming new ones. For instance, the value added created by the transport sector alone accounts for approximately 10% of GDP, whereas the sector's liabilities to credit institutions exceed €700 million. Loans granted to transportation companies, measured as a share of the bank loan portfolio, reached roughly 9% after four years of continuous growth, which means that a shock to this sector alone could potentially undermine the operations of both banks and leasing companies and trigger spillover effects on other sectors.

A decrease in household income may restrict bank deposits.

The Bank of Lithuania estimates that wages will shrink by 2.6% in 2020, while the unemployment rate will almost double. As a result, some households will avoid bigger or non-priority debts and rely on savings. According to the household survey conducted by the Bank of Lithuania in 2019, saving accounts at banks or credit unions are the most popular saving instrument, while deposits at MFIs amount to as much as €15 billion. Historical evidence shows a

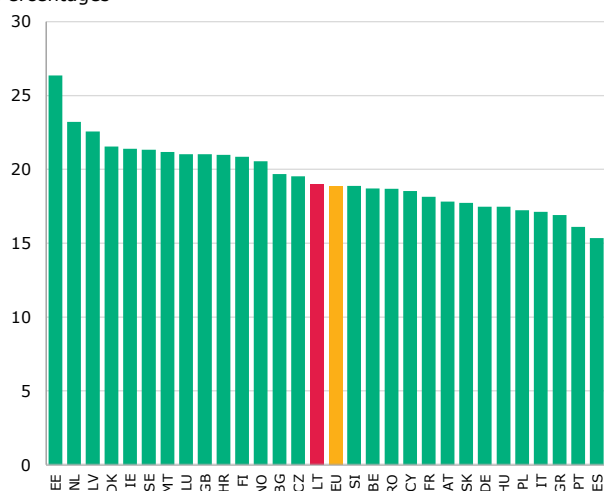
³⁶ For more details, see section "Stress testing".

COVID-19 induced economic crisis might lead to a fall of approximately 4.9 percentage points in the capital adequacy ratio, which, however, would remain sufficient to safely meet the minimum requirement (see Chart 37). Credit losses incurred by the banking sector could amount to about €430-970 million depending on the economic scenario. However, even under a severe scenario, banks' capital adequacy ratio would still meet the minimum requirement with a margin. The measures announced by Lithuania's government to support the liquidity of firms (and other economic entities) as well as the additional monetary policy measures announced by the ECB are likely to help maintain credit demand and enable banks to guarantee credit supply.³⁷

Banks operating in Lithuania maintained a high capital adequacy ratio

Chart 36. Capital adequacy ratio of banks operating in Lithuania

Percentages

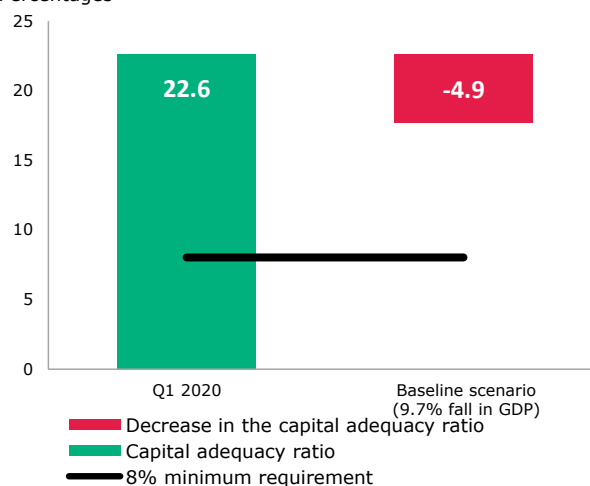


Source: EBA.

Banks are well prepared to weather an economic shock

Chart 37. Change in the banking sector's capital adequacy ratio under the baseline scenario

Percentages



Sources: banking data and Bank of Lithuania calculations.
Note: Preliminary data for Q1 2020.

The countercyclical fiscal policy adopted by many EU governments in a bid to mitigate the economic fallout from the outbreak of COVID-19 poses a threat to debt sustainability in countries with high debt-to-GDP ratios, which also elevates credit risks for banks.

The introduction of anti-COVID-19 restrictions in EU countries has triggered huge economic challenges unseen since World War II. In response, governments unleashed massive stimulus measures in an attempt to mitigate the negative economic effects of the coronavirus pandemic and, *inter alia*, boosted spending, deferred or reduced taxes and resorted to borrowing to cover the growing budget deficit. Contracting GDP and the increasing face value of sovereign debt will push the countries' debt-to-GDP ratios substantially higher. The IMF expects³⁸ the debt-to-GDP ratio of advanced economies to increase by approximately 17 percentage points in 2020 (and, specifically, by 13 percentage points in the euro area and 22 percentage points in the United States). Lithuania is no exception: forecasts released by the Ministry of Finance suggest that the accommodative fiscal policy implemented by the government to mitigate the economic effect of COVID-19 will inflate the general government debt by approximately 16 percentage points (see Chart 38). Hence the economic downturn triggered by COVID-19 may evolve into a sovereign debt crisis in the long run if the recession turns out to be longer than currently expected, which is particularly relevant for the countries that ran very high debt-to-GDP ratios already before the beginning of the pandemic. The 2008 financial crisis has shown that problems with sovereign debt sustainability may quickly translate into solvency problems for banks, given the existing strong bank-sovereign nexus stemming from large holdings of government securities among, for example, banks and governmental deposit insurance schemes.

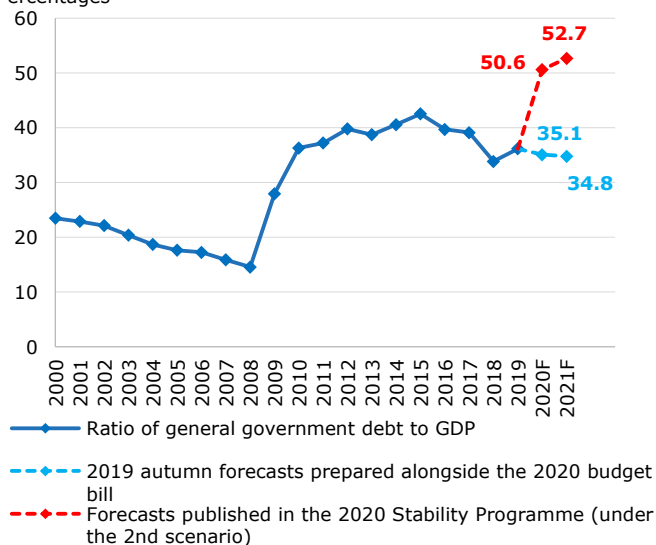
³⁷ For more details, see Chapter III "Financial stability strengthening" and Box 3 "Government measures to mitigate the economic impact of COVID-19".

³⁸ IMF Fiscal Monitor (April 2020).

Measures taken by the government to mitigate the economic fallout from COVID-19 will lead to a substantial increase in public debt

Chart 38. Dynamics of the ratio between Lithuania's general government debt and GDP

Percentages



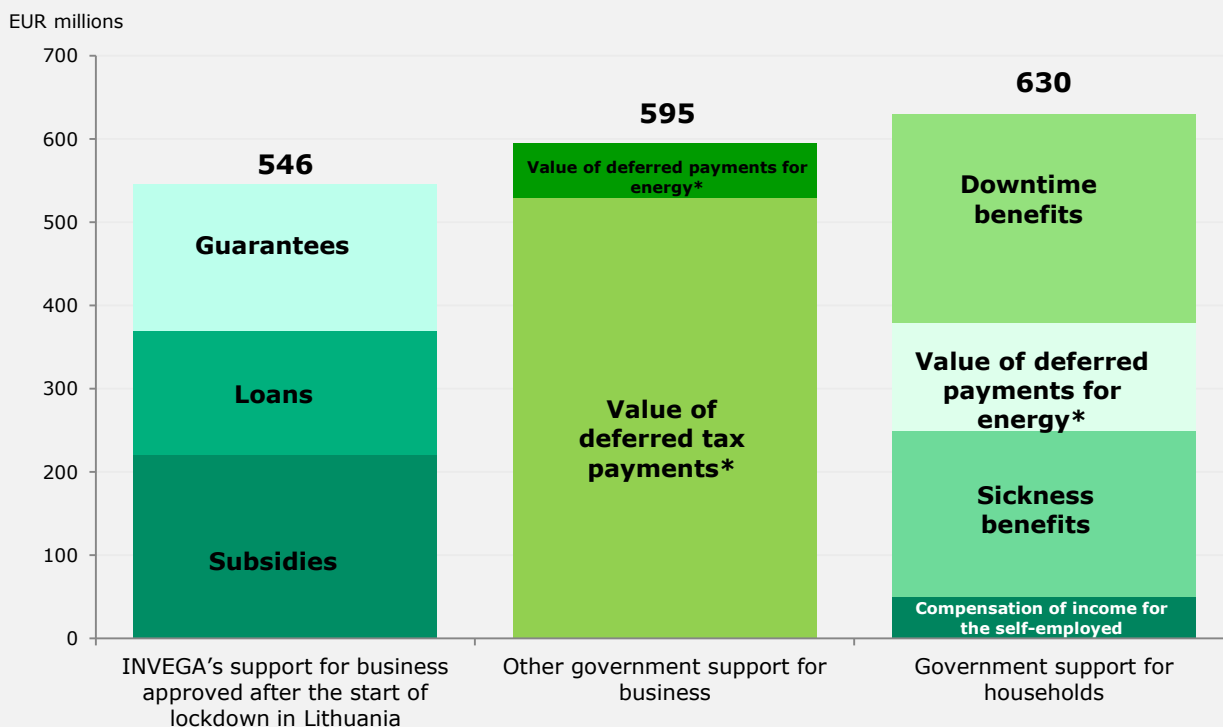
Sources: Statistics Lithuania and Bank of Lithuania calculations.

Note: 2020F and 2021F are the forecasts for 2020 and 2021.

Box 3. Government measures to mitigate the economic impact of COVID-19

The Economic Stimulus and Coronavirus Mitigation Action Plan adopted by the Government of the Republic of Lithuania on 16 March 2020 and supplemented on 6 May provides for measures (see the chart below) that are primarily aimed at protecting public health and stimulating the domestic economy.³⁹ The total envelope for the updated government plan amounts to €4.3 billion, or 8.9% of nominal GDP in 2019. This box analyses the impact of two objectives under the government plan, namely “To help preserve jobs and income” and “To help preserve business liquidity”, with a target of €2.2 billion, on the capacity of businesses and households to meet their financial liabilities.⁴⁰

Chart. Government plan measures⁴¹ to preserve business liquidity, jobs and household income



Sources: INVEGA and Bank of Lithuania calculations.

Notes: * – estimate. Guarantee measures: export credit guarantees, portfolio guarantees for loans 2 (to the extent of new credit), portfolio guarantees for factoring transactions 2. Loan measures: loans for payable invoices, loans to businesses most affected by COVID-19, alternative lending for businesses. Subsidy measures: subsidies to micro-enterprises, interest compensation, reimbursement of rent payments.

Non-financial corporations have to meet various financial liabilities: make loan repayments and interest payments to financial institutions, make regular payments to suppliers and employees, pay taxes and other charges (water, energy and other utility charges). The analysis below looks into how the measures under the government plan help non-financial corporations to overcome difficulties relating to these liabilities.

- Businesses that face difficulties in repaying their loans to financial institutions can benefit from INVEGA's package of portfolio guarantees, which can be used for restructuring more than €400 million of loans. Another €20 million is additionally allocated for the reimbursement of interest payments. Payments to be made by businesses to financial institutions for 2 months could amount

³⁹ The government plan was supplemented further after 6 May, but no additional funds were allocated.

⁴⁰ The calculations assessed the adequacy of the measures for 2 months; this period was chosen as the most likely for businesses and households to experience direct restrictions of activities.

⁴¹ Only measures developed after the start of the COVID-19 pandemic are presented. If the measure was already in place before the start of the COVID-19 pandemic but was subsequently supplemented with new funds, only the share of new funds is shown in the chart.

to €525 million, while about €27 million could be paid to cover interest payments during the same period. However, the moratorium declared by commercial banks at the end of April 2020 on the deferral of loan repayments for businesses (up to 6 months) is likely to ease pressure on public finances.

- State support for businesses facing challenges in repaying debts to suppliers amounts to slightly more than €250 million. Businesses can benefit from the following measures: *Loans to businesses most affected by COVID-19*, *Loans for payable invoices*, *Portfolio guarantees for factoring transactions 2*, as well as funds for new lending under the measure *Portfolio guarantees for loans 2*. Treated in an aggregate manner and based on the data for Q4 2019, corporate debt to suppliers amounted to €8.2 billion. It can be thus assumed that payments of 1-month corporate debt to suppliers could amount to €683 million.
- Businesses must continue to pay wages to their employees; the government contributes to wage payments by partially subsidising them during downtime. It has earmarked a total of €250 million for partial wage subsidies (another €50 million is foreseen for partial income support for the self-employed).
- According to preliminary estimates, corporate liabilities to other suppliers (heat and electricity as well as other utility charges) for 2 months amount to about €130 million.⁴² The government has provided the possibility of deferrals (during the lockdown and for one more month afterwards, if necessary), also recommending municipalities to do the same, as some payments are made directly to them. The possibility of deferring tax payments will allow businesses to save about €530 million over 2 months. Therefore, with businesses efficiently exploiting these deferral possibilities, the need for public funds to meet tax and other liability payments should be minimal.

The two main types of household liabilities are liabilities to financial institutions and other liabilities (utility bills, etc.). These regular utility payments by households could amount to about €130 million for 2 months.⁴³ Hence it is likely that household liquidity will be preserved by allowing households to defer electricity and gas bill payments or arrange them under a more favourable schedule and by recommending municipalities to defer payments for utility and heating bills on their part. Repayment of the other portion of liabilities relevant for households, namely credit, to financial institutions is facilitated by a moratorium agreement, under which credit repayment for natural persons may be deferred (in the case of housing loans – for up to 12 months, in the case of consumer and leasing contracts – for up to 6 months; however, the moratorium does not extend to interest payments).

RISK OF A POTENTIAL CORRECTION OF IMBALANCES IN THE NORDIC COUNTRIES AMID HIGH CONCENTRATION IN THE BANKING SECTOR

Lithuania's banking sector remains dependent on a potential correction of imbalances in the Nordic countries, particularly Sweden, which may be accelerated by the economic impact of the COVID-19 pandemic. The market share of the three major banks operating in Lithuania equalled 83% in December 2019. Given that two of them are Swedish capital banks and the third one is a branch of an Estonian bank,⁴⁴ the stability of Lithuania's financial system is not only dependant on developments in the home market, but also on the economic situation and the sustainability of the financial system in these countries. This is particularly relevant due to a potential correction of imbalances in Sweden, as the market share of the largest banks operating in Lithuania – AB SEB bankas and Swedbank, AB⁴⁵ – continued to

⁴² Average monthly payments by non-financial corporations for electricity and heating in 2018 (data by Statistics Lithuania).

⁴³ Average monthly payments by households for electricity and heating, natural and petroleum gas in 2018 (data by Statistics Lithuania).

⁴⁴ Swedish banks AB SEB bankas and Swedbank, AB, and the Lithuanian branch of Luminor Bank AS, a bank registered in Estonia owned by DNB Bank ASA, Nordea Bank AB and Blackstone, a private capital company incorporated in the United States.

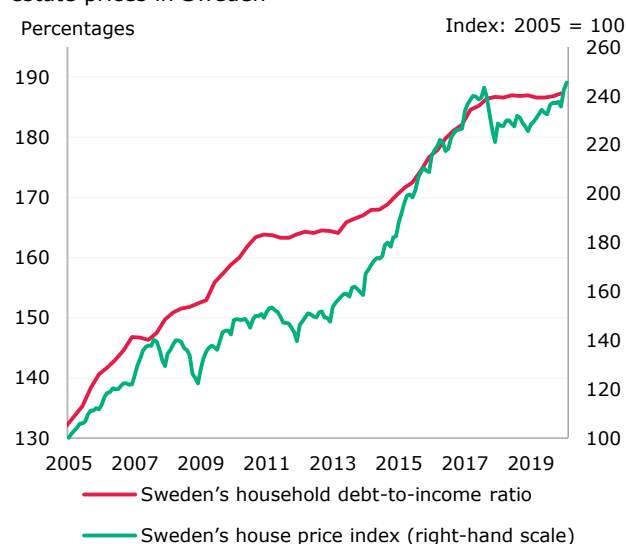
⁴⁵ This section will continue to analyse SEB and Swedbank, i.e. the parent banks of AB SEB bankas and Swedbank, AB.

increase in the course of the year, up from 60% to 62% of the banking sector's assets. In recent years, Sweden has faced imbalances due to high household indebtedness and elevated house prices, while an unexpected economic shock caused by COVID-19 raises the likelihood of their correction and poses new challenges to banks. In the event of such a correction, Lithuania's banking sector could be affected through the following channels: (i) a decrease in overall lending or restriction on lending to business sectors with higher risk profiles; (ii) an increase in funding costs for subsidiary banks and in credit costs in Lithuania; and (iii) increased depositors' concerns and volatility of their deposits.

The largest imbalances in Sweden have built up due to high household indebtedness and inflated real estate prices, although they have been rising at a slower pace in recent years. The rapid growth in residential real estate prices decelerated as a result of the correction in the real estate market at the end of 2017 and has since been more moderate (see Chart 39). Meanwhile, household indebtedness has stabilised following the correction, yet it stands at 187% of disposable income, which is among the highest in the EU. The slowdown in real estate price and household debt growth was mainly underpinned by the introduction of loan amortisation requirements and increasing housing supply. The amortisation requirements increased monthly payments for new borrowers, which resulted in a decline in mortgage demand. The annual growth rate of new housing loans was subdued, amounting to 5.2% on average in 2019, a rate not seen since 2014 (see Chart 40). Slower lending reduced housing demand and put downward pressure on real estate prices, which also declined due to rising housing supply, as construction output remained high.

The rise in real estate prices and household indebtedness in Sweden has stabilised, yet remains elevated

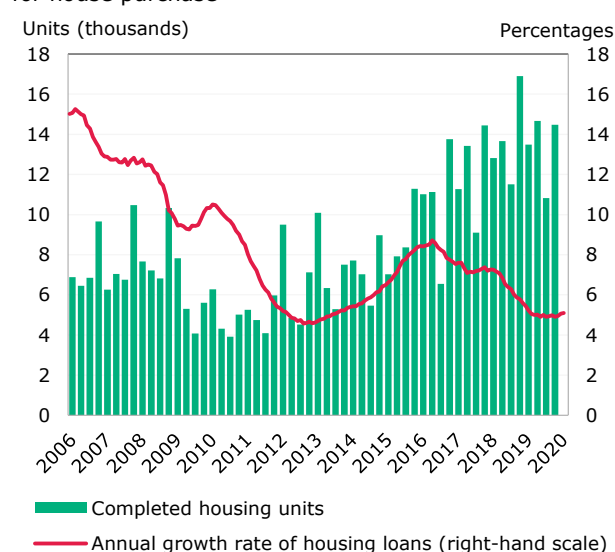
Chart 39. Dynamics of household indebtedness and real estate prices in Sweden



Sources: Statistics Sweden and Valueguard.

Lending for house purchase in Sweden slowed, but construction output remained high

Chart 40. Dynamics of construction activity and lending for house purchase



Source: Statistics Sweden.

The build-up of imbalances makes Sweden's financial system more sensitive to the COVID-19 impact. Unlike in Lithuania, Swedish banks do not have a large share of loans granted to companies directly affected by the COVID-19 outbreak in their portfolios;⁴⁶ however, a significant share of loans to construction and real estate companies raises concerns, in particular with the increased likelihood of the correction of real estate prices. Even though the Swedish financial system was able to withstand the previous correction, inflated house prices and high household indebtedness are not sustainable. As the economy slips into recession due to the pandemic, the price level is likely to drop, while the loss of income will make it more difficult for households to meet their liabilities to banks. The Swedish economy is projected to contract by 6.8% in 2020, while unemployment is set to reach 10.1% (+3.3 percentage points),⁴⁷ which may also

⁴⁶ See Chart 31.

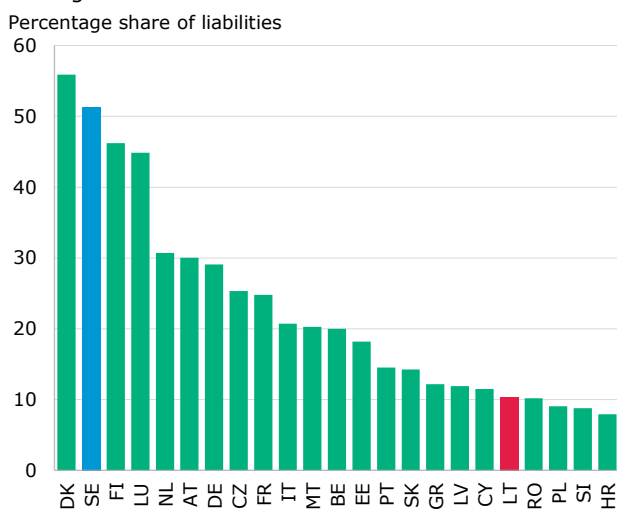
⁴⁷ Based on IMF projections (April 2020).

undermine Lithuania's financial system through close economic ties between Lithuania and Sweden: Sweden is one of Lithuania's main trade partners and the biggest foreign investor, accounting for 17% of all foreign direct investments.

Swedish banks obtain a particularly large part of their funding on international markets, while market fluctuations induced by COVID-19 push up funding costs and undermine the sustainability of such funding. Sweden is second in Europe in terms of the share of funding on financial markets, exceeding nearly five times the respective indicator in Lithuania (see Chart 41). On the one hand, increases in funding costs are somewhat mitigated by the rather significant portion of covered bonds (accounting for 25% of assets in Swedbank, and 13% – in SEB)⁴⁸ given that funding through them is cheaper, while their yields have been less sensitive to crises (see Chart 42). On the other hand, banks operating in Sweden are closely interconnected as they purchase the major part of each other's covered bonds,⁴⁹ which increases systemic risk. This means that difficulties in one bank can spread to the entire banking sector. Banks may also have liquidity problems due to short bond maturities and a significant share of funding in foreign currency, particularly USD.⁵⁰ The increase in funding costs due to COVID-19 causes difficulties for Swedish banks; therefore, they may require higher return from their subsidiaries and withdraw their deposits.⁵¹

Due to significant market-based funding, Sweden's banking sector is sensitive to market fluctuations

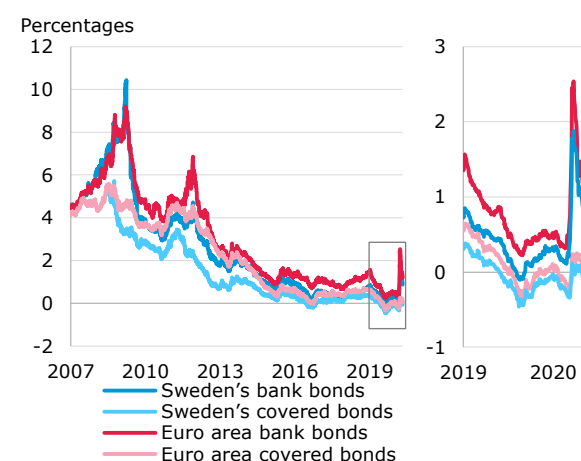
Chart 41. Proportion of market funding of European banking sectors in 2018



Source: ECB Statistical Data Warehouse.

Covered bonds have been less sensitive to economic shocks and funding through them is cheaper than through other types of bonds

Chart 42. Bond yields



Source: Refinitiv.

Notes: The euro area bond yield is based on the euro-denominated bond indices iBoxx EUR Covered and iBoxx EUR Banks. Sweden's euro-denominated bond indices: iBoxx EUR Covered Sweden and iBoxx EUR Banks Sweden.

In 2019, money laundering scandals still posed challenges to Swedish banks. The reputation of banks in the Nordic and Baltic countries was significantly undermined when it was found in 2018 that money laundering transactions amounting to €200 billion were carried out through the Estonian branch of Danske Bank between 2007 and 2015. Since then, other Nordic banks were also included in the investigations, with most allegations against Swedbank. At the end of March 2020, Swedbank was imposed a record fine of SEK 4 billion (roughly €360 million) by the Swedish Financial Supervisory Authority. In response to this, the main international credit rating agencies downgraded Swedbank's credit rating. Swedbank is likely to face

⁴⁸ Based on the financial statements of the SEB and Swedbank groups.

⁴⁹ The Swedish central bank estimates that the holdings by the four major Swedish banks of each other's securities amounted to SEK 150 billion (approximately €13 billion) on average over three years, which corresponds to about 25% of their CET1 capital. For more information, see the Swedish central bank's [Financial Stability Report 2019:2](#).

⁵⁰ A considerable proportion of parent bank bonds is issued in foreign currency, accounting for 47% in Swedbank and even 63% in SEB (based on Refinitiv data).

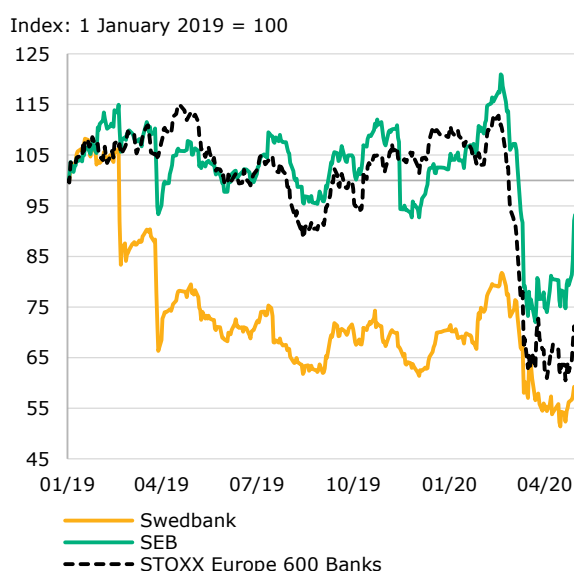
⁵¹ For more information about the impact of these channels on the Lithuanian economy, see Box 4 "Evaluation of the impact of the adverse scenario in Sweden on Lithuania's economy and banking sector".

further fines in the future as there are still ongoing criminal investigations concerning money laundering transactions in Estonia and the United States. At the end of 2019, Nordic banks' stock prices started to recover after the depreciation caused by money laundering scandals, only to plummet even further down due to the COVID-19 pandemic (see Chart 43). Although risks posed by money laundering scandals are currently much smaller than COVID-19 challenges, cost increases due to money laundering scandals reduce banks' capital and ability to deal with the losses caused by the pandemic.

The resilience of Swedish banks to shocks is strengthened by good performance indicators. The capital level of the Swedish banking sector in 2019 was high; profitability indicators remained good and significantly above the EU average (see Chart 44). The liquidity coverage ratio was above the set requirement, so if needed banks would withstand a 30-day stress period by a large margin; however, in the event of a prolonged period of liquidity shocks, the Swedish banking sector could face problems.⁵² Banks use rather limited amounts of own funds to finance their activities; therefore, their financial leverage ratio is rather low, below the 5% level recommended by the Swedish central bank, which reduces the resilience of the banking sector. Nevertheless, in the European context, Sweden's banking sector looks fairly well, while institutions are active and have geared up various measures to stimulate the economy in these difficult times.

Already depressed due to money laundering scandals, Swedish banks' stock prices were also hit by the COVID-19 pandemic

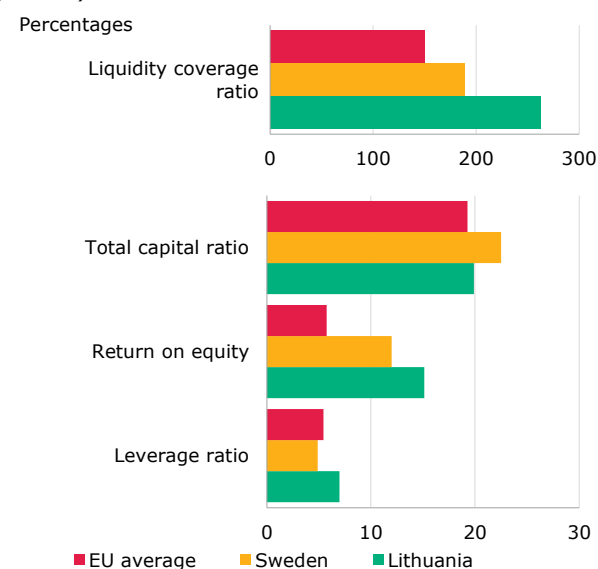
Chart 43. Dynamics of SEB, Swedbank and European banks' stock indices



Source: S&P Global Market Intelligence.

The key performance indicators of the Swedish banking sector are good, yet their equity level remains relatively low

Chart 44. Key banking sector indicators in Lithuania, Sweden and the EU (Q4 2019)



Source: EBA.

Active engagement of Swedish institutions will help mitigate the negative effects of the COVID-19 pandemic. The Swedish central bank started implementing accommodative monetary policy: it has, among other things, extended bond purchases up to SEK 300 billion, reduced the overnight lending rate from 0.75 to 0.20 percentage point, and offered banks up to SEK 500 billion for onward lending to companies.⁵³ Moreover, a number of measures were adopted taking into account potential bank liquidity challenges due to a large share of exposures in USD and covered bonds – the Swedish central bank has agreed with the US central bank on a USD swap arrangement and will offer loans in USD, as well as lifted limitations on pledging covered bonds as collateral. Meanwhile, the Swedish Financial Supervisory Authority has relaxed the CCyB

⁵² The bank liquidity stress tests performed by the Swedish central bank revealed that the liquidity needs of Swedish banks after a 6-month liquidity shock would amount to about 7% of banks' assets, about half of these needs being in USD. For more information, see the Swedish central bank's [Financial Stability Report 2019:2](#).

⁵³ For more information, visit the Swedish central bank's [website](#).

requirement, reducing the rate from 2.5% to 0%, and eased liquidity and amortisation requirements. The Swedish government has devised active economic stimulus programmes and provides guarantees for corporate loans.

Direct dependence on parent banks has diminished, yet Lithuania's banking sector remains vulnerable due to high concentration.

The share of funding by banks operating in Lithuania through parent bank deposits has significantly reduced, with deposits of foreign credit institutions accounting for 7% of the total assets of Lithuanian credit institutions (43% in 2008). Thus, banks operating in Lithuania are less dependent on their parent banks.⁵⁴ This shows that Lithuania's banking sector is better prepared to withstand potential shocks from Sweden, for instance, when the economy falls into recession or when their parent banks face funding or liquidity problems. Despite decreased financing, Lithuania's banking sector remains sensitive to turbulence in Sweden due to high concentration and the dominance of Swedish capital banks. If the parent banks face difficulties and strategic decisions are taken on a group level to limit lending, this could have a significant impact on the financial system and credit provision in Lithuania.

Box 4. Evaluation of the impact of the adverse scenario in Sweden on Lithuania's economy and banking sector

This box aims to answer the question of how an adverse scenario in Sweden would affect interest rates applied by banks operating in Lithuania, as well as the economy as a whole.

The analysis is focused on the bank-based transmission channel of adverse scenario without looking into macroeconomic and trade links between Lithuania and Sweden or evaluating banks' possible strategic decisions. It is assumed that, in the case of an adverse scenario, banks operating in Sweden would be faced with a significant increase in household insolvency or heavy fines for money laundering. In this case, banks would suffer losses which in turn would lower their capital level and have a negative impact on investor confidence, making it costly and difficult for banks to attract debt and equity financing in capital markets. It is also assumed that such a situation for parent banks would affect institutions operating in Lithuania via two main channels:

1. **Debt.** Due to a considerable increase in the cost of funding through borrowing and the resulting liquidity shortfall, parent banks would withdraw funds from their subsidiaries, while the latter would fill the funding gap by borrowing independently in financial markets, but at higher interest rates on account of risk premia.
2. **Capital.** Due to losses incurred, Swedish parent banks would experience a significant fall in their capital level, which they would seek to restore; however, weaker investor confidence would make it difficult to attract capital, i.e. the cost of equity (CoE) would increase by 2 percentage points. It is assumed that the higher capital requirement of parent banks would also increase the need to withdraw capital from institutions operating in Lithuania in the form of dividends or share buy-backs. Accordingly, shareholders' required return on equity (RoRE) from banks operating in Lithuania would increase by 2 percentage points.

An adverse scenario may be understood as an increase in the funding costs of subsidiary banks, whose impact on the price of loans is assessed by applying a stylised interest rate pricing model.

This model allows identifying the impact on interest rates applied on housing and business loans, taking into account the bank funding structure and cost:

$$r_t^{i*} = \chi_t^i + r_t^D \frac{D_t}{L_t} + r_t^F \frac{F_t}{L_t} + \omega_t^i \mu_t \text{RoRE}_t^*,$$

where: r_t^{i*} – the target interest rate, χ_t^i – the risk premium, r_t^D – the deposit interest rate, r_t^F – the foreign borrowing interest rate, D_t – deposits, L_t – the total size of the loan portfolio, F_t – debt to foreign credit institutions, ω_t^i – the risk weight for the relevant loan segment, i – the index denoting a different loan

⁵⁴ For more details, see Box 4 "Evaluation of the impact of the adverse scenario in Sweden on Lithuania's economy and banking sector".

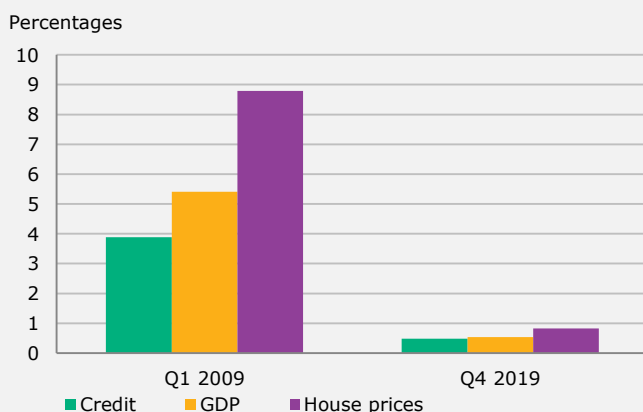
portfolio, μ_t – the minimum capital requirement, and $RoRE_t^*$ – shareholders' RoRE.

The impact of an adverse scenario in Sweden on Lithuania is evaluated using the data of the Swedish capital banks operating in Lithuania, with an assumption that interest rates applied by other market participants remain unchanged. The evaluation assumes that funds from foreign (parent) banks were borrowed at the EURIBOR interest rate; therefore, EURIBOR is used as the cost of external funding. It is also assumed that, in the case of an adverse scenario, banks would borrow funds in financial markets, while their cost of borrowing would increase by Δr_t^F , a spread in BB-rated corporate bond yields relative to EURIBOR. Furthermore, an increase in required dividends due to the higher capital requirement of parent banks is modelled as an increase in RoRE by 2 percentage points. The model is built on the assumption that the loan risk premia, cost of deposit funding, risk weights and capital requirements for banks will remain unchanged.

In the case of an adverse scenario, the impact of increased interest rates on the economy is evaluated using a macroeconomic model. The results of the calculation of interest rate sensitivity were used as an interest rate shock in a macro-econometric model to measure the impact on macroeconomic variables, such as GDP, credit stock and house prices. This method was applied to each quarter since 2005. The size of the interest rate shock varies over time and depends on the conditions in the banking sector (such as the cost or structure of funding and market concentration) at a specific time.

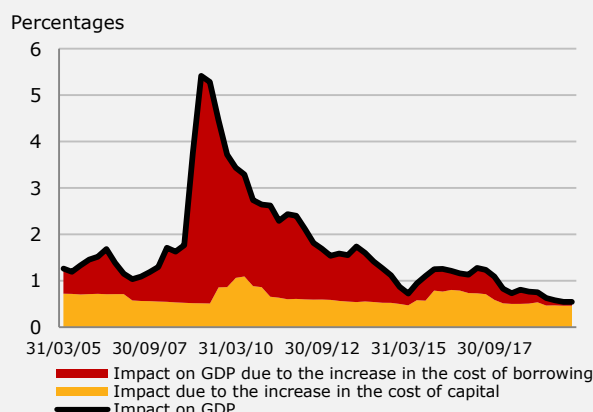
The results obtained show that a potential impact on the economy under the adverse scenario described above has been marginal in recent quarters, compared to 2008-2009 (see Chart A). The calculated economic vulnerability index for Lithuania, which may be understood as a risk indicator of structural dependence on the external financial system, shows that the risk of a large shock due a certain adverse scenario in Sweden has been currently lower, compared to the pre-crisis years, as now banks operating in Lithuania mostly rely on domestic funding (see Chart B).

Chart A. Impact of interest rate shocks on macroeconomic indicators



Source: Bank of Lithuania.

Chart B. Lithuania's GDP vulnerability index broken down into two risk channels



Source: Bank of Lithuania.

RISK OF A CONTRACTION IN THE HOUSING MARKET AT THE HISTORICAL PEAK OF ACTIVITY DUE TO RAPID LENDING

Rapid lending for house purchase and strong activity levels in the real estate market, which prevailed before the emergence of the threats posed by COVID-19, may suffer a substantial correction and lead to losses for borrowers and credit institutions. Elevated activity in the country's housing loan and real estate markets has been observed for several consecutive years. As the economic situation has taken a turn for the worse, recent trends are also likely to shift, leading to a decrease in credit availability and a contraction in investment flows, which, in turn, will contribute to a decline in real estate market activity and real estate prices as well as an increase in vulnerability of market participants. In this context, risks triggered by the COVID-19-induced contraction of the previously active housing market may manifest themselves through several channels, such as (i) an excessive burden of liabilities, which residential

mortgage borrowers can face due to a deterioration in their financial well-being; (ii) an increase in losses of real estate developers and construction firms as a result of falls in business financing and demand for real estate; and (iii) losses sustained by credit institutions due to solvency issues of their customers and value impairment of real estate collateral.

The rapid growth of the housing loan portfolio may leave households under an excessive burden of liabilities in the current environment of economic challenges. Strong activity in the housing loan market has prevailed for the past three years, during which the annual growth rate of the housing loan portfolio⁵⁵ ranged between 7% and 9.4%. Nonetheless, household debt levels have not increased, yet risks pertaining to the burden of liabilities in the fallout of COVID-19 continue to persist. The rise in unemployment will deal the heaviest blow to households generating income from activities that are most vulnerable to the effects of the lockdown. According to recent data, a significant part of residential mortgage borrowers derived their primary income from trade (13.4%), manufacturing (11.4%), transport (7.3%) and other activities (9.3%)⁵⁶ as of late 2018, i.e. from activities pertaining to sectors that are more sensitive to the lockdown (see Chart 45). With regard to employment in these sectors, the fallout from the lockdown might affect approximately 18% of residential mortgage borrowers, which would account for around 20% of the total value of outstanding housing loans. However, this proportion may prove to be much bigger given the dynamics of information about the sectors affected by the lockdown, the growing proportion of the sectors indirectly affected by the lockdown and incomplete data availability, which does not allow making a precise estimate of the number of the affected households. It should be noted, however, that mortgage or consumer loan takers may apply for a deferral of principal payments or for other ways of credit restructuring when facing financial hardships and may thus postpone the discharge of monthly liabilities or reduce their amount during this time of greater financial difficulties.

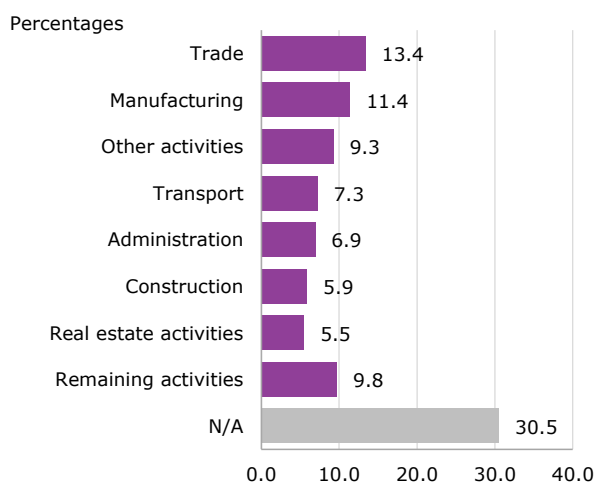
Credit granted by banks has recently been a major force driving the real estate market to historically high activity levels, hence house prices may move onto a downward path following a decrease in the flow of housing loans. In 2016 through 2019, the amount of housing loans issued by banks to households grew by 20% on average each year, while the pace of growth in housing market turnover lagged behind by approximately 4 percentage points over the same period of time. Overall, the share of housing transactions involving a loan has increased substantially in Lithuania since 2012, to reach 39.9% across the country and 54.6% in Vilnius – the most active market in the country – in 2019 (see Chart 46). Hence the level of real estate market activity in Lithuania before the onset of the pandemic was not just record high in a historical context but also heavily dependent on loans granted by banks, in particular in Vilnius. Against this backdrop, banks will lean to tightening credit standards for housing loans when faced with the threat of an economic downturn. Credit growth in the housing market, which has been observed in recent years, has been a major driver pushing house prices higher. Hence a substantial decline in such credit may drive real estate market activity substantially down from its particularly high levels and set the scene for house price correction.

⁵⁵ According to MFI data.

⁵⁶ This includes education, public administration and defence, compulsory social security, healthcare and social work, arts, entertainment and recreation, other service activities, activities of households as employers as well as activities of extra-territorial organisations and bodies.

Many of housing loan takers derive their primary income in sectors that are more sensitive to the lockdown

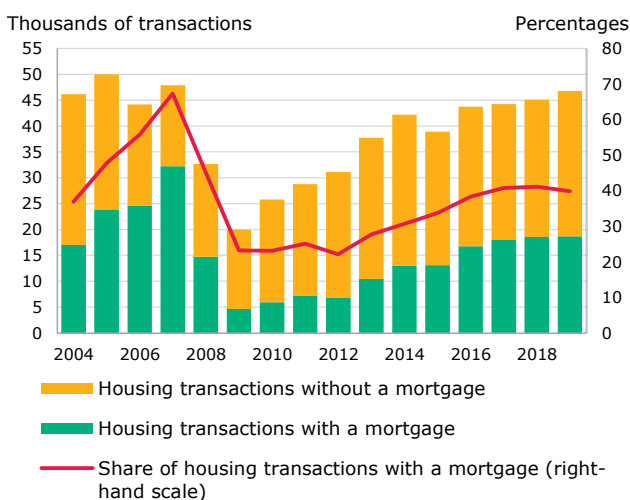
Chart 45. Housing loan takers by economic activity



Source: Bank of Lithuania.

The number of mortgaged home purchases has been increasing

Chart 46. Housing transactions with a mortgage



Sources: Centre of Registers and Bank of Lithuania calculations.

Growth in home mortgages with smaller down payments, which has been observed until 2019, might entail higher risk of potential losses.

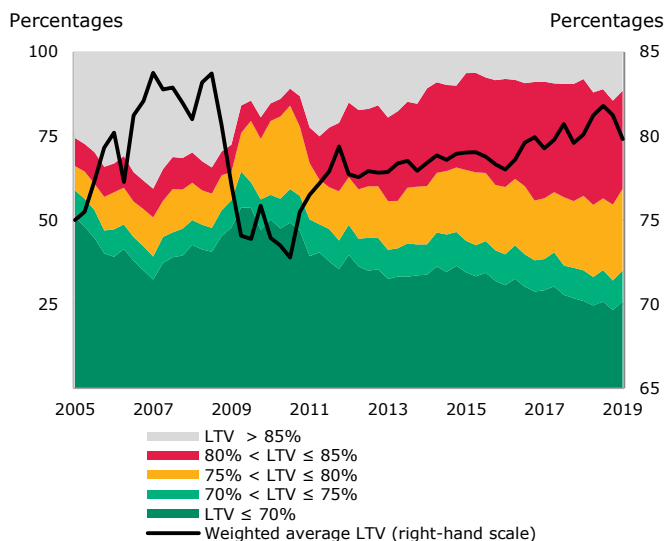
According to recent data, nearly a third of new housing loan takers made a mortgage down payment close to the minimum requirement (15% of the value of the mortgaged property) in the first quarter of 2019. The average mortgage down payment made by borrowers reached 20.2% in the respective period and, even though in 2018 it fell to its lowest level since the pre-crisis period, recent data suggests that the average mortgage down payment has since climbed back to the levels recorded in early 2018 (see Chart 47). Similar trends have been observed for several years now. The growing number of loans with a smaller down payment translates into a higher likelihood that the property value lost due to a sudden fall in house prices may exceed the down payments made by housing loan takers. In this case, the receipts on the sale of mortgaged property, if it were divested, would not suffice to cover the entire loan, which would leave the household concerned still owing money to its creditor. Meanwhile, credit institutions would also suffer losses due to the impaired value of mortgaged real estate in case of its repossession.

The increasing flows and maturity of new housing loans, which was a trend observed up until mid-2019, implies a higher risk of default.

In fact, the maturity and value of new loans have been rising for the past four years. Recent data suggests that the average value of new loans reached nearly €60,000, while their average maturity was 25.6 years in the second quarter of 2019 (see Chart 48). Compared to 2015, the average value rose by €16,800, maturity – by 1 year. Such trends are driven by increased purchases of new homes, which are more expensive and, therefore, require bigger mortgages. Moreover, borrowers often opt for a longer loan maturity, which implies smaller monthly payments. Larger liabilities assumed by borrowers entail a higher risk that the existing liabilities may become too heavy a burden for borrowers as they may run into solvency problems, in particular during a period of economic hardships, which, in turn, may lead to a deterioration in financial well-being or a loss of the main source of income.

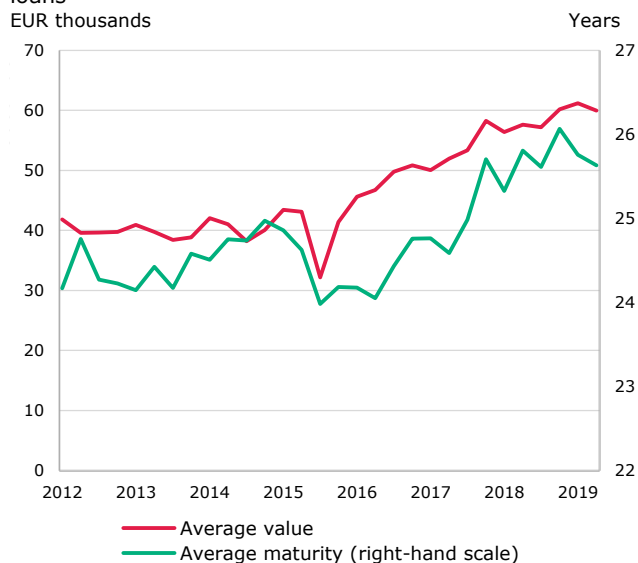
The number of mortgage loans with a smaller down payment has been increasing

Chart 47. LTV distribution



The maturity and stock of new housing loans have been increasing

Chart 48. Average amount and maturity of new housing loans



The increased importance of investment flows in the housing market has magnified the risk of a sudden pull-out of investors. Rising rental and sale prices for housing have made residential property increasingly more attractive as a target for investment in recent years. According to the Centre of Registers, existing homeowners accounted for approximately 25% of house purchase transactions entered into in Lithuania in 2019, whereas the share of second homes in the country widened by 1.1 percentage points to 19.8%. The growing popularity of buy-to-let property is also evident from a decrease in the share of mortgaged housing purchases in recent years. Many of such transactions are likely to be financed from wage income coupled with income from other sources, such as assets or rent, which is also highly dependent on the pace of economic growth. Increased dependence of the housing market on investment flows magnifies the risk of their sharp drop amid economic contraction, which would undermine the liquidity of the housing market and further exacerbate the potential fall in house prices.

The vulnerability of real estate developers and construction firms is also enhanced by the existing big inventory of unsold homes under construction (see Chart 49). The rise in housing supply in recent years has led to an increase in the inventory of unsold apartments under construction in Vilnius and Kaunas (for more details, see section "Real estate market developments"). A fall in demand for new apartments induced by the tightening credit standards applied by banks and changes in household and investor expectations might trigger substantial losses for real estate developers and a fall in house prices. In this case, residential construction in progress would pose the biggest risk to both financial institutions and real estate developers, in particular as a halt or a sudden fall in buyers' payments for house purchases and the restriction of access to financing due to changes in the market risk profile may leave real estate developers short of financial resources for the completion of ongoing projects. Insolvency of real estate developers might seriously undermine the value of real estate under construction held by financial institutions as collateral, as compared to the value of such property at the time of loan origination. A prolonged downturn in the housing market would increase the probability of insolvency of real estate developers and construction firms. Meanwhile, disruptions in payments made by real estate developers to construction firms engaged in the construction of their real estate properties might trigger mass insolvencies of the latter, which would further exacerbate the losses of their creditor banks.

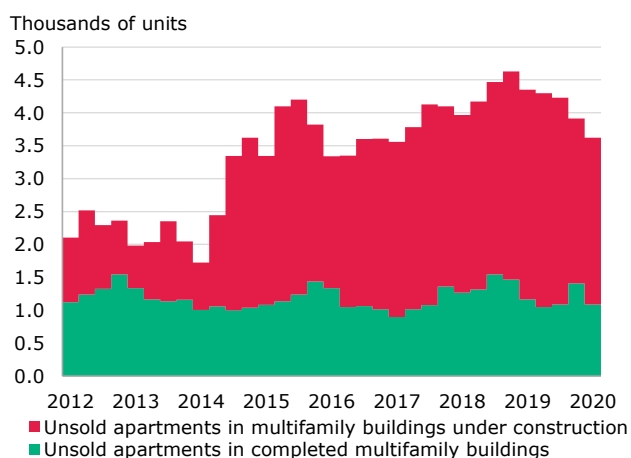
The financial health of construction firms has been deteriorating for some time already despite robust economic growth, hence, the economic downturn and the lack of sufficient financial buffers among construction firms will drive their lenders into losses. In 2019, the share of non-performing loans granted to firms engaged in construction activities increased to 17.2%, from 16.0%, and was the

highest among the key industries of Lithuania's economy. Moreover, the proportion of companies running into financial difficulties ticked upward for the second consecutive year in the construction sector (from 14.9% to 15.2%), even though it continued to decrease in other sectors. According to the data made available by real estate market participants,⁵⁷ building projects implemented by less experienced firms have accounted for an increasing share of new apartment supply in Vilnius in recent years. Falls in housing demand and in house prices as well as difficulties encountered by real estate developers in selling apartments may lead to solvency issues of such undertakings (in particular market newcomers without sufficient working capital). In such a case, financial institutions would suffer substantial losses, given that loans granted to construction firms and real estate developers accounted for approximately 33% of the total stock of loans issued by Lithuania's MFIs to corporate borrowers as of late 2019.

Real estate developers are less financially vulnerable than they were back in 2008 and the existence of sufficient liquidity implies weaker preconditions for a forced sale of housing under development. Real estate developers have been noticeably better prepared to weather liquidity challenges than they were before the 2008 financial crisis. The short-term assets of real estate developers exceeded their short-term liabilities by more than half, while their total equity exceeded their total liabilities (see Chart 50). Even though a substantial decline in demand for new housing may prompt real estate developers to sell homes for lower-than-market prices in order to speed up the completion of ongoing residential developments, the majority of them would be in a position to withstand a significant decrease in house prices and avoid longer-term solvency issues thanks to sufficient liquidity and sustainable financial well-being. Moreover, the sustainable financial health of real estate developers would enable most of them to discharge short-term liabilities without resorting to a forced sale of homes under development and would also reduce the likelihood and potential scale of a sudden fall in house prices.

The stock of unsold apartments in multifamily buildings under construction in Vilnius has increased

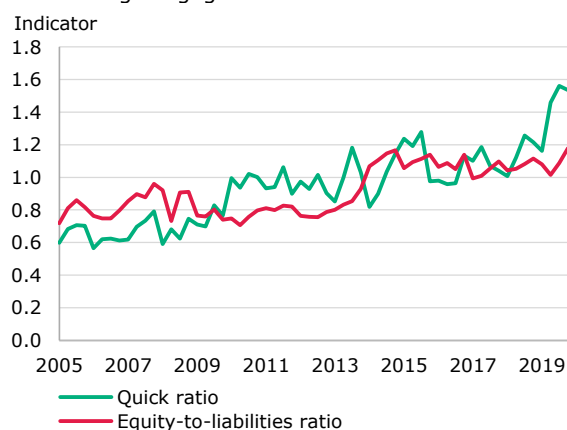
Chart 49. Number of unsold apartments in Vilnius



Sources: OBER-HAUS and EIKA.

Liquidity indicators of undertakings engaged in real estate activities have improved considerably as compared to 2008

Chart 50. Indicators of financial well-being of undertakings engaged in real estate activities



Source: Statistics Lithuania.

RISK OF POTENTIAL VALUE IMPAIRMENT OF COMMERCIAL REAL ESTATE

With the economy facing the first crisis since 2008, the financial system will incur substantial losses due to non-performing loans collateralised by commercial property. In most cases, legal persons have limited liability, hence loans issued to such entities typically entail higher risks than those granted to households. In the fourth quarter of 2019, loans collateralised by commercial property comprised 58.5% of the total portfolio of loans granted by banks to non-financial corporations. Even though the housing

⁵⁷ UAB OBER-HAUS.

loan portfolio exceeded the portfolio of loans collateralised by commercial property by 38.7%, the volumes of non-performing loans in both portfolios were virtually identical. Following the economic crisis of 2008, the share of non-performing loans to non-financial corporations in Lithuania was about three times bigger than the respective share of housing loans; the difference in losses sustained by banks due to such credits was even more substantial. Given that the commercial property market is procyclical in nature, real estate used by insolvent businesses as collateral and taken over by lenders would be sold much cheaper than during the economic upswing. Financial institutions would incur losses if the proceeds from the sale of commercial real estate were insufficient to cover the respective outstanding loan.

Because of its size and links with financial institutions, the commercial property market is important for financial system stability given that commercial real estate is the main type of collateral used by non-financial corporations. Most investors in buy-to-rent commercial property and commercial property development make use of credits. Thus in the past, sudden adverse developments in prices for commercial property used to be one of the major sources of losses for the entire financial system. Lithuanian banks' holdings of loans collateralised by commercial real estate comprise around 20% of the total volume of loans. Although this share is appreciably smaller if compared to housing loans, losses incurred by banks are much more significant due to limited liability of legal entities and business risks. For comparison, non-performing housing loans accounted for 1.9%, non-performing loans collateralised by commercial property – 3.3% of the respective portfolio in the fourth quarter of 2019. Moreover, Lithuania's commercial property market relies strongly on investment flows from abroad. On the one hand, this reduces the vulnerability of the domestic financial system. On the other hand, however, it undermines the resilience of Lithuania's commercial property market to global economic shocks.

The expansionary stage of the commercial property market may bring about significant imbalances, which would render the financial system more vulnerable to internal and external shocks. The commercial property market is prone to more severe fluctuations than the residential real estate market, hence imbalances may develop more swiftly and be relatively more prominent during the boom phase of the economy. With the economy growing, rental prices for commercial property may rise to unreasonable levels and real estate developers may boost the supply of such properties without due regard to the sustainability of demand in the long run. Therefore, once the level of activity and prices in the commercial property market start to fall and the vacancy rate begins to increase, commercial real estate developers and corporate investors therein may suffer significant losses, which, given the leverage of these enterprises, may drive them into insolvency and pose risks to the entire financial system. Real estate market participants noted structural imbalances during the upswing in the commercial property market, which has prevailed in Lithuania until now. According to the survey of real estate market participants conducted by the Bank of Lithuania in August 2019, 50.0% of respondents reported seeing imbalances related to the excessive supply of office space in Kaunas.

The supply of commercial real estate has increased substantially in Lithuania over the past several years. With the economy being in the upswing, businesses boosted the supply of office, retail and warehousing space by 29.6% in the largest cities between 2016 and 2019 as they sought to meet the need for commercial real estate required for expansion. The data made available by real estate market participants also show a substantial increase in the annual volume of investment in commercial real estate (70.2%) over the same period of time.

The contraction of the economy may drive up the vacancy rate of commercial real estate, while the growing supply in individual segments of the market will enhance downward pressure on rental prices and the value of properties. According to the estimates provided by real estate market participants, the supply of office and warehousing space will increase by 13.1% and 13.8%, respectively, in the country's largest cities in 2020. However, a fall in demand for commercial real estate during the economic downturn and an increase in the vacancy rate will also likely drive rental prices down. Real estate market participants⁵⁸

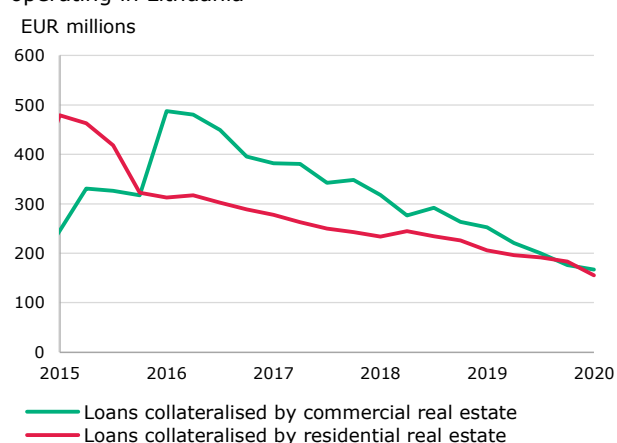
⁵⁸ CBRE.

estimate that the vacancy rate for office real estate in Vilnius will soar to 13%, from 3%, between 2020 and 2021, going back to the levels similar to those observed in 2008-2009 (see Chart 51). The lack of demand will be even more pronounced in the retail space segment, which has been hit by overdue payments by firms unable to continue operations amid the lockdown as well as payment deferrals and rental discounts granted to these businesses. Even though this segment has been lagging behind the segments of office or warehousing space in terms of the rate of expansion in recent years, the per-capita supply of modern retail space in Lithuania exceeds the average rate for advanced Western European economies by as much as 23.6%. Meanwhile, the expectations of value impairment of commercial real estate have also led to a significant decrease in the market value of real estate funds traded on the Baltic stock exchanges (see Chart 52).

The recent tightening of credit standards on loans for commercial property development or acquisition will mitigate the fallout of commercial real estate value impairment for the financial system. Despite growing activity in the commercial property market, the share of loans granted by banks operating in Lithuania against commercial real estate collateral remained unchanged and accounted for 20.0% of the entire loan portfolio in the fourth quarter of 2019. Surveys show that credit standards on loans for the development or purchase of commercial properties grew more stringent in the course of 2019,⁵⁹ which also made the role of credit in the purchase of commercial property slightly less important. According to the Centre of Registers, the share of non-residential property transactions with a registered lien against purchased property shrank by 1.3 percentage points, year-on-year, to 30.3% of total transactions involving non-residential buildings in 2019.

The amount of non-performing loans collateralised by commercial and residential real estate was almost identical

Chart 51. Amount of non-performing loans in banks operating in Lithuania

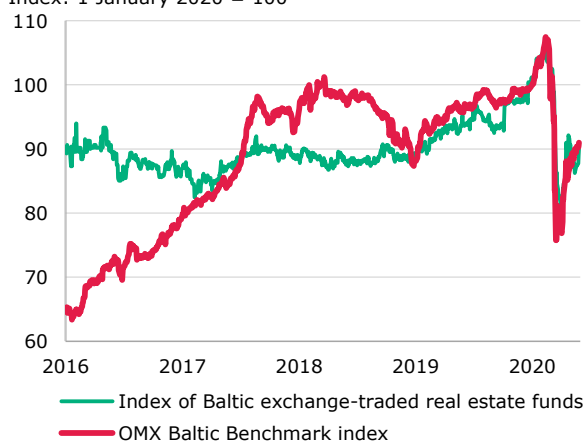


Source: Bank of Lithuania.

Exchange-traded funds suffered a substantial correction in March 2020

Chart 52. Index of Baltic exchange-traded real estate funds

Index: 1 January 2020 = 100



Source: NASDAQ.

STRESS TESTING

BANK SOLVENCY TESTING

The main purpose of bank solvency stress testing is to assess the capital adequacy levels of the domestic banking sector and its constituent banks⁶⁰ under adverse economic conditions. It should be noted that the results obtained through stress testing are not forecasts.

⁵⁹ 72.7% of real estate participants surveyed in early 2020 reported more difficulties in borrowing for the development or purchase of office space in Vilnius over the past 12 months. Moreover, 65.9% of respondents indicated that the required minimum own contribution in loans for the development of class A office space ranged between 25% and 50% and was substantially bigger compared to housing loans.

⁶⁰ The following four banks were assessed: AB SEB bankas, AB Šiaulių bankas, Swedbank, AB, and UAB Medicinos bankas.

The stress test exercise relies on three scenarios outlined by the Bank of Lithuania on 5 June 2020. Lithuania's real GDP would contract by 7%, 9.7% and 17% under the mild, baseline and severe scenarios, respectively, in 2020. The key macroeconomic indicators and their evolution under the stress test scenarios are presented in Table 2.

Evolution of the key macroeconomic indicators under stress test scenarios

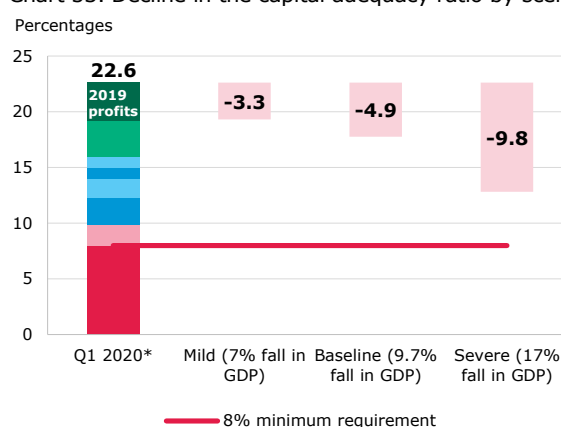
Table 2. Changes in indicators (percentages)

Indicator	Actual indicator	Mild scenario	Baseline scenario	Severe scenario
	2019	2020	2020	2020
GDP (annual change)	3.9	-7	-9.7	-17
Exports (annual change)	9.6	-9.1	-13.8	-19.9
Private consumption expenditure (annual change)	3.2	-9.8	-12.5	-20.2
Unemployment rate (annual average)	6.3	9.7	11.9	14
Wages (annual change)	8.8	0	-2.6	-9.7
HICP inflation (annual average)	2.2	1.1	0.6	0.6

Sources: Statistics Lithuania and Bank of Lithuania calculations.

The banking sector remains resilient to economic shocks

Chart 53. Decline in the capital adequacy ratio by scenario



Stress test results indicate that the banking sector is sufficiently capitalised and remains resilient to potential shocks.

During the 2020-2021 test period, the impact on the banking sector under the mild scenario would not be significant as the capital adequacy ratio would only fall by 3.3 percentage points (see Chart 53). The baseline scenario entails a 4.9 percentage point decrease in the capital adequacy ratio due to credit losses incurred as well as a decline in bank operating income. Under the severe scenario, the capital adequacy ratio would decrease by as much as 9.8 percentage points. Nonetheless, the banking sector would remain sufficiently capitalised to meet the minimum requirements, including Pillar 2, with a margin. Good profitability indicators and macroprudential capital requirements allowed banks to accumulate solid capital buffers. For example, by retaining profits earned in 2019, banks increased their capital buffers by roughly 3.2 percentage points, thus strengthening their resilience.

Between 2020 and 2021, as compared to 2018-2019, banks' operating income could fall by around 20-38%, depending on the scenario. Credit losses incurred by the banking sector during the same period would amount to approximately €430-970 million, or 3.3-6.9% of the total loan portfolio at the end of 2019. Most of credit losses (around 80%) would come from loans to non-financial corporations. It should be noted that state guarantees for loans to companies as well as the moratorium signed by credit institutions can significantly reduce bank credit losses and mitigate the loss of interest income, thus reducing the negative impact on the capital adequacy ratio.

BANK LIQUIDITY TESTING

The banking sector is well equipped to withstand short-term liquidity shocks. The sector's actual LCR⁶¹ was 268% in March 2020. Under adverse conditions, it would fall to 177% as short-term liquidity shocks would trigger a fall in the value of banks' liquid assets, higher than usual withdrawal of deposits and a

⁶¹ The LCR is calculated as the ratio of liquid assets to net cash outflow. The LCR of banks operating in Lithuania is sufficiently high because the structure of bank liabilities and inflows is relatively stable. It should be noted that the main bulk of the liabilities held by banks operating in Lithuania consists of corporate and household deposits, which are considered to be stable liabilities.

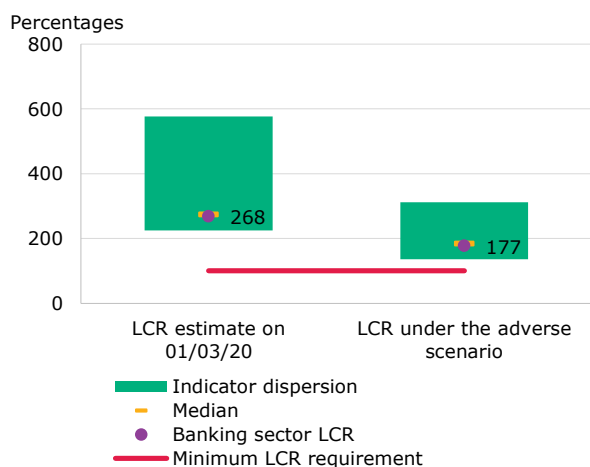
decline in bank cash inflows.⁶² Still, the banking sector as a whole and at an individual bank level would meet the 100% LCR requirement with a considerable margin (see Chart 54). It is worth noting that one of the measures taken by the Bank of Lithuania after the introduction of the lockdown restrictions in Lithuania was the temporary exemption from the LCR requirement.

Overall, the banking sector would be able to cover a 30.6% (individual banks – 20.5-37.8%) decrease in deposits (see Chart 55). 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 it financial support.

Even faced with a temporary decrease in liquidity, all banks would comply with the LCR requirement

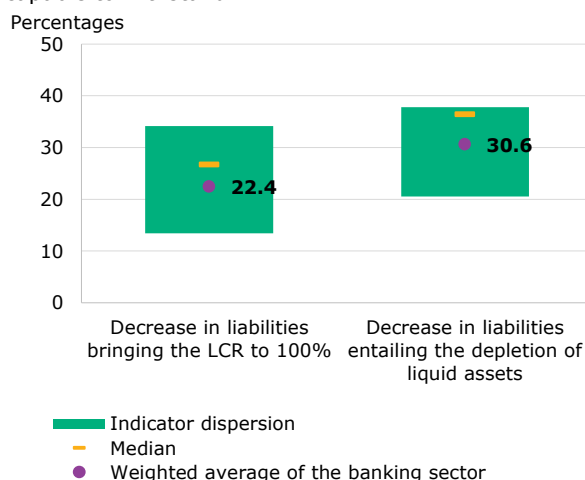
Chart 54. Bank liquidity stress testing results



Source: Bank of Lithuania calculations.

The banking sector would be able to cover a 30.6% decline in deposits

Chart 55. Decline in deposits that banks would be capable to withstand



Source: Bank of Lithuania calculations.

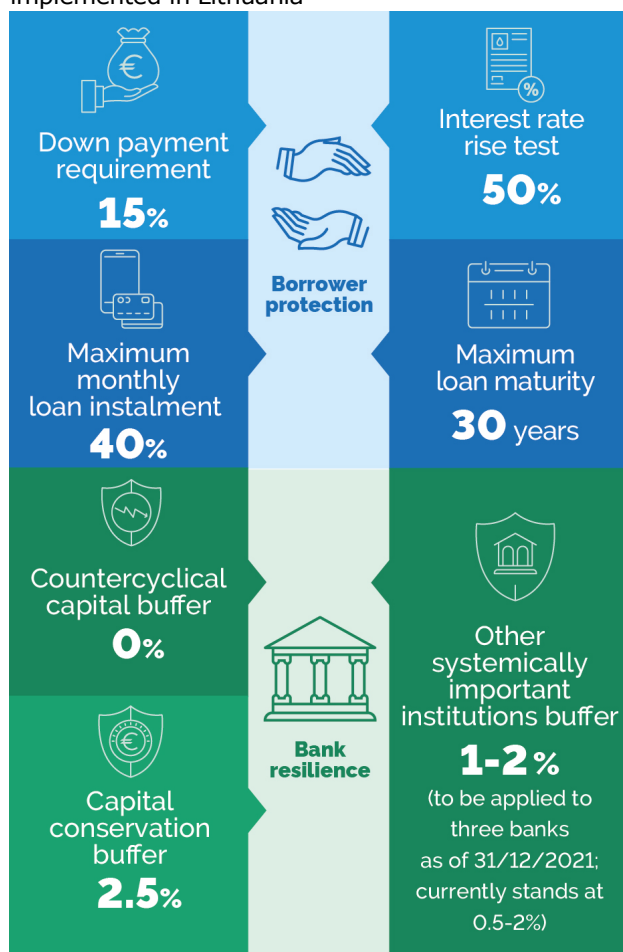
⁶² Assumptions for testing bank liquidity are presented in the [2017 Financial Stability Review](#).

III. FINANCIAL STABILITY STRENGTHENING

The macroprudential policy instruments used by the Bank of Lithuania not only contribute to the resilience of the country's financial system but also, due to their adjustability, help effectively address economic and financial challenges. Instruments currently implemented in Lithuania can be divided into measures established in the Responsible Lending Regulations and applied to household loans, and capital buffer requirements imposed on credit institutions (see Chart 56). The impact and relevance of these macroprudential policy instruments are regularly assessed: capital buffer requirements and ratios set in the

Instruments used and regularly reviewed by the Bank of Lithuania strengthen Lithuania's financial stability

Chart 56. Macroprudential policy instruments implemented 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 a 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 equals 5%. The down payment for the second and subsequent loan should exceed 15%. Capital buffer requirements apply to banks and central credit unions.

Responsible Lending Regulations are periodically reviewed so as to ensure maximum effectiveness of macroprudential policies.

As the economic upswing in Lithuania was impeded by the outbreak of COVID-19, in March 2020 the Bank of Lithuania reduced the CCyB

rate from 1% to 0%. The relaxed CCyB requirement came into force on 1 April 2020 (since 30 June 2019, banks operating in the country had been subject to a 1% CCyB rate). It is envisaged that the CCyB rate will not be increased for at least 12 months.⁶³ The €86 million reserve that banks accumulated during an upswing will help them ensure stable operation and give a stronger footing to maintain sufficient lending to the real economy. The relaxed CCyB rate helps mitigate credit cyclicity and increase the ability of credit institutions to maintain credit supply, thus diminishing the negative impact of the COVID 19 outbreak on the country's economy. In addition, the transitional period for the entry into force of the previously set O-SII capital buffers was extended by a year,⁶⁴ hence the higher (1%) O-SII buffer for AB Šiaulių bankas will apply as of 31 December 2021. Credit institutions were also allowed to temporarily derogate from the recommended Pillar 2 capital requirement, which freed-up another €88 million in capital.

The capital buffer requirements imposed on credit institutions provide an additional capital cushion and enhance their resilience to potential losses. Currently, the capital conservation buffer and the O-SII buffer (applied to three banks) constitute an additional reserve of 2.5-4.5% on top of the Pillar 1 and Pillar 2 minimum requirements. This means that credit institutions are free to use an additional €370 million to absorb capital losses. In the face of a decline in their capital adequacy ratios due to incurred losses or an increase in the risk profile of

existing assets, such institutions are given temporary relief from capital buffer requirements. In this case, a credit institution becomes subject to restrictions on the distribution of all profits or part thereof and has to submit its capital conservation plans to the supervisory authority, indicating how it intends to meet the combined buffer requirement. If the credit institution fails to comply with the combined buffer requirement

⁶³ The higher CCyB rate would come into force on 1 April 2022 at the earliest. This indicative period will also depend on the further economic and financial developments.

⁶⁴ For more information, visit the Bank of Lithuania's [website](#).

due to the COVID-19 shock, the time frame for providing the Bank of Lithuania with capital conservation plans will be extended. Moreover, in view of the current macroeconomic situation, reasonably longer capital recovery timeframes will also be tolerated. During this challenging period, the Bank of Lithuania has also rescheduled its routine on-site inspections and provided some leeway in terms of reporting deadlines, seeking to alleviate the immediate regulatory burden for financial institutions.

In response to the coronavirus outbreak, the Bank of Lithuania has promptly taken action to support households and businesses facing difficulties due to the pandemic. The Bank of Lithuania has been implementing monetary policy, financial stability and consumer protection measures that help ensure sufficient lending to the real economy and allow for loan payment deferrals. The Bank of Lithuania has also approved the moratoria signed by the members of the Association of Lithuanian Banks that allow (i) natural persons⁶⁵ to defer mortgage loan payments for up to 12 months as well as postpone private leasing and consumer credit instalments for up to 6 months, and (ii) legal entities⁶⁶ to defer their loan payments for 6 months (the moratorium applies to corporate loans amounting for up to €5 million per one company group).

The Bank of Lithuania has contributed to new financial aid initiatives aimed at businesses facing liquidity and other financial challenges brought by COVID-19. A key financial support instrument – loans for outstanding invoices – has been developed in cooperation with INVEGA and the Ministry of the Economy and Innovation of the Republic of Lithuania. It is aimed at granting loans to enterprises that supplied goods, services or work to other companies affected by the COVID-19 pandemic and are currently no longer able to pay their invoices. This measure, therefore, helps them cover incurred income losses. Another financial incentive instrument is the Aid Fund for Business which was established in collaboration with the Ministry of the Economy and Innovation of the Republic of Lithuania. Its funds will be used for investments in large and medium-sized enterprises operating in Lithuania that have faced certain financial difficulties due to the COVID-19 pandemic, which in turn pose risks to their business continuity, equity and debt securities, as well as for credit provision.

In the context of the amended Capital Requirements Directive, in 2020 the Bank of Lithuania will transpose provisions allowing for more flexibility in the application of macroprudential capital buffer requirements into its Rules for the Formation of Capital Buffers. According to these amendments, the maximum size of the capital buffer set for O-SIIs will be increased from 2% to 3%. Moreover, credit institutions will be allowed to use systemic risk buffers for lending to specific sectors – this will improve the ability to react to structural and cyclical risks that arise in certain lending segments (e.g. the segment of loans collateralised by residential or commercial real estate). The O-SII buffer and the systemic risk buffer will have to be used to address different risks, while their aggregate amount will not be allowed to exceed 5% of the risk-weighted assets⁶⁷. The Rules for the Formation of Capital Buffers will be updated in the course of 2020, and the arrangements for the application of capital buffers will be reviewed accordingly.

In light of the developments in the housing loan market, in November 2019 the Bank of Lithuania launched a public consultation⁶⁸ aimed at identifying the most efficient ways to boosting competition in the housing loan market. The document outlined preliminary proposals on how to attract newcomers to the lending market, facilitate the search for the best housing loan proposal and encourage refinancing of housing loans. The Bank of Lithuania is currently initiating discussions with stakeholders to review the ideas and suggestions provided during the consultation and will take further steps to implement the most viable proposals.

The proposed amendments to the Republic of Lithuania Law on Banks will allow the Bank of Lithuania to take action in order to manage potential systemic risks that may occur when commercial banks enter into transactions that might increase market concentration. Currently, the

⁶⁵ For more information on the temporary moratoria for natural persons, visit the [website](#) of the Association of Lithuanian Banks.

⁶⁶ For more information on the temporary moratoria for legal entities, visit the [website](#) of the Association of Lithuanian Banks

⁶⁷ A combined buffer requirement exceeding 5% is subject to the approval of the European Commission.

⁶⁸ For more information, visit the Bank of Lithuania's [website](#).

Republic of Lithuania Law on Banks lays down that the Bank of Lithuania must be notified and give its consent only where a bank is to be reorganised by way of merger. This means that when market participants choose other forms of reorganisation (by acquiring control of another bank or transferring assets of one bank to another), the Bank of Lithuania is not allowed to take action to manage the systemic risks posed by such transactions. The amendments to the Republic of Lithuania Law on Banks are thus aimed at identifying measures that would provide more leeway to mitigate systemic risks that might arise from the excessive weight of individual banks in the financial system as a whole. The proposed amendments to the Republic of Lithuania Law on Banks will be adopted in the first half of 2020. By that time, the Bank of Lithuania will also amend its resolution on assessing the changed levels of systemic risk in the banking sector where a bank is being reorganised by way of merger.

In order to protect public funds and ensure the stability of Lithuania's financial system, at the end of 2019 a binding minimum requirement for own funds and eligible liabilities (MREL) was set for the first time for three systemically important banks operating in Lithuania, namely AB SEB bankas, Swedbank, AB and AB Šiaulių bankas. In accordance with the Bank Recovery and Resolution Directive 2014/59/EU (BRRD) and its implementing legislation, this requirement was imposed by the Bank of Lithuania, as a national resolution authority, together with the Single Resolution Board, which is the central resolution authority of the Banking Union.

MREL is aimed at ensuring that banks performing critical economic functions, whose failure could have adverse effects on the country's financial stability, have sufficient resources to absorb losses and restore their capital position. MREL targets are set individually, depending on the resolution strategy and tools. For instance, if a bank's resolution plan includes a bail-in tool, the MREL target is about double the size of the capital requirement. MREL-eligible instruments include capital instruments and liabilities that meet more stringent conditions than those applicable for the bail-in tool. Accordingly, MREL-eligible liabilities make part of liabilities eligible for bail-in. In this way, MREL ensures that, if the bail-in tool is used for the resolution of a bank, losses would be absorbed effectively and without legal risks and/or MREL-eligible liabilities would be converted into capital. MREL therefore represents one of the key elements in enhancing banks' resolvability. Based on data as at the end of 2018, average MREL of the three Lithuanian banks amounted to 25.9%, while the MREL shortfall stood at 7.2% of the total amount of risk exposure. AB SEB bankas and Swedbank, AB will have to meet their MREL targets in 2020, while AB Šiaulių bankas – within four years (by the end of 2023). MREL targets and deadlines as well as bank resolution plans are reviewed and, if necessary, updated on an annual basis.