



LATVIJAS BANKA
EIROSISTĒMA

FINANCIAL STABILITY REPORT 2020



ISSN 2500-9729

Financial stability: the condition in which the financial system (financial intermediaries, market and market infrastructure) is capable of withstanding shocks without significant disruptions in the financial intermediation process and the supply of general financial services.

Systemic risk: the risk that the inability of one participant to meet its obligations will cause other participants to be unable to meet their obligations when they become due, potentially with spillover effects threatening the stability of or confidence in the financial system, economic growth and welfare.

The purpose of the "Financial Stability Report" is to raise public awareness of development of the Latvian financial system and draw attention to systemic risks.

The "Financial Stability Report" analyses and evaluates the performance of the Latvian financial system and risks on the basis of data available up to the end of February 2020 or at the moment of compiling the current report.

Data on the branches of foreign banks registered in the Republic of Latvia have been disregarded for the purposes of calculating ROE, the total capital ratio, Tier 1 capital ratio, Common Equity Tier 1 ratio; nor have they been used for liquidity and credit risk sensitivity and stress tests.

Charts and tables have been compiled on the basis of the following data sources: Chart 1.1 – the IMF, Chart 1.2 – Bloomberg, Chart 1.3 – Reuters, Chart 1.4 – Bloomberg, Chart 1.5 – the EBA, Charts 1.6 and 1.7 – the CSB, Chart 1.8 – the CSB and Latvijas Banka, Charts 1.9 and 1.10 – the CSB, Charts 1.11 and 1.12 – the CSB and Latvijas Banka, Chart 1.13 – Latvijas Banka, Charts 1.14–1.16 – the CSB, Chart 1.17 – the CSB, SIA LATIO, SIA Ober Haus Real Estate Latvia, SIA ARCO REAL ESTATE and SIA IPartner Latvia – Charts 1.18 and 1.19 – the CSB, Chart 2.1 – Latvijas Banka and the CSB, Chart 2.2 – the ECB and Eurostat, Charts 2.3–2.5 – the ECB, Charts 2.6 and 2.7 – Latvijas Banka, Charts 2.8 and 2.9 – Latvijas Banka and the CSB, Chart 1.10 – the ECB and Eurostat, Chart 2.11 – the FCMC and Latvijas Banka, Chart 1.12 – the FCMC, Chart 2.13 – the EBA, Charts 2.14–2.18 – Latvijas Banka, Chart 2.19 – the FCMC and EBA, Charts 2.20–2.24 – the FCMC and Latvijas Banka data, estimates by Latvijas Banka, Charts 2.25 and 2.26 – the FCMC, Charts 2.27 and 2.28 – the FCMC and EBA, Chart 2.29 – Latvijas Banka, Chart 2.30 – the FCMC, Charts 2.31 and 2.32 – Latvijas Banka, Charts 2.33 and 2.34 – the FCMC, Chart 2.35 – the ECB, Chart 2.36 – the FCMC, Chart 2.37 – estimates by the FCMC and Latvijas Banka based on data provided by the FCMC, Tables 2.1–2.4 – estimates by Latvijas Banka, Chart 3.1 – estimates by Latvijas Banka based on data provided by the FCMC, Latvijas Banka and the CSB, Chart 3.2 – the CRPC, Chart 3.3 – the OECD, Chart 3.4 – estimates by Latvijas Banka based on data provided by the FCMC, Chart 3.5 – the FCMC, Chart 3.6 – estimates by Latvijas Banka based on data provided by the FCMC, Chart 3.7 – estimates by the EIOPA and Latvijas Banka based on data provided by the FCMC, Chart 3.8 – the EIOPA, Chart 3.9 – estimates by Latvijas Banka based on data of the FCMC, Charts 4.1–4.3 – Latvijas Banka, Chart A1.1 – the ECB, Table A1.1 – Latvijas Banka, Charts A1.2 and A1.3 – Latvijas Banka, Charts A2.1–A2.5 – Latvijas Banka and estimates by Latvijas Banka, Chart A4.1 – Reuters, Latvijas Banka and estimates by Latvijas Banka, Appendix 5 – the FCMC and Latvijas Banka, Appendix 6 – the FCMC, CSB, Latvijas Banka and estimates by Latvijas Banka.

CONTENTS

SUMMARY	4
1. MACROFINANCIAL ENVIRONMENT AND BORROWERS' SOLVENCY	8
External macrofinancial environment	8
Domestic macrofinancial environment	11
Financial vulnerability of households and non-financial corporations	13
Real estate market development	16
2. DEVELOPMENT AND RISKS OF THE CREDIT INSTITUTION SECTOR	20
Credit growth	20
Cyclical risk assessment	24
Credit risk	25
Box 2.1. Provisioning influenced by the COVID-19 pandemic	28
Funding and liquidity risks	29
Box 2.2. Stress tests of credit institutions' liquidity	32
Profitability	34
Box 2.3. credit institutions' business model changes	36
Capitalisation	40
Box 2.4. Credit risk and market risk shock-absorption capacity	42
3. DEVELOPMENT AND RISKS OF THE NON-BANK FINANCIAL SECTOR	50
Other lending service providers	50
Box 3.1. Additional commission fees for a faster issuance of loans – an obstacle to accessibility to financing	51
Investment platforms	52
Saving service providers	53
Insurance corporations	56
Non-bank payment service providers	58
4. RISKS AND VULNARABILITIES OF FINANCIAL MARKET INFRASTRUCTURE	60
TARGET2-Latvija	61
Nasdaq CSD	62
Retail payment systems	63
Cyber resilience of financial market infrastructures	64
APPENDIX 1. COMPOSITE CYCLICAL RISK INDICATOR: ALTERNATIVE GUIDE TO COUNTERCYCLICAL CAPITAL BUFFER	65
APPENDIX 2. IMPLEMENTATION OF NEW BORROWER-BASED MEASURES – AN IMPORTANT ADDITION TO LATVIA'S MACROPRUDENTIAL POLICY TOOLS	69
APPENDIX 3. CYBERSECURITY RISK: CURRENT DIGITAL REALITY	74
APPENDIX 4. RISKS ASSOCIATED WITH CLIMATE CHANGE IN THE CONTEXT OF FINANCIAL STABILITY	77
APPENDIX 5. PERFORMANCE INDICATORS OF CREDIT INSTITUTIONS	82
APPENDIX 6. HEATMAP OF EARLY WARNING INDICATORS	83

Abbreviations

AML/CFT – anti-money laundering and combating the financing of terrorism and proliferation	IMF – International Monetary Fund
AS – joint stock company	IT – information technologies
CCyB – countercyclical capital buffer	LCR – liquidity coverage ratio
CCRI – composite cyclical risk indicator	LGD – loss given default
CIS – Commonwealth of Independent States	LTI – loan-to-income
CIT – corporate income tax	LTV – loan-to-value
CO ₂ – carbon dioxide	MFI – monetary financial institution
CRPC – Consumer Rights Protection Centre	ML/FT – money laundering and the financing of terrorism and proliferation
CSB – Central Statistical Bureau of Latvia	MONEYVAL – Council of Europe Committee of Experts on the Evaluation of Anti-Money Laundering Measures and the Financing of Terrorism
CSDR – Regulation (EU) No 909/2014 of the European Parliament and of the Council of 23 July 2014 on improving securities settlement in the European Union and on central securities depositories and amending Directives 98/26/EC and 2014/65/EU and Regulation (EU) No 236/2012	NBFS – non-bank financial sector
CSD SE – Central Securities Depository Societas Europaea	NPLs – non-performing loans
DSTI – debt-service-to-income	NSFR – net stable financing ratio
DTI – debt-to-income	OECD – Organisation for Economic Co-operation and Development
DVP – delivery versus payment	O-SII – other systemically important institution
EAA – European Accessibility Act	PD – probability of default
EBA – European Banking Authority	PEPP – Pandemic Emergency Purchase Programme
EC – European Commission	ROA – return on assets
ECB – European Central Bank	ROE – return on equity
EIOPA – European Insurance and Occupational Pensions Authority	RWA – risk-weighted assets
EKS – Electronic Clearing System of Latvijas Banka	SIA – limited liability company
ESMA – European Securities and Markets Authority	SME – small and medium-sized enterprise
ESRB – European Systemic Risk Board	TARGET2 – the second generation of TARGET (Trans-European Automated Real-time Gross settlement Express Transfer system)
EU – European Union	TIBER – Threat Intelligence-based Ethical Red Teaming
FATF – Financial Action Task Force	TLTRO III – targeted longer-term refinancing operations
FCMC – Financial and Capital Market Commission	UK – United Kingdom
FRS – US Federal Reserve System	US – United States of America
GDP – Gross Domestic Product	
IFRS 9 – International Financial Reporting Standard 9	

SUMMARY

The COVID-19 pandemic and its containment measures are an unprecedented shock to the global and Latvian economy and financial system. Wide-ranging fiscal, monetary and financial supervision measures have been introduced all over the world, including in Latvia, to mitigate the shock effects on the economy and financial stability; nevertheless, the uncertainty surrounding the economic outlook and with that also the future of the financial sector remains high.

Apart from the impact of the COVID-19 pandemic, there are several other significant developments worth noting. Significant structural changes in Latvia's financial sector continued after the publication of the previous Financial Stability Report: ambitious reforms to improve the financial crimes prevention framework were implemented. In February 2020, the FATF (an independent inter-governmental organisation developing and supporting the implementation of AML/CFT policy guidance for the protection of the global financial system) recognised that Latvia has set up a sound financial crime prevention system and is generally compliant with all FATF recommendations. This conclusion supported an upgrade of Latvia's sovereign credit rating to its historical high¹, and that was an important positive signal with regard to the country's investment environment.

The AML/CFT framework has been refined, the capacity of the competent authorities has grown and their performance has improved, the level of risk tolerance has decreased. At the same time, insufficient common understanding of the new requirements in the private sector as well as the ML/FT cases detected in the Baltic and Nordic countries increased the private sector's risk aversion rather than its willingness to manage risks, thereby hampering cooperation between the financial and non-financial sectors.

Latvia's financial sector is witnessing a change in the composition of the financial market participants and their share holders, market shares and business models, including a significant decline in the number of foreign customers and the scope of services provided to such customers. As a result of this restructuring, the aggregate profit of credit institutions decreased notably, yet the average return of credit institutions still exceeded the EU average. Part of credit institutions that were previously quite inactive on the domestic market started to increase lending to domestic non-financial corporations. That could diversify the access to finance for non-financial corporations and tighten competition, although the market share of those credit institutions is currently still small.

Lending to domestic non-financial corporations was weak in 2019 and the beginning of 2020. It was affected by several factors, including the uncertainty related to the deterioration of the external environment and developments in the field of AML/CFT as well as the implementation of the strategic decisions of some foreign banks to downsize the credit portfolios of their subsidiaries in Latvia. That being said, lending to non-financial households has been persistently sluggish for long and has a dampening effect on economic growth. This can be explained by both demand and supply side factors, including insufficient competitive pressure and several structural flaws in the economy (for example, the shadow economy, insufficiently capitalised non-financial corporations, ineffective legal environment, obstacles to construction development).

The cautious lending policies pursued over the most recent years have resulted in a low level of indebtedness of the private non-financial sector. In the circumstances of the COVID-19 pandemic, it can help the private sector to overcome the crises more easily and mitigate the fall in consumption. At the same time, excessive caution in supply and demand for loans may deepen the crisis and hamper the recovery of economic growth.

¹ The international rating agency S & P Global Ratings upgraded Latvia's sovereign credit rating from A to A+ with a stable outlook on 21 February 2020.

The depth of the crisis will depend on the duration of the COVID-19 containment measures and the ability of companies to stay in business and retain jobs. Contrary to the previous financial crisis, Latvia's financial system and economy in general are currently much more resilient. Latvia's economy is much better balanced. A significant difference is Latvia's participation in the euro area which provides additional stability and security. The ECB and other EU institutions have introduced sizeable support mechanisms and have allowed flexibility with regard to the existing framework for state aid and fiscal rules as well as bank supervision requirements. The state of Latvia's public finances, its sovereign credit rating and participation in the euro area provides the government access to borrowing at low interest rates in order to support the economy.

Support measures implemented by the Latvian government are similar to those introduced in other EU countries. The effectiveness and proportionality of these measure, however, is reduced by the currently still large shadow economy. The presence of the shadow economy largely explains the persistently low levels of the population's legal income and savings (at the beginning of 2020, most households had either no savings or very little savings, and this has a negative effect on the shock absorption capacity), insufficient social guarantees, limited possibilities and willingness of companies to undertake borrowing. Thus the shadow economy is also affecting the ability of the financial sector to provide better support to the economy.

In comparison with the global financial crisis of 2008, Latvia's credit institutions are much better prepared for the financial crisis. Since that time, the regulatory framework of credit institutions has been improved significantly, Latvia's credit institutions are overall well-capitalised and liquid, and the quality of their capital is much better. The ability of Nordic parent banks to provide support to their subsidiaries, should that need ever arise, has a significant constraining effect on the financial stability risks. Moreover, a Nordic-Baltic financial crisis management exercise took place in 2019 with the participation of 31 financial stability related authorities. The exercise tested the regional cooperation of those authorities and the ability to overcome significant turbulences. The results of the liquidity stress tests conducted by Latvijas Banka show that the credit institutions' ability to absorb significant shocks is overall good.

The COVID-19 pandemic will have a notable effect on those non-bank sub-sectors which are making investments on financial markets, for example, the state and private pension schemes and investment funds. The crisis caused by the COVID-19 pandemic is a significant shock also for investment platforms, but these platforms have no systemic importance in the context of financial intermediation in Latvia.

The financial market infrastructure maintained by Latvijas Banka operates securely and efficiently and the risks related to its operation are adequately managed and contained so that their impact on the operation of payment and settlement systems and their participants would be minimal and would trigger no systemic disruptions.

The present Financial Stability Report includes thematic appendices on a new analytical tool for cyclical risk assessment, on new macroprudential policy measures reducing the possibility for households to undertake an excessive debt burden, on cybersecurity risks and climate change related risks to financial stability.

Recommendations for promoting financial stability

– The continuity and accessibility of financial intermediation is important for addressing the economic consequences of the COVID-19 pandemic. To this end, the government has a significant role to play in providing adequate support to businesses and households. Development of the state support instruments

should be based on several basic principles: 1) targeted and gradual transition from crisis to post-crisis economic stimuli; 2) responsible risk sharing between the public and private sectors; 3) benefit to general public; and 4) Latvia's fiscal sustainability and financial stability. With the role of publicly financed support measures in the economy growing (including those involving AS Attīstības finanšu institūcija Altum, for example, in the form of loans and guarantees), particular attention should be paid to an adequate monitoring of resource flows and limiting risks.

– In order to provide more opportunities and encourage lenders and borrowers to become more active on the loan market, improve the efficiency of the business environment, ensure cheaper financing and tighter competition, the persistent structural shortcomings faced by the economy need to be urgently addressed (shadow economy, insufficient capitalisation of non-financial corporations and inefficiency of the legal environment). Lending could be boosted also by increasing the set of available financial instruments, including finalisation and subsequent implementation of the Law on Covered Bonds, as well as by successful elimination of the above shortcomings.

– Work on further improvement of the AML/CFT framework should continue to ensure maximum effectiveness. Private sector should be further educated to build its understanding: the competent authorities should provide clearer and more harmonised guidelines how to comply with the requirements and, where possible, coordinate their actions, thereby reducing the administrative burden and ineffective use of resources and helping the private sector to manage risks.

– The process of changing the business models of the credit institutions requires further monitoring in order to prevent the emergence of new risks.

MAJOR DEVELOPMENTS BEFORE THE COVID-19 PANDEMIC SHOCK



Financial sector reforms

FATF assessment:
Latvia's AML/CFT system
is sound

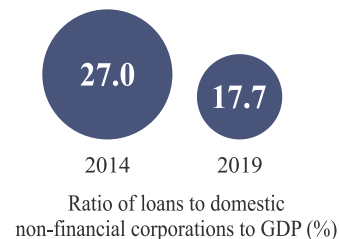


Structural changes

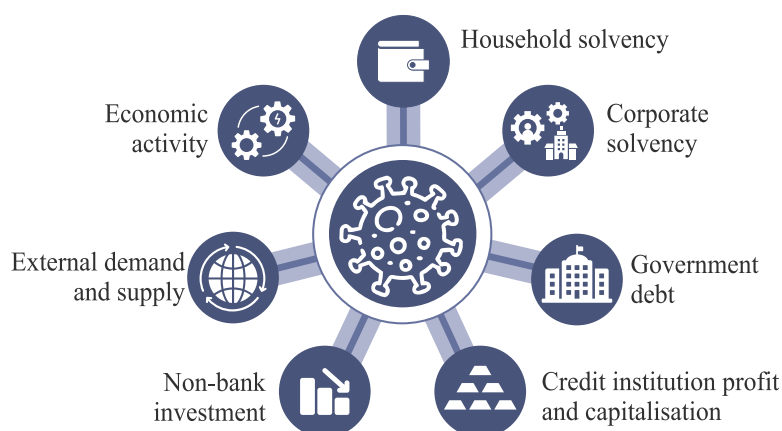
Change in the credit institutions'
business model, funding structure
and shareholder structure



Persistently weak lending

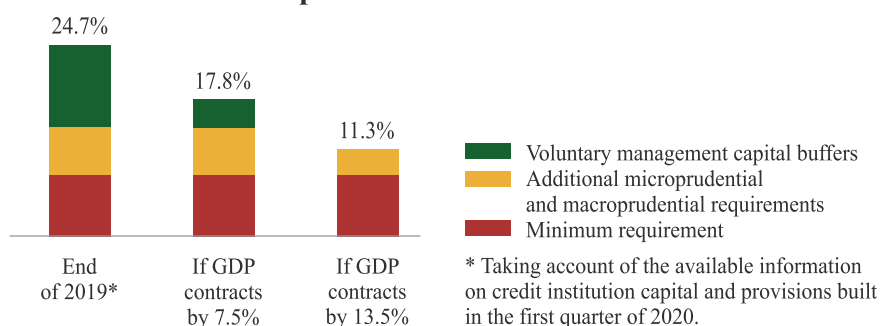


BROAD EFFECTS OF COVID-19 PANDEMIC



OVERALL, CREDIT INSTITUTION SHOCK ABSORPTION CAPACITY IS GOOD

Total capital ratio



Average liquidity coverage ratio



RECOMMENDATIONS FOR PROMOTING FINANCIAL STABILITY



Access to financial intermediation and adequate government support for overcoming the crisis.



Increasing efficiency of AML/CFT framework to help the private sector understand and manage risks.



Addressing structural economic shortcomings and expanding the range of lenders' financial instruments to facilitate lending.



Monitoring the change of the credit institutions' business model to prevent new risks.

1. MACROFINANCIAL ENVIRONMENT AND BORROWERS' SOLVENCY

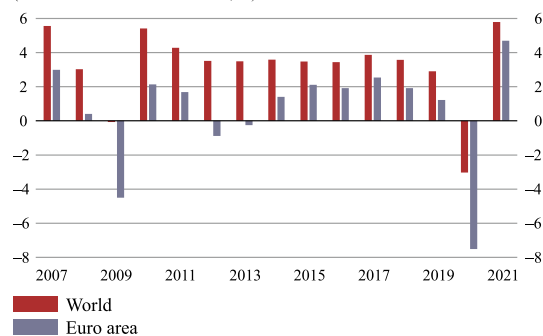
External macrofinancial environment

In 2020, the world economy has been hit by a global shock of an unprecedented scale, the COVID-19 pandemic. Already the initial estimates show that the magnitude of its effect will most likely exceed that of the 2008 global financial crisis. **The effect of the COVID-19 pandemic on global and domestic growth and the financial system is currently the main systemic risk to Latvia's financial stability.** Moreover, the shock triggered by the COVID-19 pandemic materialised in the circumstances of already unstable global economic growth and uncertainties associated with the escalation of trade conflicts between the world's superpowers, geopolitical tensions (including Brexit-related) as well as macroeconomic imbalances in many emerging economies.

By contrast to the previous crises, the economic downturn of 2020 is determined by both supply and demand side shocks. The wide-ranging measures introduced across the globe to contain the spread of COVID-19 have inevitably caused a severe deceleration of the economic activity. Restrictions on movement, quarantine and self-isolation as well as falling incomes have resulted in a lower demand for goods and services, while closure of borders, constraints in production and delivery of services have caused supply chain disruptions and supply shocks. **According to the IMF's assessment², the global economy is projected to contract sharply by 3.0% in 2020 (as compared to a 0.1% fall in 2009; see Chart 1.1) and can be expected to recover in 2021, rebounding to 5.8%.** Expectations of a strong recovery are based on an assumption of an easing of the restrictions and a subsequent rebound of the economic activity in the second half of 2020 as well as ample support measures at the national and international levels.

Central banks, national governments and financial supervisors in Europe³ and other regions are

Chart 1.1
ANNUAL GDP CHANGES
(IMF forecasts for 2020 and 2021; %)



implementing an extensive set of measures with a view to significantly softening the fallout of the COVID-19 pandemic on economies and financial stability. Liquidity providing and other measures of support to businesses, households, banks and financial markets are an important prerequisite for a speedy recovery from the crisis, cushioning the shocks, limiting the disruptions to the economic processes and credit flows and thereby creating a foundation for jump-starting economic growth after the COVID-19 pandemic crisis.

The global economic downturn could be deeper and the recovery could take longer than currently estimated. This could be partly related to insufficient effectiveness of the support measures or flaws in the international coordination of crisis management. Nevertheless, the main downside risk to economic growth is the unpredictable evolution of the COVID-19 pandemic, including the risk of a renewed outbreak following the lifting of mobility restrictions or at a later stage.

The rapid spread of COVID-19 and the related risks to economic growth had a significant impact on the financial market developments and caused deterioration of the financial conditions. Despite the economic deceleration and the elevated uncertainty related to the trade conflicts and geopolitical problems, 2019 and the beginning of 2020 was overall a favourable period in global financial markets. Expansionary monetary policies pursued by central banks supported

² See IMF World Economic Outlook of April 2020.

³ <https://www.esrb.europa.eu/home/coronavirus/html/index.en.html>.

the development of stock markets and low yields on sovereign and corporate bonds. Following the onset of the COVID-19 outbreak, however, the search for yield and asset price growth observed over the previous years were replaced by a significant weakening of the risk appetite. In the circumstances of a heightened financial stress, the volatility of all asset types has increased, and in March 2020 the US stock market volatility index VIX rose above the level of the previous global financial crisis (see Chart 1.2). The drop in the prices of risky assets and commodities has been exceptionally steep, while the prices of traditional safe haven assets (like the US and German government securities) and gold have grown. Financial market stress was compounded by the failure to negotiate oil production cuts and the subsequent collapse of oil prices in spring 2020.

Stress is evident also in the corporate bond markets (see Chart 1.3), having a particularly negative effect on access to finance for lower-rated corporates and increasing the risks faced by banks. The strong increase in corporate bond yields is a result of both revaluation of the previously undervalued corporate risks and investor concerns about the impact of the COVID-19 containment measures on corporate cash flows, profitability and development prospects. Expansion of the monetary stimulus provided by major central banks in spring 2020 partially helped to ease the tension prevailing in the corporate bond markets. Nevertheless, with the economic growth outlook deteriorating substantially, the risk of massive rating downgrades is increasing. That could keep the financial market stress at a high level, considering the large proportion of a low investment grade corporates⁴ as well as the large number of highly-leveraged corporates.

Some euro area member states have been hit particularly hard by the COVID-19 pandemic; therefore, the economic downturn in the euro area overall could be deeper than in other advanced economies. Moreover, the deceleration of global

⁴ According to the ECB's assessment, in 2018 corporate bonds of the lowest investment category rating BBB (including BBB– and BBB+) constituted 45% of all rated corporate bonds in the euro area (see Financial Stability Review, ECB, November 2019).

Chart 1.2
STOCK MARKET INDEX DYNAMICS
(1 January 2008 = 100)

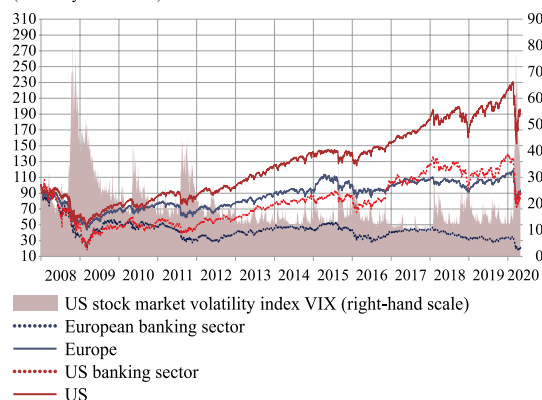
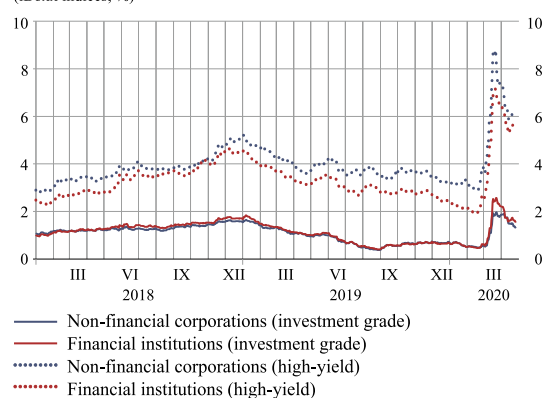


Chart 1.3
EUROBOND YIELDS
(iBoxx indices; %)



economic growth, international trade conflicts as well as the persistent uncertainty related to the Brexit and the transition period had a significant downward effect on euro area's economic growth already in 2019. **The risks to the euro area's financial stability have intensified significantly.** The COVID-19 pandemic caused to materialise most of the systemic risks cautioned against by the ECB over the recent years: a sharp adjustment in risk premia on financial markets, a significant rise in sustainability risks in the corporate sector coupled with a significant decline in the potential for an improvement in the poor profitability prospects of the euro area banks. Robust lending growth and excessively rising real estate prices were until recently observed in many euro area member states and risks related to high private indebtedness remain acute, and this could contribute to a more significant adjustment in housing prices and lower consumption during the economic downturn, with a stronger upward pressure on the credit risk of banks. A significant increase in vulnerability was reflected in falling financial

sector stock prices and rising costs of financing (see Charts 1.2 and 1.3). **At the same time, resilience to shocks has overall grown in European banks over the recent years, whereas the ECB's liquidity providing measures and an active use of the existing flexibility in the banking supervision framework improves the shock absorption capacity of banks.**

Deceleration of economic activity and rising financial stability risks are also observed in the Nordic countries, including Sweden⁵, yet overall to a smaller extent than in other European countries.

One of the sources of vulnerability for Sweden's economy and financial stability remains the high level of household debt, as households may curb their consumption significantly during the economic downturn, thereby contributing to an even deeper fall of the economic activity and increasing the potential loan losses for banks. At the same time, the turbulent global financial markets increase the risks associated with the high dependence of the Swedish banks on market financing, particularly in a situation where incoming news on AML/CFT violations as well as new and potential fines continue to stain the reputation of Nordic banks, negatively affecting their stock prices (see Chart 1.4) and financial performance. Nevertheless, despite substantial stock price volatility observed over the last two years, the yields on bonds issued by the parent banks of Latvia's credit institutions are lower and the assessment of their credit risk in financial markets remains better than the EU banking sector average⁶. High profitability (see Chart 1.5) coupled with low cost-to-income ratios have ensured low costs of financing for the Swedish banks. In March 2020, however, they slightly increased in the circumstances of a major global financial market turmoil.

Resilience to economic and financial turbulences as well as the ability to absorb potential risks is high in the Nordics. These are prosperous European countries characterised by a high level of GDP per capita, ample household savings and low income inequality, strong social security and health care and advanced information

⁵ Home country of the parent banks for two of Latvia's systemically important credit institutions.

⁶ Markit Iboxx EUR Financials index un Markit iTraxx Europe Senior Financials index are used for comparison.

Chart 1.4
STOCK PRICES OF NORDIC BANKS AND STOCK INDEX FOR EUROPEAN BANKS
(1 January 2018 = 100)

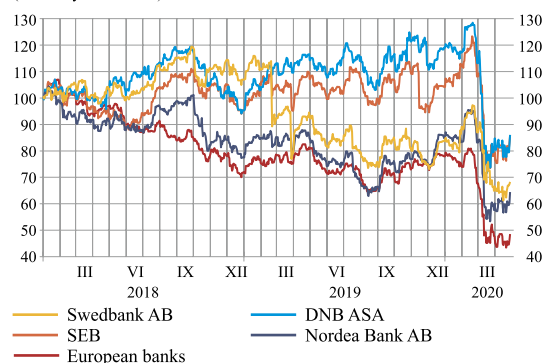
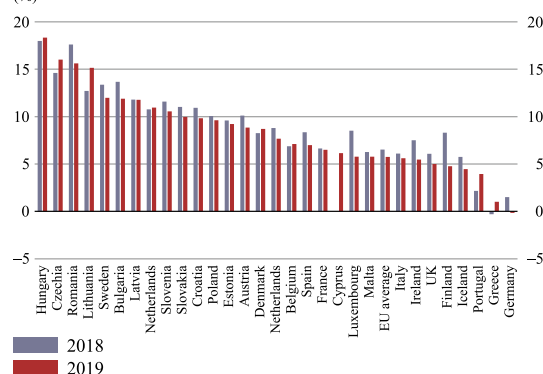


Chart 1.5
AVERAGE ROE OF EU'S LARGEST CREDIT INSTITUTIONS (%)



and communication technologies. It is important that the levels of government debt in the Nordics are overall low and their sovereign ratings are high (including AAA in the case of Sweden, Denmark and Norway), which allows them to expand their fiscal room in order to soften the consequences of the COVID-19 pandemic and support the economy. Moreover, the Nordic central banks and macroprudential supervisors are implementing measures to safeguard the financial stability, encourage lending and thereby reduce the economic disruptions. An important stabilising factor is the US dollar liquidity swap line arrangements between the FRS and some other central banks, including the central banks of Sweden, Denmark and Norway.

In the crisis circumstances, the significant presence of foreign investors in the Latvian financial sector could entail certain risks, for example, dependence on developments in investors' home countries and their strategic decisions. Nevertheless, the ability of Nordic parent banks to provide support to their subsidiaries,

should that need ever arise, has a significant constraining effect on the rise of financial stability risks in Latvia in association with the economic shock caused by the COVID-19 pandemic. Close cross-border cooperation and information exchange between the Baltic and Nordic central banks, supervisors and resolution authorities is also an important prerequisite for supporting the region's financial stability in times of global financial and economic turbulences.

Domestic macrofinancial environment

Latvia's economic development decelerated significantly in 2019: its GDP growth at 2.2% was two times lower than in 2018. The deceleration was largely explained by external factors, although some domestic factors also contributed, including deficiencies in financial intermediation and persistently weak lending. External uncertainties and weakening external demand were primarily reflected in the slowdown of exports of goods and, along with decreasing domestic demand (particularly for imported capital goods), also in decelerating import growth (see Chart 1.6). At the same time, external trade in services was more resilient. With investors becoming increasingly more cautious and lending remaining sluggish, investment growth slowed considerably. Private consumption remained the main contributor to GDP growth, primarily bolstered by the rising real net wages.

Looking by sector, in 2019 a decline in value added was observed in financial and insurance activities (related to structural changes), transport (due to lower volumes of freight transportation through ports, by rail and by road) and energy (mostly as a result of unfavourable weather conditions). Manufacturing growth was hampered by external factors (see Chart 1.7). The development of construction and information and communication services moderated from the previously-observed impressive levels. At the same time, strong growth was reported in agriculture, tourism, professional services and trade.

The COVID-19 pandemic and the associated restrictions have had a significant effect on global and domestic economic growth and have also increased the risks to financial stability. Initially,

Chart 1.6
CONTRIBUTIONS TO ANNUAL CHANGES IN REAL GDP
(seasonally adjusted data; percentage points)

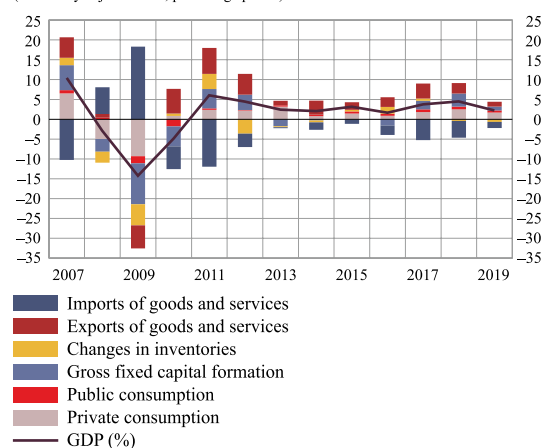
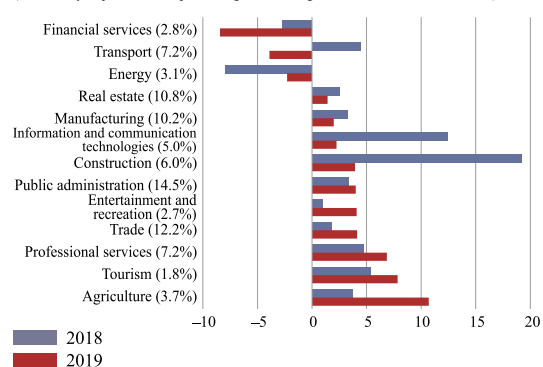


Chart 1.7
ANNUAL CHANGES IN VALUE ADDED BY TYPE OF ECONOMIC ACTIVITY
(seasonally adjusted data; percentage share of gross value added in brackets)



accommodation and food service activities, recreation and entertainment services as well as passenger transportation by air were the sectors suffering most from the global spread of COVID-19 in Latvia. Yet the COVID-19 containment measures, supply chain disruptions as well as the confidence and demand shocks have a negative effect on virtually all sectors of the economy, and the drop in the economic activity is likely to be significant in 2020.

On the side of domestic demand, risks are growing considerably due to weakening investment activity and shrinking household consumption. The COVID-19 pandemic affects the solvency and confidence of consumers and changes their patterns of behaviour. The current crisis is likely to result in longer-term structural changes in consumption, in addition to the near-term ones. Private consumption is accountable for a large share of the gross value added (60%); therefore, it may have a significant effect on GDP growth with

less volatility as compared to investment contributing 23% to the value added.

According to the CSB estimates, seasonally and calendar adjusted GDP decreased by 1.5% year-on-year in the first quarter of 2020, yet a steeper fall is expected in the second quarter of 2020. According to June 2020 forecasts of Latvijas Banka, the overall GDP decline in 2020 is likely to reach 7.5%.⁷

Support measures provided by the EU funds, the ECB, Latvijas Banka and the FCMC, but mostly the measures adopted by the Latvian government and its spending will have the central role in mitigating the crisis impact and restoring economic growth.

With a view to containing the spread of COVID-19, the Latvian government announced a lockdown already on 12 March 2020 and timely introduced restrictions on cross-border travel and well-targeted and effective social distancing measures on the domestic level. As a result, the approach to the COVID-19 containment measures in Latvia did not need to be as radical as in the European regions hit hardest by the COVID-19 pandemic.

At the same time, the government is implementing several support measures to mitigate the economic consequences of the containment measures⁸: a furlough benefit, tax holidays for business, paid sick-leave for COVID-19 related cases, eased conditions for receiving the unemployment benefit. AS Attīstības finanšu institūcija Altum provides loan guarantees and working capital loans to businesses affected by COVID-19; a support fund for large enterprises with public and private financing is being set up; requirements for receiving export credit guarantees have been eased. With the role of publicly financed support measures in the economy growing (including those involving AS Attīstības finanšu institūcija Altum, for example, in

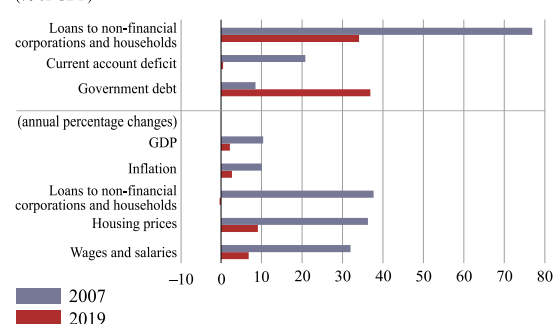
the form of loans and guarantees), particular attention should be paid to an adequate monitoring of resource flows and limiting risks.

Credit institutions are also providing support to households and businesses. The moratorium approved by the Finance Latvia Association and its members (including major credit institutions) provides private individuals and non-financial corporations facing short-term financial difficulties due to the COVID-19 pandemic with an opportunity to defer the loan principal repayments.

The large shadow economy, high inequality, low level of household savings and the financial instability of many corporates observed already before the COVID-19 pandemic suggest that **a part of households and businesses have low resilience even to temporary shocks. At the same time, the overall resilience of the economy and the financial sector to shocks is better than ever, including in comparison with the status before the global financial crisis of 2008.** The significant external and domestic imbalances as a result of which Latvia was hit harder than some other European countries by the global financial crisis of 2008, were not present in Latvia's economy and the credit institution sector in 2019 (see Chart 1.8).

Latvia's participation in the euro area provides access to a vast set of monetary policy and credit institution supervision measures. The ECB's PEPP introduced during the crisis caused by the COVID-19 pandemic as well as extending the existing asset purchase programme and easing the conditions of the targeted longer-term refinancing operations allow credit institutions to borrow at particularly low interest rates and create

Chart 1.8
LATVIA'S MACROECONOMIC FUNDAMENTALS
(% of GDP)



⁷ The macroeconomic projections are based on a baseline scenario projecting a negative effect from the COVID-19 pandemic in the first half of 2020 and assuming a vigorous rebound in the economic activity thereafter.

⁸ See terminated Law on Measures for the Prevention and Suppression of Threat to the State and Its Consequences Due to the Spread of COVID-19 (<https://likumi.lv/ta/en/en/id/313373-on-measures-for-the-prevention-and-suppression-of-threat-to-the-state-and-its-consequences-due-to-the-spread-of-covid-19>).

favourable conditions for the Latvian government's borrowing from international markets.

Last 10 years have seen significant changes in the field of safeguarding the stability of the financial sector both in the euro area overall and in Latvia. The assessment by international organisations MONEYVAT and FATF provided at the beginning of 2020 confirms that Latvia has improved its AML/CFT framework significantly, inter alia implementing financial sector overhaul measures. In February 2020, the international rating agency S & P Global Ratings also upgraded Latvia's sovereign credit to a historical high (from A to A+), expressing appreciation to Latvia's fiscal policy and the accomplishments in restoring the reputation of its financial system. The fiscal discipline pursued over the recent years allows to provide sizeable support to businesses and households. The investors' confidence in Latvia as a trustworthy borrower enabled Latvia to borrow 1.55 billion euro in March and April 2020, increasing the pool of government budget funding available to stimulate the economy and implement support measures to overcome the consequences of the COVID-19 pandemic.

Financial vulnerability of households and non-financial corporations

In 2019 and the first two months of 2020, household solvency continued to improve, albeit more slowly than before, given the economic deceleration. Real net wage increased by 3.9% in 2019 (by 7.2% in 2018). The rate of jobseekers decreased to 6.3% of economically active population in 2019 (7.4% in 2018; see Chart 1.9).

The COVID-19 pandemic and the associated measures to contain the spread of COVID-19 represent a significant shock which will have an effect on the unemployment rate, household income and solvency. Short-term risks to the household solvency are partly alleviated by the government's support measures and the private sector moratorium with regard to loans to private individuals. **Further changes in household solvency will depend on the depth of the recession and the effectiveness of the government's support measures.**

Chart 1.9
RATE OF JOBSEEKERS AND ANNUAL CHANGES IN REAL NET WAGE (%)

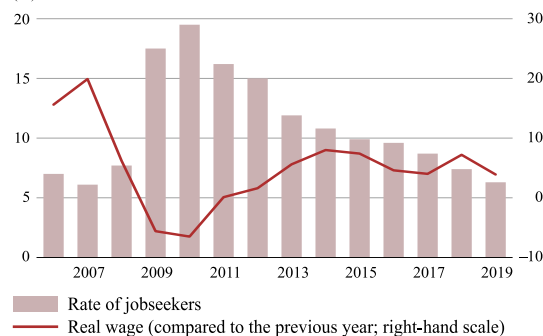
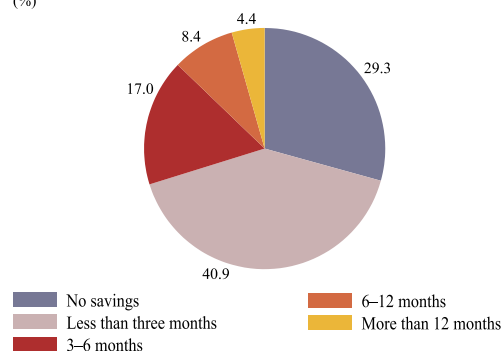


Chart 1.10
SPLIT OF RESPONSES TO CSB SURVEY QUESTION: "HOW LONG WOULD YOUR HOUSEHOLD BE ABLE TO MAINTAIN THE CURRENT LIVING STANDARDS IN THE ABSENCE OF INCOME AND USING YOUR SAVINGS?" (%)



Although the resilience of households to shocks has overall improved over the most recent years, **the ability of Latvian households to overcome a sudden crisis is impaired by the generally low levels of savings and income.** According to the preliminary estimate by the CSB⁹, almost 1/3 (29.3%) of households had no savings at the beginning of 2020, 40.9% of households had savings that would allow them to maintain the current living standards for a period of up to three months and only 29.8% of households had savings that would allow them to maintain the current living standards for three months or longer (see Chart 1.10). According to a survey conducted by Swedbank AS in 2019¹⁰, 67% of respondents only had savings up to the level of one average monthly wage. Deposits by Latvia's households equalled 25.0% of GDP at the end of 2019 (19.6% at the end of 2007), while the euro area average is 67.1% of GDP.

⁹ <https://www.csb.gov.lv/en/statistics/statistics-by-theme/social-conditions/poverty/search-in-theme/2834-293-households-did-not-have-any-savings>.

¹⁰ <https://www.db.lv/zinas/latvijas-iedzivotaji-sogad-spejusi-uzkrat-vairak-493625>.

At the same time, it has to be noted that **the household resilience to shocks is overall much better than before the financial crisis of 2008**. Household debt is more than two times smaller than before the financial crisis of 2008. This will decrease the impact of the rising household credit risk on the financial stability and the extent of the contraction in the household consumption. At the end of 2019, the ratios of household liabilities to MFIs and leasing companies to GDP and to the disposable income off households were 17.8% and 28.8% respectively (39.4% and 66.8% in 2007). In comparison with the euro area average (57.9% of GDP), the aggregate level of household indebtedness in Latvia at 20.3% of GDP is to be considered low.

Unlike before the financial crisis of 2008, the net position of Latvian households (household deposits with MFIs minus loans from MFIs and leasing companies) is positive: 7.2% of GDP at the end of 2019 as opposed to the negative net position of –19.9% GDP at the end of 2007 (see Chart 1.11).

The interest payments burden of households is also lighter than before the financial crisis of 2008. At the end of 2019, households' interest payments on loans with credit institutions amounted to 0.62% of GDP (2.31% of GDP at the end of 2007). However, the interest payments paid by households to non-bank lenders should also be added to this burden. Interest payments to non-bank lenders (0.42% of GDP) exceeded half of the amount of interest paid to credit institutions (see Chart 1.12).

According to the results of the household survey organised by Latvijas Banka¹¹, loan payments (including interest) exceeded 30% of the household's total monthly income for only about 1/5 of the surveyed borrowers at the beginning of 2020 (see Appendix 2). At the same time, 42% of the respondents admitted that, with the monthly payments on their borrowing growing by 20%–25%, they would no longer be able to make all monthly payments without renegotiating the loan repayment schedule, and only 13% of the borrowers would be able to make payments on their loans without cutting back on their spending (see

¹¹ Annual household survey on monetary and credit institution system in Latvia organised by Latvijas Banka.

Chart 1.11
HOUSEHOLD LIABILITIES TO MFIs AND LEASING COMPANIES, DEPOSITS AND NET POSITION TO GDP (%)

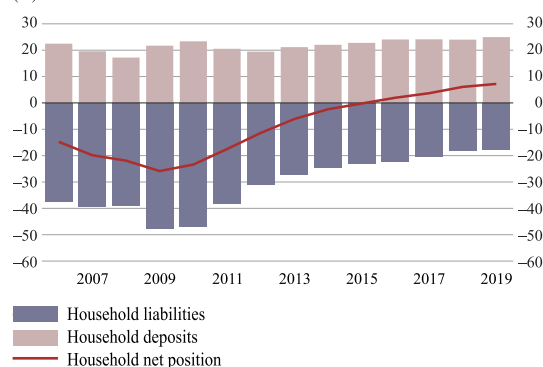


Chart 1.12
HOUSEHOLD INTEREST PAYMENTS TO GDP (%)

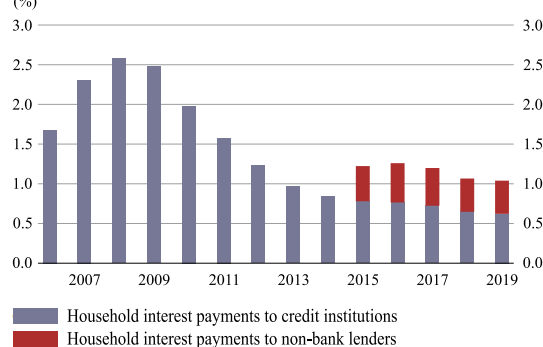


Chart 1.13
SPLIT OF RESPONSES TO SURVEY QUESTION: "HOW WOULD YOU EVALUATE YOUR DEBT REPAYMENT ABILITY IF THE MONTHLY PAYMENT ON YOUR BORROWING GREW BY 20%–25%?" (%)

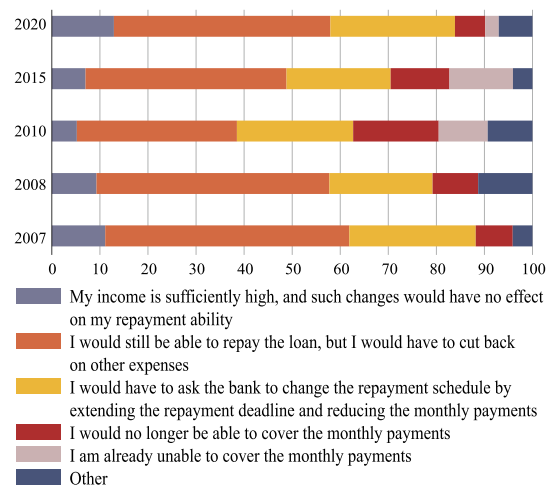


Chart 1.13). Household stress tests conducted by Latvijas Banka on the basis of a survey of household borrowers suggest that households are highly sensitive to a decrease in employment income.

On the eve of the COVID-19 pandemic, the quality of household loans granted by credit institutions was high. The gap between calculated and recognised interest income had almost narrowed to zero, and the number of insolvency cases filed was negligible. Grace period on loans granted by credit institutions and the government measures will help to prevent a significant increase in loans past due for some time. However, should the crisis drag on, the loan quality would deteriorate and the number of household insolvency cases would grow.

At the beginning of 2020, still more than 10 thousand people had uncollectible debt on loans granted before the end of 2008 that credit institutions have already written off to losses. Latvijas Banka has recommended that such uncollectible debts should be cancelled. This would allow the people concerned to become active participants of the economy and lending again, without affecting the credit institutions, as those debts are already written off, but they cannot be cancelled unilaterally.

In addition to that, a new law has been drafted providing low income individuals with small amounts of debt obligations with an opportunity to be released from those debt obligations following a specific procedure.

The solvency of non-financial corporations overall continued to improve in 2019, although, just like in the case of households, the pace of improvement was lower in the circumstances of decelerating economic growth. The turnover of non-financial corporations increased by 3.5% in 2019 (by 9.9% in 2018 and 11.7% in 2017). Higher turnover was reported in all sectors, except in electricity, gas steam and air conditioning supply (see Chart 1.14). Average profitability remained sound (4.3%; 4.1% in 2018 and 4.4% in 2017), although in some sectors (construction, real estate operations and accommodation and food service activities) it deteriorated significantly (see Chart 1.15).

Debt burden of non-financial corporations continued to ease in 2019. As at the end of 2019, the debt of non-financial corporations¹² totalled 55.3% of GDP

¹² Debt to credit institutions, non-financial corporations, households and other financial intermediaries.

Chart 1.14
YEAR-ON-YEAR CHANGES IN TURNOVER OF NON-FINANCIAL CORPORATIONS AND SECTORAL CONTRIBUTIONS (%)

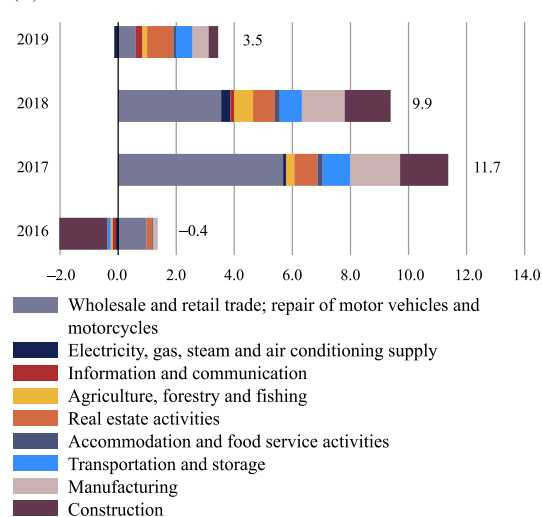
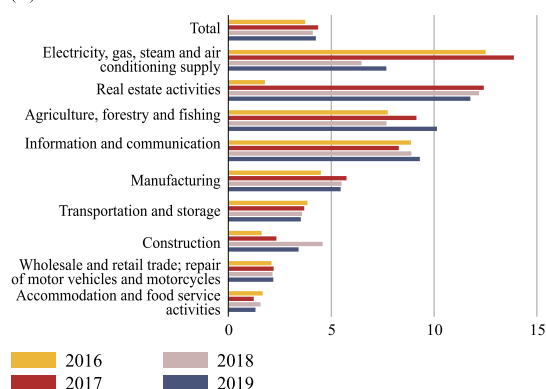


Chart 1.15
PROFITABILITY OF NON-FINANCIAL CORPORATIONS (PROFIT BEFORE TAXES TO TURNOVER) BY SECTOR (%)



(57.3% of GDP in 2018), including their debt to credit institutions and leasing companies amounting to 22.2% of GDP (23.8% of GDP in 2018). At the same time, their equity and cash balances increased, despite the fact that non-financial corporations could still use the option to pay out the dividends on profits up to 2017 (inclusive), without applying CIT in the amount of 20% of the distributed profits (dividends)¹³. Thus the debt-to-equity ratio of non-financial corporations

¹³ As of 2018, reinvested earnings are no longer subject to CIT, but the CIT rate on distributed earnings has been raised to 20%. These changes were introduced with a view to stimulating an increase in equity on the balance sheets of non-financial corporations, thereby improving their prospects of receiving finance for development. Over the transitional period in 2018 and 2019, non-financial corporations were allowed to pay out dividends on retained earnings up to 2017, without applying the new CIT rate.

slightly improved (to 1.49; 1.51 in 2018), nevertheless undershooting the average capitalisation level of peers from the neighbouring countries¹⁴. The moving average interest coverage ratio of non-financial corporations (i.e. the ratio of earnings before interest and taxes to interest expense) remained high (9.5; see Chart 1.16).

The financial indicators of non-financial corporations are much better than before the financial crisis of 2008. At the end of 2007, the debt of non-financial corporations totalled 71.1% of GDP, including debt to credit institutions amounting to 39.2% of GDP. Their debt-to-equity ratio was 2.2, whereas the interest coverage ratio was 4.1.

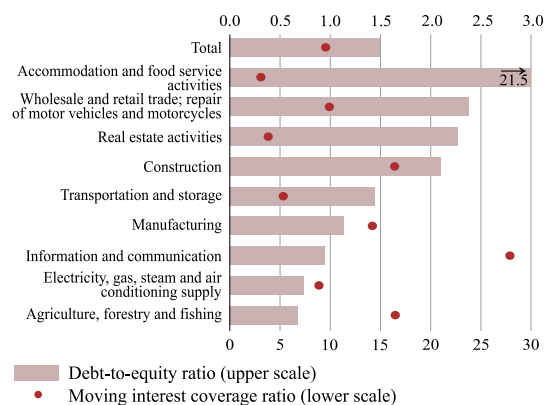
Nevertheless, the financial indicators of several sectors were quite low on the eve of the COVID-19 pandemic, suggesting insufficient resilience to shock in these sectors. Moreover, some of them are sectors that were the first to be directly exposed to the impact of the COVID-19 containment measures. Low profitability and high debt-to-equity ratios are reported in accommodation and food service activities, construction and trade. Accommodation and food service activities, transport and storage as well as real estate activities have historically low interest coverage ratios.

Sooner or later, the COVID-19 containment measures affect companies from virtually all sectors via both external and domestic demand and supply shocks. In the short-term, the solvency risks will be partly alleviated by the adopted government support measures, particularly tax holidays, furlough benefits and the new support tools of AS Attīstības finanšu institūcija Altum, as well as the private moratorium on loans to non-financial corporations.

In 2019, the number of legal entities' insolvency cases filed decreased by 5.6%, whereas the number of newly-registered companies remained unchanged. The number of companies excluded from the commercial register of the Register of Enterprises in 2019 increased by 15.1% in comparison with the previous year. The simplified

¹⁴ At the end of 2018, the debt-to-equity ratios of Lithuanian and Estonian non-financial corporations were 1.04 and 0.81 respectively.

Chart 1.16
DEBT BURDEN AND INTEREST PAYMENT BURDEN OF NON-FINANCIAL CORPORATIONS IN 2019



liquidation procedure was used to remove inactive capital companies from the commercial register of the Register of Enterprises, whereas particularly high risk companies failing to disclose their beneficial owners were removed from the register as a result of tightening the AML/CFT measures. Much tighter AML/CFT requirements have been introduced over the most recent years and they are applicable to both subjects of the AML/CFT law as well as other non-financial corporations. Part of the companies still have to adjust to the significantly modified overall risk perception and more stringent AML/CFT requirements.

Real estate market development

In 2019, Latvia's real estate market was characterised by moderate activity and rising prices. In 2020, the COVID-19 pandemic is likely to dampen the market activity and housing prices. Nevertheless, the adjustment in the housing market is unlikely to reach the magnitude observed during the financial crisis of 2008 when the collapse of the housing prices was caused by significant overheating of the housing and lending markets as well as of the economy overall. Unlike during the 2008 financial crisis, the increase of housing prices observed over the most recent years was not associated with excessive lending, high market activity and speculative investment. The fallout from the COVID-19 pandemic will also be partly mitigated by the government support measures to businesses and the employed.

Over the most recent years, the number of the real estate purchase deals in Latvia overall remained

stable and broadly unchanged. At the same time, the CSB's house price index continued to rise steadily, yet, contrary to the CSB statistics, market experts view the housing price developments as moderate.

The CSB's house price index grew by 9.4% in 2019, including a 8.7% rise in the case of existing dwellings and a 12.7% increase in the case of new dwellings (see Chart 1.17). At the same time, according to the data provided by real estate companies, the rise of the housing prices in 2019 was much lower: standard apartment prices in Riga¹⁵ increased by 3.8% (by 4.0% in 2018), whereas the prices¹⁶ of apartments in new projects in Riga's housing districts rose by just 0.4% (by 5.1% in 2018), which is in line also with the deceleration of the economic growth¹⁷.

The dynamics of the CSB's house price index is also partly affected by methodological aspects. Latvia's housing market is rather small and heterogeneous, particularly in the new projects segment¹⁸; therefore, the movements of the harmonised house price index may be significantly influenced by individual transactions and changes in the structure of market transactions. Moreover, the estimate of the CSB's price index for new apartments only includes previously unoccupied apartments in new multi-dwelling houses that are sold within 3 years of commissioning. Consequently, part of purchases of renovated housing as well as transactions on the secondary market of new housing are included in the CSB's estimate of the price index for existing dwellings. Given the ongoing structural changes in the housing market, i.e. the constantly growing share of new and renovated apartments on

¹⁵ Latvian Real Estate Association and SIA ARCO REAL ESTATE.

¹⁶ Latvian Real Estate Association.

¹⁷ Company data on changes in housing prices are used only as additional inputs into the analysis of the real estate market developments, as the data publications are not based on a common methodology. In other fields of analysis (for example, the risk dashboard of early warning indicators, composite cyclical risk indicator as well as when selecting additional indicators for setting the CCyB), the CSB's house price index is used, which is based on a methodology approved by the EC and is comparable across EU Member States (at the same time, being aware of the impact of the specifics of Latvia's real estate market on the dynamics of the house price index). Realising incompleteness of data, new solutions for analysing the real estate market developments will be explored.

¹⁸ In 2019, 1889 apartments in multi-dwelling houses were commissioned (1726 apartments in 2018).

Chart 1.17
CSB's HOUSE PRICE INDICES AND THE AVERAGE PRICE INDEX FOR STANDARD APARTMENTS IN RIGA
COMPILED BY REAL ESTATE COMPANIES
(2010 = 100)

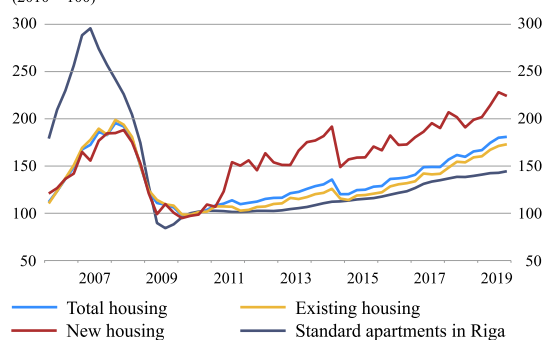
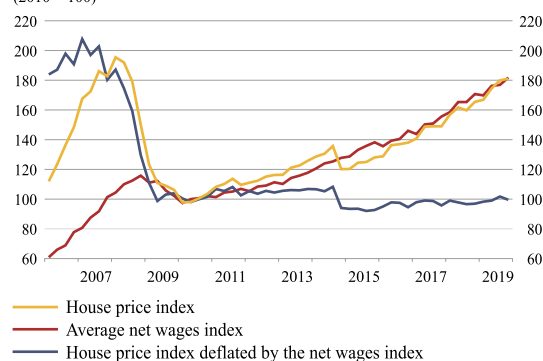


Chart 1.18
AVAILABILITY OF HOUSING
(2010 = 100)



the housing market, the CSB's price index for existing apartments, in addition to merely showing the rise in prices, may also reflect changes in the quality of apartments.

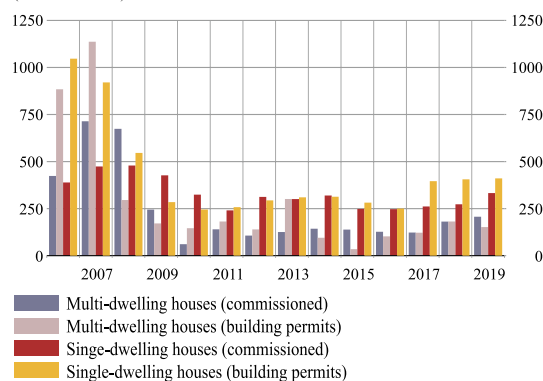
Overall, the availability of housing remained stable, with the annual growth of the CSB's house price index outpacing that of the average wage only slightly (see Chart 1.18). The availability of standard apartments in Riga remained unchanged, with prices and household income growing at a similar pace. The period of time needed to save for the first down-payment, and the ratio of monthly payment on the housing loan to average wages of two working household members also remained stable. Over the most recent years, the access to loans and housing availability have been supported by the state support programme for families with children and young professionals. In the circumstances of an economic downturn, the household solvency is bound to deteriorate and banks can be expected to become increasingly cautious when granting loans for house purchase, resulting in an overall decrease in the availability of housing.

2019 saw the highest number of apartments commissioned in multiple dwelling houses since 2010 (annual growth of 9.4%; see Chart 1.19). Nevertheless, the developments in housing construction and renovation observed over the most recent years have been too sluggish to improve the availability of high quality housing. The rate of growth in housing construction has been persistently lower than the respective rate in Estonia and Lithuania. In 2019, commissioned dwelling space (per population as at the beginning of 2019) in Estonia and Lithuania exceeded that in Latvia by 77% and 65% respectively, whereas the dwelling space indicated in the issued building permits was 70% and 79% larger.

There is a shortage of high quality and affordable housing in Latvia. The quality of housing is overall quite poor and its energy efficiency parameters are low. According to the Eurostat data, Latvia's housing quality parameters (for example, overcrowding rate, housing deprivation, age of housing stock) are among the lowest in the EU. At the same time, the ability of construction companies to increase the supply of affordable and high quality housing is limited. Investment in housing construction is overall low, and development of new economy class residential buildings has been limited. The increase in the housing stock is not commensurate with the shortage of housing. Construction is negatively affected by bureaucratic flaws in the construction process¹⁹, shortage of labour as well as the large proportion of the shadow economy in the economy as a whole. The rise in construction costs has also been steep. Moreover, the opportunities to increase the stock of high quality housing are limited by the low level of household savings and insufficient official income. Part of households has limited access to credit institution financing and high quality new housing because of their poor credit history (including the previously-taken payday loans). Another obstacle to new housing development is also the shortcomings of the Law on Residential Tenancy, having an effect on both the rental market and construction of new tenement houses.

¹⁹ For example, in Doing Business 2020 survey Latvia ranks lower than Estonia and Lithuania as well as the average of the OECD high-income economies in terms of dealing with construction permits and getting electricity and lower than other Baltics in terms of registering property.

Chart 1.19
NEW COMMISSIONED APARTMENTS AND ISSUED BUILDING PERMITS
(thousands of m²)



Although the rapid deceleration of the economic activity in Latvia and across the globe could partly remove some of the obstacles (for example, improving the availability of labour and reducing construction costs), overall, **further development of the housing stock in Latvia could be significantly delayed due to the economic consequences of the COVID-19 pandemic. In order to support an upgrade of the housing stock, significant structural changes in the field of construction are required.**

The activity in the commercial property sector was rather high in 2019. Nevertheless, the COVID-19 containment measures and the economic downturn have a direct or indirect effect on all segments of commercial property. In the crisis circumstances, a further increase in unoccupied premises and shrinking rent payments and returns in the segments in offices and shopping malls can be expected. New projects and reconstruction projects developed over the most recent years increased the share of unoccupied premises in the offices segment. The turnover of shopping malls is shrinking on account of contracting retail trade as a result of lower purchasing power of households and increased caution, despite the resilient demand for food products. In the circumstances of decreasing customer flows and tightening restrictions on operation, some tenants of shopping malls discontinue their operation. This reduces the income of shopping malls, thereby decreasing their debt sustainability and increasing the probability of default, as shopping malls are co-financed by credit institution loans. Eight out of 20 major borrowers in the real estate sectors are shopping malls. As at the end of 2019, loans to shopping malls

accounted for 20.5% of all credit institution loans to the real estate sector or 7.3% of credit institution loans to non-financial corporations.

The teleworking experience gained during the lockdown and the observed change in consumer behaviour patterns could contribute to some restructuring of office work and retail trade which could subsequently have an effect on the development prospects of certain commercial property segments also after the end of the COVID-19 crisis. A relatively more moderate impact can be expected in the industrial premises and warehouses segment.

The government's support measures and the grace period for loan repayments mitigate the short-term effects of the restrictions and economic deceleration on the commercial properties market. At the same time the depth and length of the fall in activity in the commercial property sector will largely depend on the duration of the COVID-19 pandemic and lifting of the COVID-19 containment measures.

2. DEVELOPMENT AND RISKS OF THE CREDIT INSTITUTION SECTOR

Credit growth

Domestic lending by credit institutions was sluggish prior to the COVID-19 pandemic. The fourth quarter of 2019 saw the pace of domestic lending slow down, and domestic loans showed a year-on-year decrease of 2.4% in February 2020. The exclusion of one-off factors related to the cancellation of licences of two credit institutions²⁰ did not improve the situation either, i.e. the annual rate of change in loans was negative in February (–1.4%²¹). The pace of domestic lending declined significantly in the segment of non-financial corporations, while the annual growth rate of loans to households remained stable albeit low (approximately 1%). In February 2020, loans to domestic non-financial corporations and households were 0.8% lower in year-on-year terms (see Chart 2.1).

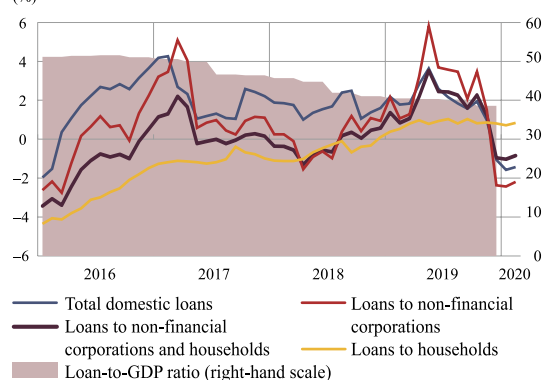
Development of lending to non-financial corporations was uneven in 2019 and early 2020 and weak as a whole, i.e. the annual growth rate of loans in this segment fluctuated from 3.5% to 5.8% in mid-2019 to –2.2% in February 2020. The increase in loans observed at the beginning of 2019 was driven by some large-sized long-term loans the agreements of which were signed before 2019 and which were gradually paid out in instalments. In 2019 and early 2020, however, new large lending projects were not implemented and the amount of new loans to non-financial corporations was small.

The decline in lending growth rate was partly attributable to an increased caution among borrowers and lenders due to a slowdown in the external demand and domestic growth. It was also the private sector's adaptation to stricter AML/CFT requirements that partly affected lending deceleration. The non-financial private sector is not fully aware of the additional AML/CFT requirements and a more scrupulous approach

²⁰ The banking licence of the Latvian branch of Scania Finans AB was cancelled in November 2019 but that of AS PNB Banka – in February 2020.

²¹ The remainder of this section reflects lending data, excluding the one-off effects associated with the cancellation of credit institution licences and sectoral reclassification effects.

Chart 2.1
ANNUAL RATE OF CHANGE IN DOMESTIC LOANS* AND DOMESTIC LOAN-TO-GDP RATIO (%)



* For the sake of comparability, the one-off effects related to structural changes in the credit institution sector and the impact of loan reclassification have been excluded.

employed by credit institutions in their cooperation with customers. Meanwhile, credit institutions, out of concern for violation of AML/CFT requirements, often choose risk aversion rather than risk management, particularly in the absence of certain guidelines on these requirements, or costs related to enhanced customer due diligence do not match the benefits derived from customer service.

A gradual exit of the Latvian branch of Danske Bank A/S from the market²² and the contraction of the loan portfolio of an important market player Luminor Bank AS due to changes in its financing structure affected lending to non-financial corporations in Latvia and other Baltic States. According to the information published in the credit institution's interim report for the fourth quarter of 2019²³, its loan portfolio of non-financial corporations in the Baltic States has contracted by 17%, including Latvia by 15%. Other market participants offset the fall in this lender's market shares; however, the overall lending market activity is weak, and the pace of lending of most of other lenders decelerated as well in the fourth quarter of 2019 and early 2020. The rate of lending to non-financial corporations has also decreased in

²² <https://danskebank.lv/par-banku/footer/pakalpojumu-izbeigsana#tip1>; <https://danskebank.lv/juridiskampersonam/finansejums/kreditu/kreditu>.

²³ Luminor Bank AS Interim Report Q4 2019, pp. 11–12. https://www.luminor.ee/sites/default/files/documents/files/common/luminor_q4_2019_interim_report_en.pdf.

Lithuania (the ratio of these loans to GDP is also similar), but Estonia saw more dynamic development and its loan-to-GDP ratio is significantly higher (see Chart 2.2).

In 2019, interest rates on loans to non-financial corporations somewhat increased (see Charts 2.3 and 2.4). This could be mainly explained by insufficient competition in the Latvian credit market. Other Baltic States also witnessed similar developments. Meanwhile, such developments are not present in the household sector. Possibly, this can be explained by the fact that credit institutions' offers to customers in the housing market are more standardised, previous cooperation with a certain credit institution plays a reduced role therefore borrowers have more opportunities to choose an attractive offer based on the interest rate offered. Overall, interest rates in Latvia are higher than those in neighbouring countries for a long time already, mainly on account of a deeper financial crisis of 2008.

Slow lending growth is related to both supply and demand factors, including the lack of competitive pressure in lending to non-financial corporations, particularly in medium-to-higher risk segments. To promote opportunities for and interest in being more active in the credit market, it is crucial to fundamentally address persistent structural economic problems, such as shadow economy, insufficient capitalization of potential borrowers and ineffectiveness of the legal environment, thus making the business environment more efficient, transparent and safer. It is also necessary to take other medium and long-term measures to facilitate economic activity.

According to the results of the bank lending survey conducted by Latvijas Banka in cooperation with the ECB in March 2020 (see Chart 2.5), **the demand from non-financial corporations for loans edged down already in the second half of 2019, but the COVID-19 pandemic factor has affected the forecast for the slump in demand from households in the second quarter of 2020. Lending policy pursued by credit institutions remained cautious throughout 2019 and in early 2020.** In 2019, credit standards tightened as a whole since credit institutions responded to future prospects of some sectors and businesses and stricter

Chart 2.2
RATIO OF CREDIT INSTITUTIONS' LOANS TO NON-FINANCIAL CORPORATIONS AND HOUSEHOLDS TO GDP AT THE END OF 2019 AND THE ANNUAL RATE OF CHANGE* IN FEBRUARY 2019 AND 2020

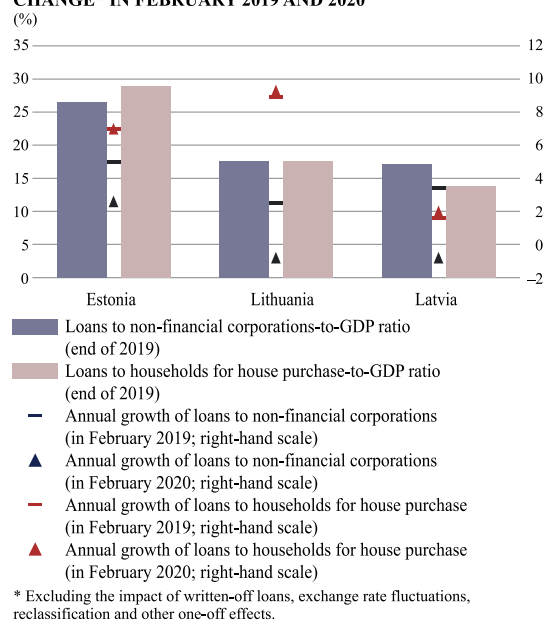


Chart 2.3
COST OF BORROWING ON NEW LOANS IN EURO TO NON-FINANCIAL CORPORATIONS
(12-month average; %)

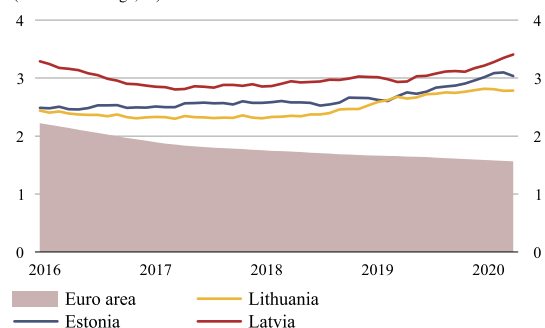
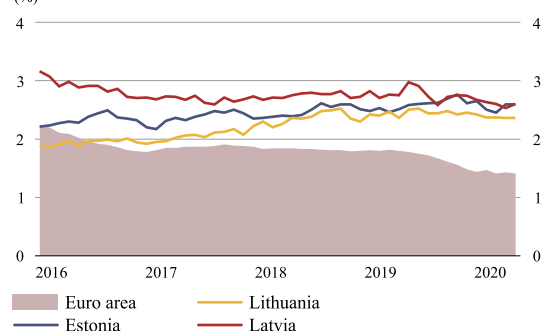


Chart 2.4
COST OF BORROWING ON NEW LOANS IN EURO TO HOUSEHOLDS FOR HOUSE PURCHASE
(%)



AML/CFT requirements. In the first quarter of 2020, credit institutions reported on more stringent credit standards, and they have no intention to ease them also in the second quarter (primarily with regard to loans to households).

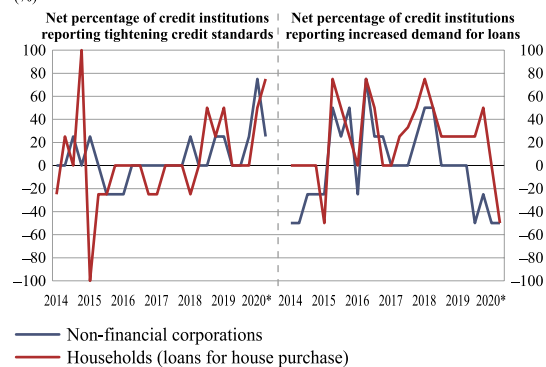
The annual growth rate of loans to households was robust but slow in 2019 and early 2020 (0.8% in February 2020), and an increase in new loans to households was more moderate in year-on-year terms. Household lending was supported by an improvement in the financial standing of households, the low interest rates and the state support programme for house purchase for families with children and young professionals²⁴. The state support programme plays a crucial role, i.e. in 2019, state-guaranteed loans constituted 45% of the new loans for house purchase and 19% of the stock of loans for house purchase (see Charts 2.6 and 2.7).

The state support programme contributes to the availability of loans for house purchase and activates lending for housing. However, state-guaranteed loans already account for a significant share of loans for house purchase, and the state support programme enables an increasing number of borrowers having insufficient experience of making savings to take large loans (stimulated by a condition that the maximum LTV may reach 95%), thus increasing the potential household vulnerability. Moreover, the stimuli included in the programme encourage the borrowers, who actually do not need state guarantees, to apply for support. This suggests that the conditions of the state support programme should be revised following economic recovery from the crisis caused by the COVID-19 pandemic. For example, the state support programme should also include the linkage with tackling structural problems of Latvia's obsolete residential real estate (e.g. by removing incentives for the state-supported purchase of housing that does not meet certain energy efficiency or other requirements).

At the same time, this programme shall not be considered the primary and most effective way of addressing the availability of housing, the persistently insufficient renovation of housing fund and hence also mortgage lending without combating the underlying causes of problems: the shadow economy, inefficiencies in the construction sector, renovation of housing fund and the rental market, etc. Although the crisis caused by the COVID-19 pandemic will overshadow these problems

²⁴ See Box 2 "The effect of the state support programme for house purchase" in Latvijas Banka Financial Stability Report 2019.

Chart 2.5
CREDIT STANDARDS AND LOAN DEMAND (%)



* The last value refers to expectations for the second quarter of 2020.

Chart 2.6
NEW LOANS TO HOUSEHOLDS GRANTED WITHIN THE STATE SUPPORT PROGRAMME FOR HOUSE PURCHASE (millions of euro)

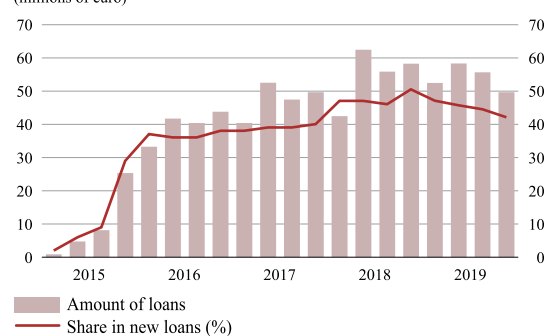
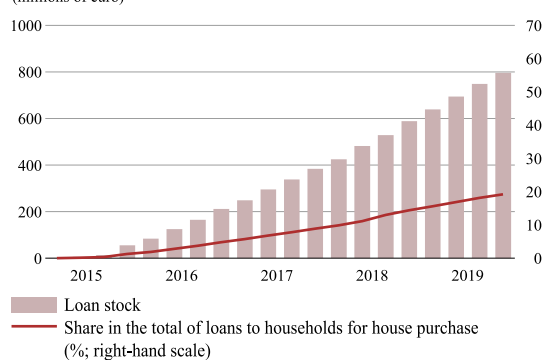


Chart 2.7
OUTSTANDING AMOUNT OF LOANS TO HOUSEHOLDS GRANTED WITHIN THE STATE SUPPORT PROGRAMME FOR HOUSE PURCHASE AND THEIR SHARE IN TOTAL LOANS TO HOUSEHOLDS FOR HOUSE PURCHASE (millions of euro)



in the near future, it would be important to reduce structural barriers to renovation of housing fund and lending in the long run. Housing construction and mortgage lending in Latvia has already long been lagging behind other Baltic States. In Latvia, the ratio of total loans to households for house purchase to GDP is significantly lower than that in Lithuania and Estonia (see Chart 2.2).

The role of leasing companies in lending to the economy continued on an upward path (see Chart 2.8), but the annual growth rate of their loans slowed down. Leasing companies operating in Latvia are mostly subsidiaries of credit institutions²⁵. In 2019, loans granted by leasing companies to domestic households and non-financial corporations increased by 3.6% (by 6.8% in 2018). Total loans of credit institutions and leasing companies to domestic non-financial corporations and households remained almost unchanged (a decrease of 0.1%; see Chart 2.9).

Similar to the credit institution sector, the slower pace of growth was affected by a targeted reduction in the loan portfolio of some major market participants as well as a slowdown in economic growth and a more stringent assessment of ML/FT risks. Loans granted by leasing companies to domestic households increased by 8.6% and those to non-financial corporations – by 2.2%. The relatively strong growth rate of loans to households was supported by stable net wage growth in 2019 as well as consumer expectations of further income growth.

Given the high share of cars in the new leasing purchases²⁶, the expected decline in consumption in the economy due to the COVID-19 pandemic will mirror in a strong drop in loans from leasing companies. Weakening investment and slower absorption of EU structural funds (which in previous years boosted non-financial corporations' demand for leasing) will also lead to lower demand for loans granted by leasing companies.

In recent years, the low level of lending has been one of the factors hindering more dynamic economic development, but **the debt of the private non-financial sector to credit institutions is thus low** (one of the lowest in the EU; see Chart 2.10). **This makes Latvia's situation significantly different from the 2008 financial crisis, and in the current circumstances of the COVID-19 pandemic, this may prove to be an advantage** allowing the private sector to ease this crisis and reducing the impact on domestic consumption.

²⁵ At the end of 2019, 94.7% of leasing companies (by volume of assets) were subsidiaries of credit institutions.

²⁶ In 2019, the share of cars was 54.1%, that of commercial vehicles – 15.5%, that of equipment – 29.9%, that of other purchases – 0.5%.

Chart 2.8
LOANS TO DOMESTIC NON-FINANCIAL CORPORATIONS AND HOUSEHOLDS BY CREDIT INSTITUTIONS AND NON-BANK LENDERS

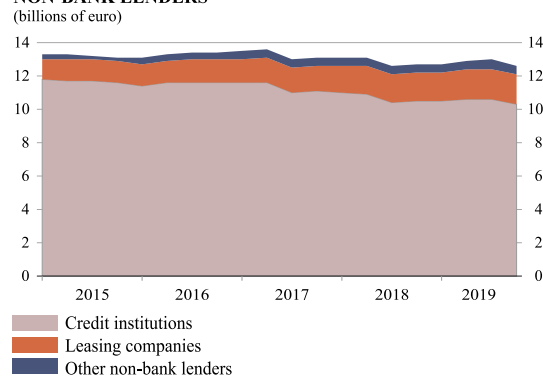
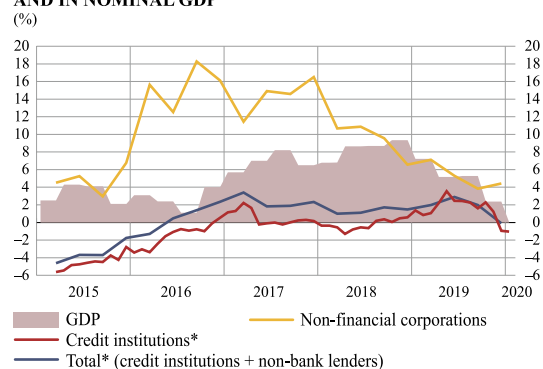
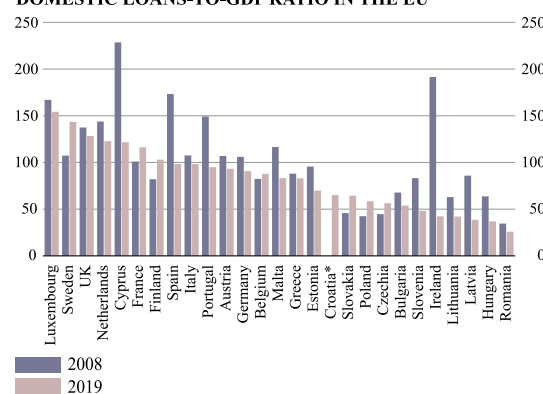


Chart 2.9
ANNUAL RATE OF CHANGE IN LOANS TO DOMESTIC NON-FINANCIAL CORPORATIONS AND HOUSEHOLDS AND IN NOMINAL GDP



* For the sake of comparability, the one-off effects related to structural changes in the credit institution sector and the impact of loan reclassification have been excluded.

Chart 2.10
DOMESTIC LOANS-TO-GDP RATIO IN THE EU



* EU Member State since 1 July 2013.

At the same time, the persistence of overly cautious credit supply and demand can deepen the crisis and hamper the resumption of growth following the lifting of measures to curb the COVID-19 pandemic.

The domestic loan portfolio will contract as a result of the crisis caused by the COVID-19 pandemic. With borrowers' financial situation and macroeconomic

environment deteriorating and cautiousness increasing, both demand and supply will decline. Some non-financial corporations will postpone their investment plans. However, at the same time, in the conditions of the crisis, the liquidity of non-financial corporations will deteriorate and the need for current asset financing will increase significantly.

The government is implementing several programmes to prevent the credit crunch and support non-financial corporations affected by the crisis, including:

Guarantees for loan holidays enabling credit institutions to defer payments of principal for a longer period (up to two years). Funding for credit guarantees will allow credit institutions to restructure and grant loans amounting to 715 million euro (14% of the total loan portfolio of domestic non-financial corporations of the credit institution sector in February 2020).

Current asset loans on preferential terms provided by AS Attīstības finanšu institūcija Altum. Under this programme, loans of around 200 million euro (or 4% of the credit institutions' loan portfolio) are available to non-financial corporations hit by the crisis caused by the COVID-19 pandemic.

Equity fund to support large businesses by investing in their capital. The fund, consisting of public and private finance, will be managed by AS Attīstības finanšu institūcija Altum.

These measures provide short-term support to non-financial corporations affected by the COVID-19 pandemic and will help to remedy their liquidity problems during the crisis. It is crucial that credit institutions continue to lend in a supportive way not only in the context of the COVID-19 pandemic but also in the aftermath of the crisis, helping the economy to adapt to the new circumstances and to push off and resume growth in a timely manner. In this context, regular monitoring of the availability of funding to businesses could be a very important tool. It is also important to be aware of other factors restricting development of these businesses.

The contraction of the loan portfolio in 2020 could be reduced by the moratorium announced by the Finance

Latvia Association concerning principal payments of loans to households and non-financial corporations (up to 12 months and 6 months respectively). The effect of state guarantees for loan holidays granted to non-financial corporations could be similar.

Intentions by the credit institutions, whose business model was previously aimed at servicing mainly foreign customers, to place more emphasis on domestic lending (primarily to SMEs) could contribute to lending; however, since these credit institutions currently account for an insignificant share of the credit market, some of them have poor loan portfolio quality, and against the background of sharply increased risks due to the COVID-19 pandemic, the potential impact of this factor on the credit market will be limited.

The new measures of the ECB's accommodative monetary policy (mainly targeted longer-term refinancing operations, which offer longer-term funding on very favourable terms) could potentially somewhat stimulate lending. The effect of these measures on the Latvian credit market could also be limited since the availability of financing to credit institutions is not the major factor restricting lending.

Cyclical risk assessment

In 2019, the cyclical risks to financial stability remained low in Latvia: the amount of loans to domestic customers was small, economic growth decelerated, and the rise in housing prices was not related to excessive lending development. The deviation of the loan-to-GDP ratio from its long-term trend remained negative (–22.4 percentage points in the fourth quarter of 2019)²⁷. The new composite cyclical risk indicator (CCRI)²⁸ developed by Latvijas Banka and complementing the CCyB framework suggests

²⁷ According to the additional credit-to-GDP gap, which includes credit institutions' loans to the private non-financial sector. The Basel or standardised credit-to-GDP gap, encompassing the total debt of the private non-financial sector, which is assessed using financial account data, is–35.1 percentage points.

²⁸ Given that the credit-to-GDP gap does not provide sufficient information on cyclical changes and following the ECB's example (in 2018, the ECB working group together with the representatives of EU countries developed the cyclical risk indicator), Latvijas Banka has also developed the CCRI that complements the CCyB framework.

that the cyclical risks slightly increased in Latvia in 2019 (see Appendix 1), but overall they were low. The maximum value of CCRI is 10, but in late 2019 its value was 4.25. **Given the weak lending and the position of the financial cycle, the CCyB rate still stands at 0%**²⁹.

The financial cycle is projected to move sharply into the downturn phase in 2020. In the context of economic downturn and heightened uncertainty, both lenders and borrowers are expected to be very cautious about assuming new liabilities. With a sharp decline in risk appetite, loan portfolios are expected to contract further. Activity and prices are expected to fall in the housing market.

Credit risk

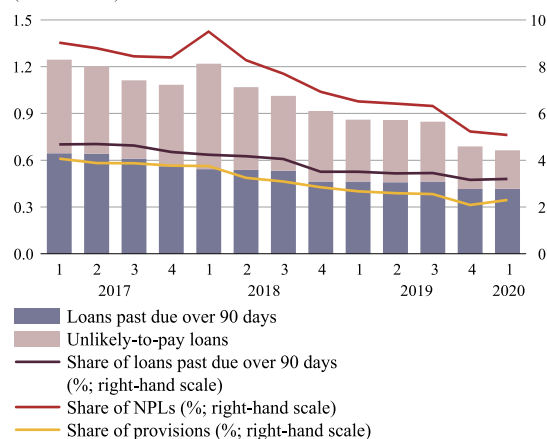
In 2019 and early 2020, the loan portfolio quality continued on a gradual improvement path. The share of NPLs in the total loan portfolio³⁰ decreased from 6.9% at the end of 2018 to 5.2% at the end of 2019 (see Chart 2.11), and the share of loans past due over 90 days decreased from 3.5% to 3.2%. Unlikely-to-pay loans still account for a significant part of NPLs, but their share contracted considerably (from 3.4% at the end of 2018 to 2.1% at the end of 2019). Many of these loans were previously subject to forbearance measures, adjusting them to borrowers' solvency, thus allowing the fulfilment of credit liabilities to be renewed.

The period of economic growth contributed to the improvement of borrowers' solvency, and after the

²⁹ <https://www.fktk.lv/en/media-room/macprudential-supervision/countercyclical-capital-buffer/>.

³⁰ To describe the development of credit quality in credit institutions currently operating in the market, the historical data on all credit institutions that were no longer operating in Latvia at the time of preparing this Financial Stability Report are excluded from the analysis in this section. Charts 2.11, 2.12 and 2.14 do not include data on five credit institutions (ABLV Bank AS, the Latvian Branch of Scania Finans Aktiebolag, AS PNB Banka, the Latvian Branch of Danske Bank A/S and Latvian branches of Svenska Handelsbanken AB) whose licences were revoked by the end of March 2020. The data included in Charts 2.11–2.13 until the end of 2019 are consolidated-level data for the credit institutions subject to consolidated supervision and individual-level data for other credit institutions and branches of foreign banks. Preliminary data of March 2020 reflected in Charts 2.11 and 2.14 are at the level of individual credit institutions.

Chart 2.11
NPLs AND THEIR SHARE IN THE TOTAL LOAN PORTFOLIO*
(billions of euro)



* Preliminary non-consolidated data for the first quarter of 2020 are not fully comparable with previous observations and should be interpreted with caution.

needed cure period of at least one year, these loans became performing loans (they are no longer NPLs in the supervisory reports). With creditworthiness of borrowers improving and gradual write-offs of non-performing loans taking place, the share of provisions also continued to shrink. In 2019, the ratio of provisions-to-NPLs did not change (approximately 40%). According to the preliminary non-consolidated data for March 2020, NPLs did not temporarily increase due to the crisis, but credit institutions already made small additional provisions owing to higher expected losses, and the provision-to-NPL ratio reached 45%.

The quality of the domestic loan portfolio was significantly better and continued to improve faster than that of the foreign customer loan portfolio. As the financial position of borrowers improved, NPLs and their share in the domestic loan portfolio contracted from 5.4% in late 2018 to 3.9% at the end of 2019. Credit quality followed an improvement path both in the domestic and non-financial corporation sectors, and most economic sectors witnessed improvement. NPLs in the loan portfolio of foreign customers edged down at the end of the year, mainly due to the write-offs of non-performing loans and accordingly resulting in the release of previously established provisions for these loans (see Chart 2.12). The quality of the foreign customer loan portfolio is still low in the credit institutions whose business model was previously aimed at servicing mainly foreign customers and which are currently undergoing business model changes (see Box 2.3).

Addressing the problems related to the high NPL share has been the FCMC priority. Based on the FCMC regulations "Regulations on Credit Risk Management", the credit institutions having an increased NPL share (exceeding 5% of the loan portfolio) developed a strategy aimed at reducing the NPL share. Credit institutions are also obliged to keep the FCMC informed about the progress made in attaining the objectives set in the strategy on a regular basis. However, given that some of these credit institutions have not yet managed to clean up their loan portfolios, the crisis caused by the COVID-19 pandemic and the expected increase in NPLs could cause additional difficulties for them. It should be noted that the credit institutions having an increased NPL share play a minor role in lending. In February 2020, the loan portfolio of such credit institutions accounted for 8% of the credit institutions' total loan portfolio and 4% of the domestic loan portfolio.

On the eve of the COVID-19 pandemic, the quality of loans issued by the largest credit institutions was high. The overall quality of the loan portfolio in Latvia is historically lower than in Lithuania and Estonia. This could be explained by a deeper financial crisis of 2008 and more active lending abroad which is more difficult to manage. However, in late 2019, the difference encountered between the credit quality of large credit institutions, which are also the main lenders in Latvia, and the credit quality of large Lithuanian and Estonian credit institutions was rather trifling, and it was much higher than the EU average (see Chart 2.13).

As a result of the COVID-19 pandemic, borrowers' solvency will deteriorate, the quality of credit institutions' loan portfolios will decline, and credit institutions will have to build additional provisions. Loans to the sectors whose activities are likely to be affected most and whose borrowers' credit risk could increase most significantly account for 23% of the total loan portfolio of credit institutions (see Chart 2.14). The credit risk of foreign customers will also take an upward path; however, the potentially riskier loans to foreign customers (excluding Lithuanian and Estonian customers) represent only 6% of the total loan portfolio. Immediately after their implementation, the measures restricting the spread

Chart 2.12
NPLS AND THEIR SHARE IN THE DOMESTIC LOAN PORTFOLIO BY SECTOR AND FOREIGN CUSTOMERS' NPLS AND THEIR SHARE
(billions of euro)

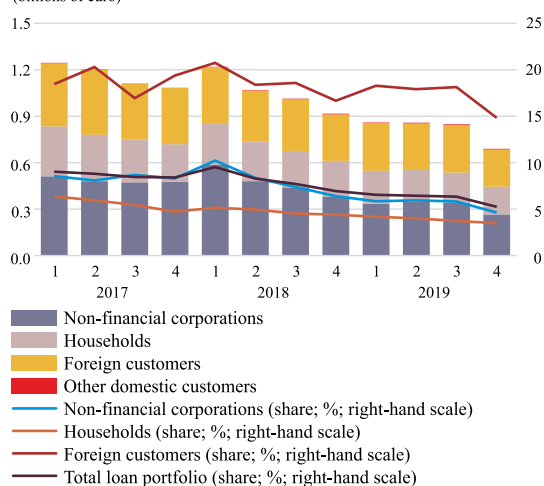
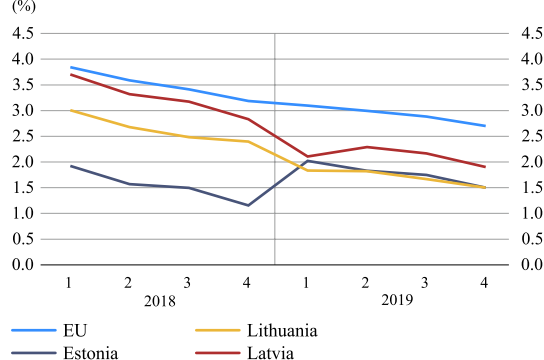
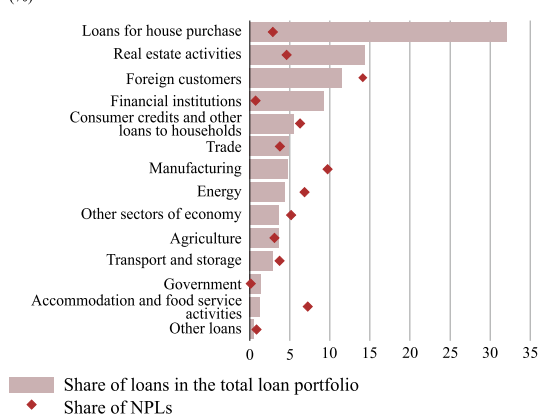


Chart 2.13
SHARE OF NPLs IN THE TOTAL LOAN PORTFOLIO OF THE LARGEST CREDIT INSTITUTIONS*
(%)



* The EBA sample of the largest banks currently consists of 182 large EU credit institutions, including three Latvian credit institutions (AS Citadele banka, AS SEB banka, Swedbank AS), three Lithuanian credit institutions (AB SEB bankas, AB Šiaulių bankas, Swedbank, AB) and four Estonian credit institutions (AS LHV Pank, Luminor Bank AS, SEB Pank AS, Swedbank AS).

Chart 2.14
STRUCTURE OF THE LOAN PORTFOLIO AND THE SHARE OF NPLs IN THE RESPECTIVE LOAN PORTFOLIO AT THE END OF MARCH 2020
(%)



of the COVID-19 pandemic had the greatest impact on the accommodation and food service activities, the recreation and entertainment services sector as well as the passenger air transport sector in Latvia. The share of loans to these sectors is small in the loan portfolio – 1.5% of the total loan portfolio, and almost all of them are loans to the accommodation and food service activities sector (1.4% of the total loan portfolio). However, other economic sectors will also be hit harder by the COVID-19 pandemic shocks. Significant impact is expected in the transport sector, which was adversely affected by the restrictive measures of the COVID-19 pandemic and the sharp decline in international trade as well as in manufacturing, which suffers from the external demand shock and disruptions in supply chains. The real estate activities sector could also be vulnerable since the largest borrowers in this sector are shopping centres in the case of Latvia, and many tenants of sales areas operating in the non-food segment will face financial difficulties. Solvency of borrowers in almost all other sectors has also more or less deteriorated, increasing the credit risk of credit institutions.

With unemployment rising and income falling, the credit risk of households will also pick up considerably, but overall the resilience of households to shocks has improved in recent years. Against the background of a sharp economic downturn, households that have received a loan for house purchase within the framework of the state support programme, particularly just before the COVID-19 pandemic, could be more vulnerable. These households, through the state guarantee, undertook relatively larger long-term credit liabilities, and they lacked sufficient experience in building up savings since the programme's social function targeted loans to more financially vulnerable households, providing access to loans to potential borrowers who would not be able to borrow without the support programme.

In the context of the COVID-19 pandemic, loans to foreign customers associated with increased credit risk become particularly risky. The credit risk of Lithuanian and Estonian customers could be similar to that of domestic customers, but the credit risk of other foreign

customers might be higher as a whole since credit institutions also have to manage country and legal risks, and it is much more complicated to organize the process of loan and collateral administration.

However, the exposure of credit institutions to the quality risk of the foreign customers' loan portfolio has fallen significantly over the past years. For credit institutions, whose business model was previously aimed at servicing mainly foreign customers, the loan portfolio of foreign customers has shrunk significantly in recent years as a result of reviewing their business models, and this process is ongoing. The loan portfolio of foreign customers of currently active credit institutions contracted by 5.2% in March 2020 year-on-year (including the loan portfolio of foreign customers, excluding Lithuanian and Estonian borrowers, shrank by 14.4%). Compared to the peak reached at the end of 2016, the loan portfolio of foreign customers of these credit institutions decreased by 16.4% (including the loan portfolio of foreign customers, excluding Lithuanian and Estonian customers – by 48.5%), with the share of loans to foreign customers in the total loan portfolio also contracting significantly.

The increase in credit risk caused by the COVID-19 pandemic is limited by government support measures, a stable and balanced macro financial situation in Latvia before the crisis as well as rapid response by EU competent authorities to prevent excessive pro-cyclicality. The relatively high capitalization of the credit institution sector makes it possible to maintain good credit institutions' resilience to the potential uptrend in credit risk (see Box 2.4). The balanced growth of the Latvian economy and the low level of the private sector's debt reduce the impact of the global shock on borrowers' solvency. The country's fiscal position enables support to the private sector (see the section on the domestic macro financial environment). The explanations provided by the ECB and EBA concerning the use of flexibility offered in the framework of supervisory and international financial reporting standards for moratoriums on loan payments and state-guaranteed loans also prevent a rapid automatic rise in credit risk and provisions (see Box 2.1).

BOX 2.1. PROVISIONING INFLUENCED BY THE COVID-19 PANDEMIC

The COVID-19 pandemic has necessitated the EBA to express its views to credit institutions on the classification of NPLs and forborne loans and their impact on accounting provisions in compliance with IFRS 9.

IFRS 9 require credit institutions to reclassify their financial assets from Stage 1 assets³¹ to Stage 2³² or Stage 3 assets³³ respectively when assessing asset quality and noticing a significant increase in credit risk, and to expand provisions from the 12-month expected losses to the lifetime expected losses. In accordance with the FCMC regulations "Credit Risk Management Regulations", a significant increase in credit risk is evidenced by a deterioration in the borrower's solvency due to a worse economic outlook, the borrower's willingness to change the terms of the agreement or, e.g. payments more than 30 days overdue.

During the COVID-19 pandemic, a number of borrowers have faced financial difficulties and have requested credit institutions to reschedule their loan repayment. When applying a mechanical provisioning approach, credit institutions should make provisions for lifetime expected credit losses from a low basis of provisions. If a large number of loans became Stage 3 assets simultaneously, this would lead to pro-cyclical losses on credit institutions' profit and loss items, and their ability to support the economy during recessions would be impeded. The ECB has recommended that credit institutions take into account the macroeconomic scenarios developed by the ECB in their estimates of lifetime expected losses in order to reduce pro-cyclical provisioning.

The EBA has clarified that in the case of a general or sector-wide credit moratorium that applies to all borrowers and changes affect the repayment schedule only³⁴, a loan is not automatically reclassified as forborne⁶ or unlikely-to-pay. In the view of the EBA, a general or sectoral moratorium does not in itself send signals of a significant increase in credit risk of loans. If the borrower is also able to meet its liabilities to a credit institution under the revised loan agreement (i.e. the present value of the cash flows of the renegotiated loan has not changed), such loan renegotiation shall not be considered as one undertaken due to financial difficulties. At the same time, credit institutions are not exempt from credit risk assessment, and they also have to apply their own assessment of how the current situation will affect borrowers in the long run.

The scope of EBA's recommendations will be limited to the measures aimed at mitigating the adverse effects of the COVID-19 pandemic. Therefore, the proposed easing will apply to moratoriums announced by 30 June 2020³⁵. The easing will not apply to the loans granted following the announcement of the moratorium. On 29 April 2020, the private moratorium for individuals developed in accordance with the EBA guidelines was introduced in Latvia, and on 5 May 2020 – the private moratorium for non-financial corporations affected by the COVID-19 pandemic. Moratoriums provide for the opportunity of deferring the loan principal repayments.

Credit institutions may count on an additional instrument to mitigate the shock of recognizing the expected credit losses with regard to state-guaranteed loans. For the loans becoming NPLs due to the financial difficulties caused by the COVID-19 pandemic and those having a state guarantee, supervisory expectations regarding provisioning have been eased notably (0% provisioning coverage for the first seven years as NPLs).

³¹ According to the accounting standards, Stage 1 assets are assets whose credit risk has not increased significantly since initial recognition within the meaning of IFRS 9. Provisions for these assets are equal to 12-month expected losses.

³² Credit risk of Stage 2 assets has increased significantly since initial recognition, but they are not credit-impaired within the meaning of IFRS 9. Provisions for these assets are equal to their lifetime expected losses.

³³ Stage 3 assets are credit-impaired assets within the meaning of IFRS 9. A forborne asset shall be classified as Stage 2 and Stage 3 asset.

³⁴ Suspension, deferment or reduction of the loan principal or interest payment (or both) for a certain period of time with other conditions (e.g. the interest rate) not changing.

³⁵ The deadline depends on the further course of the COVID-19 pandemic and may be extended.

Funding and liquidity risks

Deposits from domestic customers are the main source of funding for Latvian credit institutions (see Chart 2.15). At the end of February 2020, they accounted for more than 75% of all funds borrowed by credit institutions, but together with foreign customer deposits – more than 93%. In the context of economic growth, domestic customer deposits continued on a stable upward path (the annual growth rate was 6.9% at the end of February 2020; see Chart 2.16), including an increase in household deposits by 7.2%. The dominance of deposits in funding and thus the low dependence on the financial market funding reduces the funding risks of credit institutions associated with the financial market turmoil caused by the COVID-19 pandemic. At the same time, the dependence of funding risk on the amount of government assistance provided to businesses and households will rise substantially.

Deposits from foreign customers continue on a downward trend. At the end of February 2020, they decreased by 6.9% year-on-year (adjusted by changes in exchange rates). Moreover, the structure of foreign customer deposits has undergone significant changes related to the previous measures implemented to reduce the number of transactions with high-risk customers and relating to a change in some credit institutions' business model. First, the amount and share of deposits received from non-EU countries has decreased (at the end of February 2020, the share of such deposits in foreign customer deposits accounted for 37.9%, but in the total deposits of credit institutions – for 7.3%). Second, household deposits currently dominate in foreign customer deposits (their share in these deposits has reached 62.5%; 24.1% in late 2017).

This, in turn, is due to the fact that **several credit institutions are increasingly attracting funding through deposit platforms** (see Chart 2.17). Mobilisation of such funding improved the maturity composition of foreign customer deposits (since the end of 2018, the share of deposits with maturity of over 6 months in the total foreign customer deposits reached 40.2% (13.3 percentage points more than in late 2018) and increased the share of euro in foreign customer deposits (to 78.6%; 14.5 percentage points

Chart 2.15
COMPOSITION OF CREDIT INSTITUTION ASSETS AND LIABILITIES
(billions of euro)

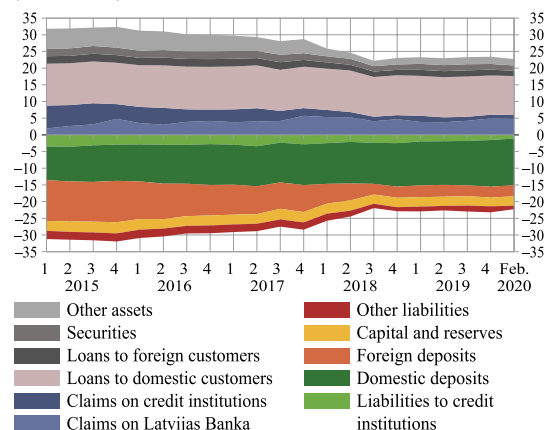


Chart 2.16
CHANGES IN NON-MFI DEPOSITS AND THEIR GROWTH RATE
(year-on-year; billions of euro)

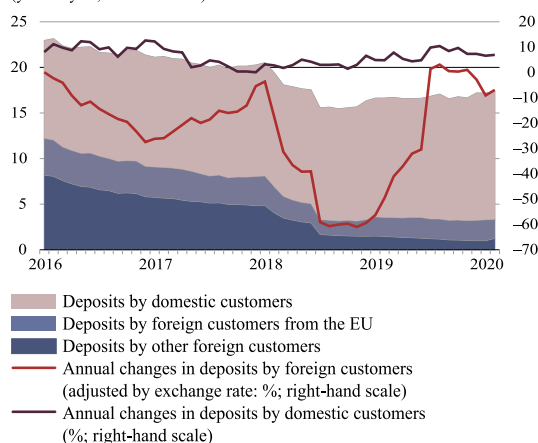
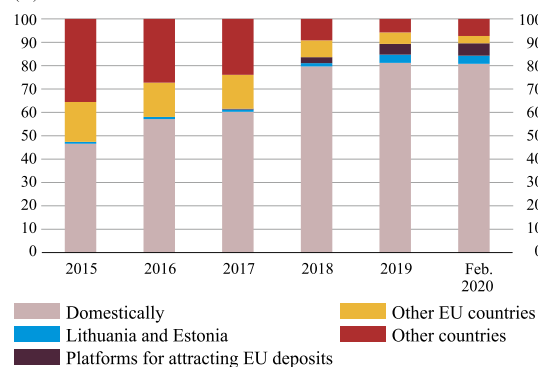


Chart 2.17
STRUCTURE OF DEPOSITS ATTRACTED BY CREDIT INSTITUTIONS BY COUNTRY
(%)



more than at the end of 2018)). This improves the ability of the credit institutions encountering difficulties in attracting deposits from domestic customers to grant loans to domestic customers.

However, funding attracted through deposit platforms also entails additional risks: this type of funding is closer to market financing by its economic substance. This means that after the deposit matures, a credit institution will have to rely on market sentiment at a given point in time to compete with other EU credit institutions by offering competitive interest rates. The primary interest of depositors placing their savings on these platforms is the offered interest rates, and they have no other business relationships with credit institutions. Accordingly, nothing prevents them from placing their deposits with another credit institution after maturity. The deposits placed on these platforms are part of the national deposit guarantee scheme, thus increasing the potential liabilities of the deposit guarantee scheme. To meet these liabilities, additional liquidity support from other market participants or the state might be required. Moreover, this funding, which is available relatively freely and unrestrictedly, is somewhat more expensive than the deposits attracted without intermediaries and may motivate credit institutions to engage in financing projects with higher interest rates and risks.

The Latvian credit institution sector does not attract market financing since the amount of domestic customer deposits received by the largest credit institutions, except the Latvian branch of Luminor Bank AS, is mainly sufficient, while other credit institutions use deposits available on EU deposit platforms as the best alternative to market financing. To attract funding, credit institutions may employ the funding facilities offered by the ECB, such as TLTRO III. The finalization and implementation of the Law on Covered Bonds would also facilitate the diversification of credit institutions' funding. With credit institutions attracting funding in the securities market in an inactive manner for the time being, the ratio of domestic loans to deposits is declining and has reached its historical lows (83.3%; see Chart 2.18).

Funding provided by Nordic banks to their Latvian subsidiaries continues on a downward path. At the end of February 2020, it accounted for 5.8% of the total financial liabilities and was twice as small as in late 2018. This shrinkage is driven by the sluggish pace of lending as well as the ongoing change in the

Chart 2.18
CREDIT INSTITUTIONS' DOMESTIC LOAN-TO-DEPOSIT RATIO (%)

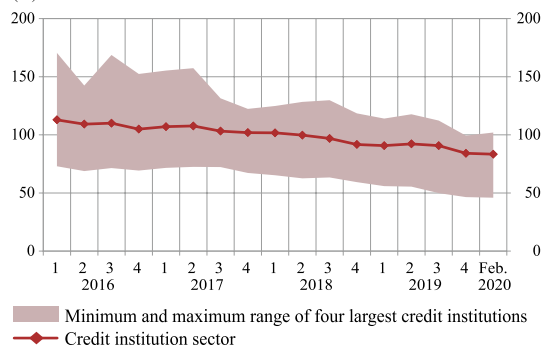
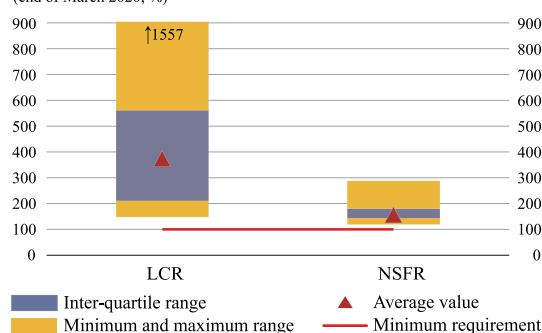


Chart 2.19
CREDIT INSTITUTIONS' LCR AND NSFR
(end of March 2020; %)



funding structure of Luminor Bank AS³⁶, replacing the financing provided by parent companies with market financing and reducing the difference between loans and deposits in this credit institution.

The level of liquidity remained high in Latvian credit institutions which will make it easier to overcome the consequences of the crisis caused by the COVID-19 pandemic. This is evidenced by LCR and NSFR of the credit institution sector. The LCR of Latvian credit institutions significantly exceeded the average LCR of EU credit institutions (see Chart 2.19). Until March 2020, it was mainly affected by the still slow lending, difficulties in efficient placing of funds in financial instruments during the period of very low interest rates as well as the fact that some credit institutions continue the process of changing their business model. These factors also explain the high level of credit institution deposits with Latvijas Banka. At the end of February 2020, it accounted for 21.5% of credit institutions' assets and 78.3% of LCR liquid assets, which is a very high ratio compared to other EU countries.

³⁶ Luminor Bank AS Annual Report 2019, p. 17.

The crisis caused by the COVID-19 pandemic could also lead to shrinking credit institutions' balance sheets, but the large amount of liquid assets will help credit institutions to overcome domestic and global financial turmoil. Most of small and medium-sized credit institutions have very high liquidity ratios as they change business models and maintain high liquidity ratios during the transition process. Although this is not a sustainable solution since it reduces the profitability of credit institutions significantly, it nevertheless helps to absorb potential shocks. On the other hand, large credit institutions supported by Nordic parent banks have a lower level of liquidity since they have been more active in lending to domestic customers, and subsidiaries of Nordic banks have centralised liquidity management.

Overall, credit institutions are much better equipped to absorb possible future shocks than they were during the 2008 financial crisis when a large number of credit institutions had significant financial liabilities to non-affiliated financial institutions in the form of syndicated loans. Moreover, Latvia's participation in the euro area provides an opportunity to use the monetary policy instruments offered by the ECB to ensure funds for liquidity.

However, it should be taken into account that in the event of deterioration of non-financial corporations' financial situation they could choose only one of the large credit institutions for servicing their operation to optimize it. As a result, small credit institutions might lose part of their domestic customer deposits. However, the results of stress tests suggest that the small credit institutions are not critically dependent on domestic customer deposits. Loan holidays granted to customers of credit institutions will also not affect their financial flows to a significant extent, unless additional shocks accumulate. Government support given to the

economy plays an important role in mitigating shocks. Compared to the 2008 financial crisis, the government currently has considerably greater financial capacity to support the economy since in the circumstances with no currency risk public debt remains quite low, and international credit rating agencies upgrade Latvia's credit rating or maintain it at the present level, the country is relatively free to raise funding necessary for overcoming the crisis.

The results of stress tests of credit institutions' liquidity conducted in February 2020 suggest that credit institutions' ability to absorb the shocks caused by potential financing outflows remains good (see Box 2.2). Given the circumstances of the COVID-19 pandemic, the impact of loan holidays on the liquidity ratio was subject to further tests during the liquidity stress test. If loan holidays were applied to 30% of total outstanding loans, the amount of loans that would have to be repaid in full within a year but would not be repaid would not exceed 8.3% of credit institutions' total liquid assets, and all credit institutions would be able to meet the individual liquidity requirements set by the FCMC, assuming that the other balance sheet items remain unchanged.

Also, looking at the economic sectors most vulnerable to the shock of the COVID-19 pandemic (accommodation and food service activities, manufacturing, transport and storage and real estate activities; see the sensitivity stress test scenario), it is clear that credit institutions have sufficient liquidity to withstand a significant reduction in deposits in these sectors, assuming that the deposit structure of domestic non-financial corporations is similar to that of loans to these sectors. The immediate additional impact of these sectors on liquid assets would be around 5% and could be absorbed by credit institutions.

BOX 2.2. STRESS TESTS OF CREDIT INSTITUTIONS' LIQUIDITY

Liquidity stress test results are based on the end of February 2020 data. Stress tests assessed the ability of 13 credit institutions (all credit institutions, except branches of foreign credit institutions) to withstand the risks of financing outflows. The tests used the liquidity ratio³⁷ employed by the FCMC for setting individual additional liquidity requirements for credit institutions within the SREP and which is equivalent to the FCMC liquidity ratio whose minimum requirement of 30% was binding on all credit institutions prior to the LCR requirements took effect in full.

Liquidity stress tests evaluate the significance of the potential consequences of financial outflows. The results of the stress tests indicate the tolerance of credit institutions to the outflows of foreign non-MFI customer deposits and those of domestic non-MFI customers before their liquidity ratio (and thus the amount of their liquid assets) would decrease to 0, assuming that credit institutions have no access to additional resources to offset the funding outflows.

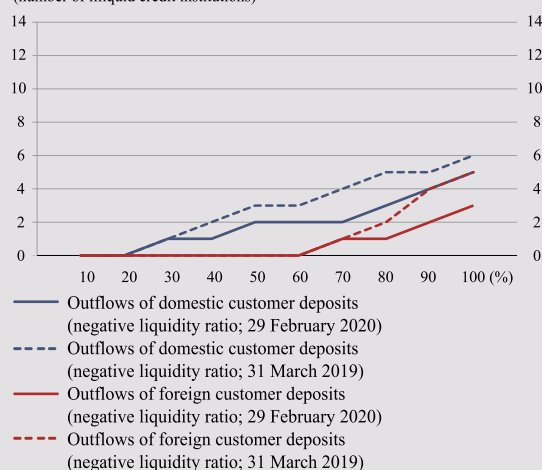
According to the stress test results (see Chart 2.20), all credit institutions would be able to withstand the outflows of up to 20% of domestic customer deposits and the outflows of more than 60% of foreign customer deposits. These results are somewhat better than those of the stress tests performed in late March 2019. The ability of the largest credit institutions, mainly subsidiaries of Nordic banks with centralised liquidity management and possibilities to obtain additional liquidity from their parent banks, to withstand the outflows of domestic customer deposits is lower.

Additional stress tests involving four adverse scenarios were performed. The first two scenarios assess the shocks to both assets and liabilities that could be directly caused by the COVID-19 pandemic shock, while the other scenarios analyze additional shocks to liquid assets.

The additional Scenario 1 on loan holidays analyzed their impact on liquid assets, assuming that 30% of all credit institutions' loans will have loan holidays. This means that 30% of all loan repayments credit institutions will receive over a year will be frozen due to the loan holidays granted, and a credit institution will offset these unreceived funds with liquid assets.

The additional Scenario 2 on the potential impact of economic sectors on domestic customer deposits assumes that in the event of a shock, the economic sectors most vulnerable to the COVID-19 pandemic shock (accommodation and food service activities, manufacturing, transport and storage and real estate activities; see the assumptions in the sensitivity stress test scenario), will experience immediate outflows of a share (20%, 15%, 10% and 10% respectively) of non-financial corporations' funds, the volume of which has been approximated by the loan structure of these sectors.

Chart 2.20
RESULTS OF LIQUIDITY STRESS TESTS
(number of illiquid credit institutions)



³⁷ The ratio of unencumbered liquid assets (vault cash; claims on Latvijas Banka and solvent credit institutions whose residual maturity does not exceed 30 days, and claims with other maturity if their recovery prior to the maturity has been stipulated in the agreement; investment in financial instruments whose maturity (repayment, sale term) is up to 30 days as well as other securities whose market is permanent and unrestricted) to the total of credit institutions' current liabilities with residual maturity under 30 days.

The additional Scenario 3 on the effect of the depreciation in value of securities on liquid assets assumes that it is impossible to pledge or sell the securities portfolio, except euro area government securities with a credit rating no lower than A– and those issued by other countries' governments where at least one of the long-term ratings by three international credit rating agencies is AAA. In relation to euro area government securities, it is assumed that they (except AAA-rated securities) would lose 30% of their value within adverse Scenario 1, and they could be used by applying a 3.0% discount in the Eurosystem's monetary policy operations.

In the additional Scenario 4 on the impact of securities and claims on MFIs on liquid assets, Scenario 3 is supplemented with the assumption that no credit institution has access to claims on MFIs from a country on whose MFIs the specific credit institution has the highest volume of claims (including claims on the credit institutions within the group).

The results of **the additional Scenario 1 on loan holidays** (see Chart 2.21) are only slightly worse than those of the baseline scenario, and all credit institutions could withstand the outflows of at least 10% of domestic customer deposits (no less than 20% in the baseline scenario) and the outflows of 50% of foreign customer deposits (60% in the baseline scenario).

The additional Scenario 2 on the potential impact of economic sectors on domestic customer deposits shows that credit institutions have sufficient liquidity to withstand a significant decline in deposits in these sectors (see Chart 2.22), and there are no major differences between the results of the above scenario and the baseline one.

Under the additional Scenario 3 on the effect of the depreciation in value of securities on liquid assets, credit institutions' ability to withstand the outflows of domestic customer deposits would also remain broadly unchanged (credit institutions would withstand no less than 20% of the outflows), but their ability to withstand the outflows of foreign customer deposits would slightly deteriorate (credit institutions could withstand no less than 30% of the outflows; 60% under the baseline scenario) since foreign securities with long-term credit ratings lower than AAA constitute part of several credit institutions' liquid assets. However, the capacity of credit institutions to absorb the outflows of foreign customer deposits would remain high (see Chart 2.23).

Chart 2.21
LIQUIDITY STRESS TEST RESULTS OF THE FIRST ADDITIONAL SCENARIO CONCERNING LOAN HOLIDAYS
(29 February 2020; number of illiquid credit institutions)

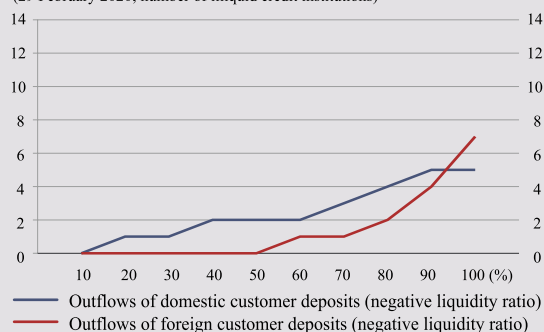


Chart 2.22
LIQUIDITY STRESS TEST RESULTS OF THE SECOND ADDITIONAL SCENARIO CONCERNING THE IMPACT OF ECONOMIC SECTORS ON DOMESTIC CUSTOMER DEPOSITS
(29 February 2020; number of illiquid credit institutions)

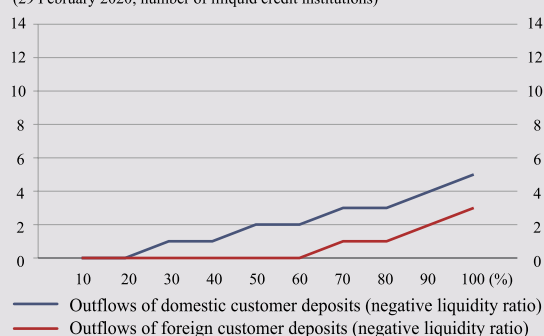
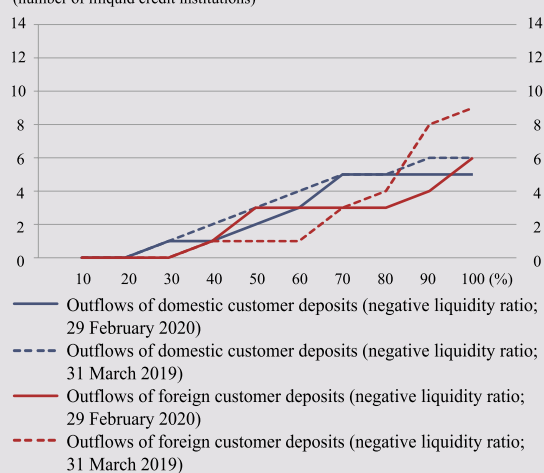
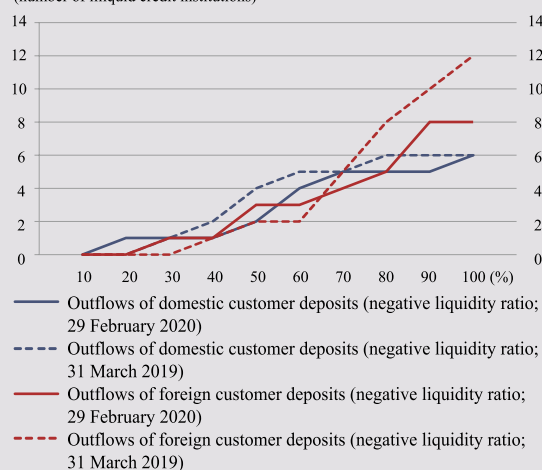


Chart 2.23
LIQUIDITY STRESS TEST RESULTS OF THE THIRD ADDITIONAL SCENARIO CONCERNING THE IMPACT OF IMPAIRMENT OF SECURITIES ON LIQUID ASSETS
(number of illiquid credit institutions)



Comparing the additional Scenario 4 on the impact of securities and claims on MFIs on liquid assets with Scenario 3, it was observed that the ability of credit institutions to withstand the outflows of domestic and foreign non-MFI customer deposits somewhat deteriorated, and this was related to the inclusion of claims on MFIs within the group in the scope of claims (see Chart 2.24).

Chart 2.24
LIQUIDITY STRESS TEST RESULTS OF THE FOURTH ADDITIONAL SCENARIO CONCERNING THE IMPACT OF SECURITIES AND CLAIMS ON MFIs ON LIQUID ASSETS (number of illiquid credit institutions)



Profitability

In 2018 and 2019, the profitability data of the credit institution sector were significantly affected by the data of two credit institutions that have already ceased their operation.³⁸ To reflect the profitability developments of the credit institutions that are currently operating in the financial market, the data of the two above credit institutions have been excluded from the profitability analysis³⁹ covered in the report.

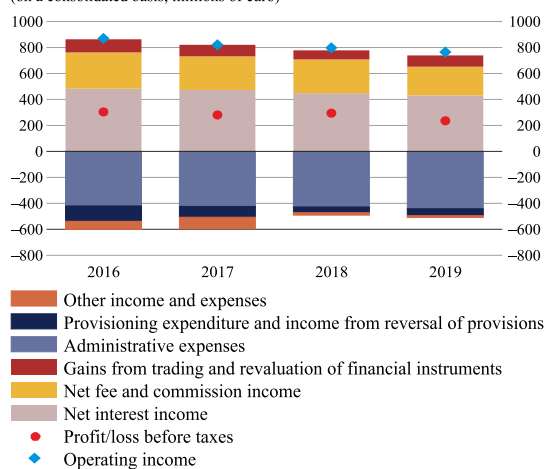
In 2019, the pre-tax profit of credit institutions decreased by 20% totalling 235.4 million euro on a consolidated basis (294.4 million euro in 2018; see Chart 2.25). The decline was driven by both ongoing changes in the business model of some credit institutions (see Box 2.3) and continued transformation process of Luminor Bank AS⁴⁰.

³⁸ In 2018, the banking licence of ABLV Bank, AS was withdrawn, and in 2019 AS PNB Banka was determined to be a credit institution that was or would become financially troubled, and insolvency proceedings were opened against it; therefore, the credit institution recorded sizeable provisions. <https://www.fktk.lv/en/news/press-releases/peters-putnins-licence-of-ablv-bank-as-is-withdrawn-voluntary-liquidation-of-bank-under-fcmc-supervision/>; <https://www.fktk.lv/en/news/press-releases/fcmc-files-an-application-for-insolvency-to-the-court-against-jsc-pnb-banka/>.

³⁹ The effect of the sale of VISA Europe Limited shares has also been excluded from 2016 data, and the effects of the establishment of Luminor Bank AS group and the deferred tax asset write-offs of AS Citadele banka and Signet Bank AS due to the amendments to the Law on Corporate Income Tax have been excluded from 2017 data.

⁴⁰ Luminor Bank AS Annual Report 2019, p. 4.

Chart 2.25
DISTRIBUTION OF CREDIT INSTITUTION INCOME AND EXPENSES AND PERFORMANCE RESULTS (on a consolidated basis; millions of euro)



While the operating income declined by 4.1% across the credit institution sector as a whole, that of the largest domestic lenders remained robust and stable.

The credit institution sector saw a 3.9% fall in net interest income and a 14.5% decline in net fee and commission income primarily on account of lower income recorded by the credit institutions undergoing business model changes. Overall, gains from trading financial instruments increased by 27.8% (for further details on the contribution of principal components to the changes in pre-tax profit, see Chart 2.26).

Net provisioning expenditure rose by 20.4%. The provisioning expenditure of some credit institutions grew largely on account of an increase in some large

borrowers' credit risk. However, a decrease in income from reversal of provisions accounted for most of the rise in net provisioning: in 2018, they were notably higher both due to improved quality of part of the loan portfolio and because some credit institutions were undergoing business model changes.

Changes in the credit institutions' administrative expenses (3.2% growth) were driven by two opposing processes. On the one hand, the administrative expenses of some credit institutions decreased along with the process of changing their business model: to compensate the declines in income and business volumes, the above credit institutions reduced their remuneration expenses, expenses for other services as well as business trip and other expenses. On the other hand, the administrative expenses of the largest domestic credit institutions increased, albeit mostly due to one-off events. For instance, a rise in the administrative expenses of one of the largest credit institutions was driven by investments associated with corporate transformation as well as one-off expenses (mostly IT-related expenses).⁴¹ Meanwhile, another credit institution saw a significant increase in its expenses for services, inter alia investments in digital services and expenses to ensure compliance with regulatory requirements.⁴² Credit institutions continued to improve their ML/FT risk mitigation measures by enhancing the process of customer due diligence and organising staff training. This affected the IT-related expenses as well as expenses for other services.

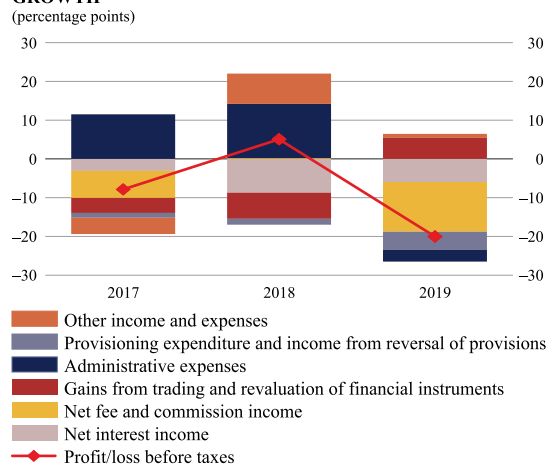
The cost efficiency of the credit institution sector continued deteriorating in 2019, with the aggregate cost-to-income ratio reaching 62.4% (57.7% in 2018; see Chart 2.27). Like in 2018, the deterioration was driven by an increase in the administrative expenses of the largest lenders and a decline in other credit institutions' income. Nevertheless, the cost efficiency of credit institutions remained somewhat higher than the EU average (64.0%⁴³). The increase in the administrative

⁴¹ Luminor Bank AS Annual Report 2019, p. 106.

⁴² Swedbank AS Annual Report 2019, p. 5.

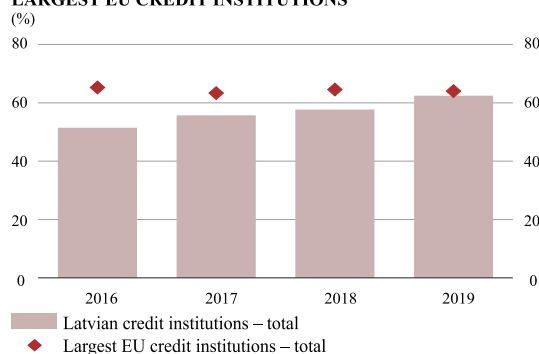
⁴³ European Banking Authority. Risk Dashboard Data as of Q4 2019. https://eba.europa.eu/sites/default/documents/files/document_library/Risk%20Analysis%20and%20Data/Risk%20dashboard/Q4%202019/882137/EBA%20Dashboard%20-%20Q4%202019.pdf.

Chart 2.26
GROWTH RATE OF CREDIT INSTITUTION PROFIT BEFORE TAXES AND CONTRIBUTION OF ITS COMPONENTS TO GROWTH



Note. A positive contribution of a component indicates that the change in the component had an upward effect on the profit growth, while a negative contribution indicates that the change in the component had a downward effect on it.

Chart 2.27
AVERAGE COST-TO-INCOME RATIO OF LATVIAN AND THE LARGEST EU CREDIT INSTITUTIONS



expenses of the largest lenders observed so far has been driven by one-off factors; therefore, the credit institutions' cost efficiency should improve over the coming years. For the time being, however, it is difficult to assess the extent of the impact caused by the measures taken to contain the COVID-19 pandemic.

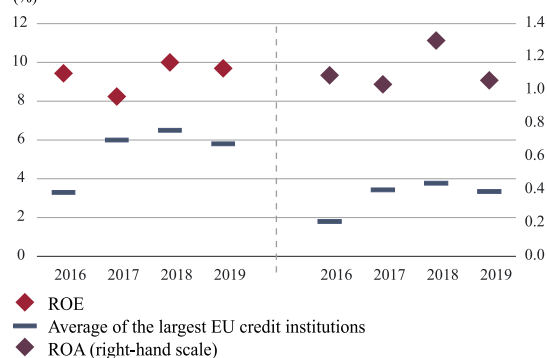
In 2019, the weighted average ROE of the credit institution sector declined slightly to stand at 9.7% (10.0% in 2018; see Chart 2.28). Compared to the above fall in profitability, the decrease in ROE seems insignificant. Nevertheless, the impact of the profitability decrease was offset by a decline in the absolute amount of the credit institutions' own funds on account of dividend payments from previous years' retained earnings by some credit institutions. In 2019, the average ROE of Latvian credit institutions pointed to overall good profitability in comparison with the

average ROE of EU credit institutions (5.8%)⁴⁴. The average ROA of Latvian credit institutions, despite its decline to 1.1% (1.3% in 2018), was also significantly higher than the average ROA of EU credit institutions (0.39%).

At the beginning of 2020, credit institutions recorded stable income flows; data for the first three months suggest relatively robust interest income and fee and commission income. However, **the COVID-19 pandemic has created significant uncertainty about credit institutions' future profitability prospects.** The volume of non-performing loans is expected to increase on account of deteriorating creditworthiness of borrowers, thus exerting influence on credit institutions' interest income and prudential provisioning for non-performing loans. Moreover, due to the volatility in financial markets, credit institutions might incur losses in relation to securities portfolio management, and they will also face additional costs associated with remote working and operational adjustments to meet the social distancing guidelines.

Measures taken both at the national level and by credit institutions as well as the flexibility of supervisory authorities during the COVID-19 pandemic have allowed

Chart 2.28
AVERAGE ROE AND ROA OF LATVIAN AND THE LARGEST EU CREDIT INSTITUTIONS (%)



easing the borrowers' payment burden, maintaining the credit institutions' income flows and reducing their need for excessive prudential provisioning (see also Box 2.1). However, the uncertainty surrounding the improvement of the borrowers' creditworthiness and the recovery of the economic activity is very high, as the future development directly depends on the duration of the restrictions to contain the pandemic. The recovery of profitability from the crisis caused by the COVID-19 pandemic will depend on both programmes to facilitate growth and, in the long run, solutions to several long-standing structural shortcomings.

BOX 2.3. CREDIT INSTITUTIONS' BUSINESS MODEL CHANGES

The credit institutions whose business model was previously primarily aimed at foreign customers have experienced many changes over the last five years (for further details on the history of the business model of these credit institutions, see Latvijas Banka's Financial Stability Report 2018⁴⁴). To transpose the requirements of Directive (EU) 2015/849 of the European Parliament and of the Council of 20 May 2015 on the prevention of the use of the financial system for the purposes of money laundering or terrorist financing, amending Regulation (EU) No 648/2012 of the European Parliament and of the Council, and repealing Directive 2005/60/EC of the European Parliament and of the Council and Commission Directive 2006/70/EC (AMLD IV) into the national legislation, the Saeima of the Republic of Latvia approved amendments to several laws in 2016, whereby the AML/CFT requirements were tightened and the penalties for the failure to meet those requirements were significantly increased. At the beginning of 2018, the financial sector was shaken by the statement of the US Financial Crimes Enforcement Network (FinCEN) regarding ABLV Bank, AS and the subsequent process of its self-liquidation. Following these events, the Saeima of the Republic of Latvia approved amendments to the Law on the Prevention of Money Laundering and Terrorism Financing prohibiting credit institutions from servicing shell companies. As a result, the credit institutions whose previous business model was primarily aimed at providing services to high-risk foreign customers were forced to thoroughly revise their business model or cease their operation. In 2019, AS PNB Banka failed to raise additional

⁴⁴ Latvijas Banka's Financial Stability Report 2018, Box 3 "Developments in Group 2 credit institutions".

capital⁴⁵ to continue the process of changing its business model. Consequently, the banking licence of AS PNB Banka was withdrawn⁴⁶. Other credit institutions have expressed their readiness to change their business model and continue to operate in Latvia.

In 2016–2019, assets of credit institutions undergoing business model changes⁴⁷ decreased substantially by 41.3%. The share of their assets in the total assets of Latvian credit institutions also declined from 23% at the end of 2016 to 17% at the end of 2019 (see Chart 2.29). The total loan portfolio of these credit institutions decreased by 36.0%, with its share in the total loan portfolio of Latvian credit institutions declining from 7% to 6% at the end of 2016 and 2019 respectively. Meanwhile, the total deposits received by these credit institutions declined by 44.3%, with their share in the total deposits received by Latvian credit institutions shrinking from 18% to 13%.

The number of customers of the credit institutions included in the sample has declined over the past three years, with the number of foreign and domestic customers decreasing by 51% and 8.9% respectively. The steep fall in the number of foreign customers is also reflected in the volume of payments data (see Chart 2.30): the volume of foreign customer payments executed by the sample credit institutions at the end of 2019 was approximately three times lower than at the end of 2016, inter alia the volume of payments executed in US dollars was more than 14 times lower.

Previously, the funding of the above credit institutions was primarily made up of large deposits by foreign customers. Currently, however, these credit institutions are mostly funded by domestic deposits as well as foreign – primarily German – household deposits attracted via EU deposit platforms. With the number of foreign customers declining, the volume of deposits by foreign customers recorded a sharp fall. At the end of 2019, the volume of such deposits was 52.8% lower than at the end of 2016. Meanwhile, domestic deposits have increased by 19.0% since the end of 2016. EU deposit platforms have been used to attract deposits only over the past few years and only by a few credit institutions included in the sample. Nevertheless, the volume of deposits attracted by credit institutions via the above platforms increased notably, and the share of such deposits in the sample credit institutions' total deposits reached 24.2% at the end of 2019. As an alternative, these credit institutions may also use the financing available under the ECB's TLTRO III as they maintain a relatively large amount of liquid assets which can be pledged.

Chart 2.29
CHANGES IN THE MAIN BALANCE SHEET ITEMS OF CREDIT INSTITUTIONS UNDERGOING BUSINESS MODEL CHANGES, WEIGHTED BY THE TOTAL ASSETS OF THE CREDIT INSTITUTION SECTOR

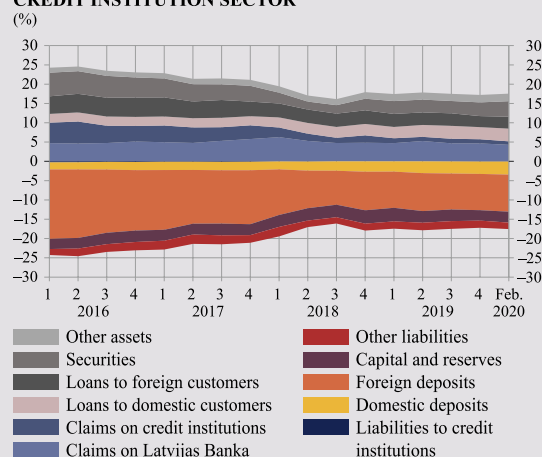
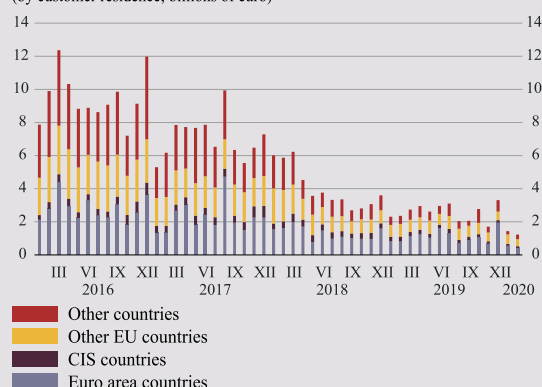


Chart 2.30
VOLUME OF PAYMENTS MADE BY FOREIGN CUSTOMERS OF CREDIT INSTITUTIONS INCLUDED IN THE SAMPLE VIA CORRESPONDENT BANKING NETWORK (by customer residence; billions of euro)



⁴⁵ <https://www.bankingsupervision.europa.eu/press/pr/date/2019/html/ssm.pr190815-b8e2038aa9.en.html>.

⁴⁶ <https://www.fktk.lv/en/news/press-releases/european-central-bank-withdraws-jsc-pnb-bankas-authorisation/>.

⁴⁷ Hereinafter, the box refers to a sample of 10 credit institutions.

Similar trends can also be observed in lending, i.e. lending to foreign customers has changed significantly.

In 2016–2019, the portfolio of loans to foreign customers shrank by 54.9%. At the end of 2019, loans granted to customers from Cyprus (17% of the total portfolio of loans to foreign customers), Russia (16%), Estonia (11%), Belarus (9%) and Lithuania (7%) accounted for the largest shares in the total portfolio of loans to foreign customers. Some credit institutions have announced their plans to develop their business in the Baltic market. For the time being, however, loans granted to customers in Estonia and Lithuania have not increased significantly. This can be explained by the difficulties associated with ensuring local presence (inter alia establishing representative offices and attracting adequate staff), establishing contacts with businesses in the respective countries and competing with the largest financial market participants in these countries.

When announcing business model changes, several credit institutions mentioned that they were planning to play a more active role in domestic lending. However, at the end of 2019 loans granted by these credit institutions to domestic customers had increased only by 7.0% compared with those granted at the end of 2017.

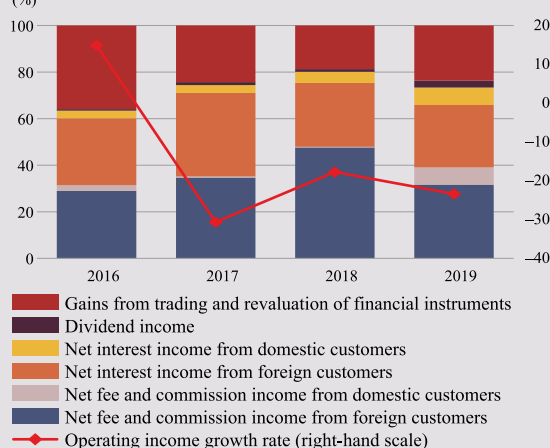
Moreover, during the above period the rise was primarily driven by only one credit institution whose domestic loan portfolio expanded significantly. At the end of 2019, loans to non-financial corporations accounted for the largest share (71.2%) of the credit institutions' domestic loan portfolio. This trend was also facilitated by the portfolio guarantee contracts concluded between AS Attīstības finanšu institūcija Altum and a few credit institutions included in the sample. With the risk perceptions of these credit institutions changing, the sectoral structure of the granted loans has also changed somewhat. In the total loan portfolio of these credit institutions, the share of loans associated with real estate transactions and trade decreased from 52.4% to 48.3% and from 13.9% to 11.2% respectively; meanwhile, the share of loans granted in the agriculture, forestry and fishing sectors and those granted in the transportation and storage sectors expanded from 0.6% to 5.7% and from 4.6% to 5.6% respectively. The share of loans granted in the manufacturing sector remained broadly unchanged at 9.8% at the end of 2019.

With their business models changing, the credit institutions included in the sample also changed the structure of their securities holdings.

The share of the US dollar-denominated debt securities in the total debt securities portfolio shrunk substantially from 75% at the end of 2017 to 32% at the end of 2019. As a replacement, credit institutions purchased euro-denominated securities whose share grew from 17% to 66% respectively. Some of these credit institutions purchased higher-yield securities to compensate for their income declines in other areas. Thus, some credit institutions saw a notable rise in the ratio of their risky, i.e. sub-investment grade, securities to equity along with an increase in their exposure to market, liquidity and fair valuation risks which are particularly important to consider in the context of the COVID-19 pandemic. However, the fact that these securities account for only 1% of the total assets of the credit institution sector can be seen as a risk dampening factor.

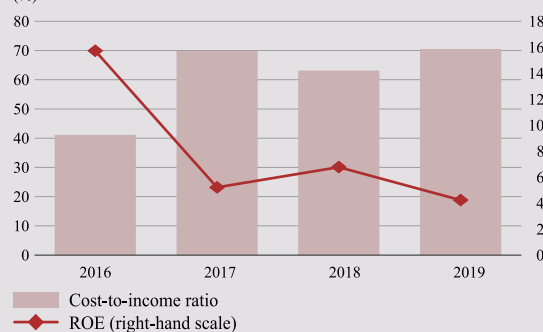
The above changes have significantly affected the profitability of the credit institutions included in the sample. With the number of customers and the volume of deposits and payments declining, the operating income of these credit institutions has contracted rapidly (see Chart 2.31). It is still dominated by the income received for providing services to foreign

Chart 2.31
BREAKDOWN AND GROWTH RATE OF OPERATING INCOME OF CREDIT INSTITUTIONS INCLUDED IN THE SAMPLE (%)



customers. In 2019, however, the operating income recorded a larger share in net fee and commission income and interest income from domestic customers. As a result of the above changes, the profitability indicators of these credit institutions also deteriorated, i.e. their cost efficiency declined sharply, suggested by higher cost-to-income ratio and lower ROE (see Chart 2.32). It should be noted, however, that the credit institutions included in the sample are each in a different situation. Some of these credit institutions have been able to stabilise their income sources and optimise their operating costs while maintaining positive profitability. Meanwhile, others have been already operating with losses for several years, giving rise to concerns about their operational sustainability.

Chart 2.32
KEY PROFITABILITY INDICATORS OF CREDIT INSTITUTIONS INCLUDED IN THE SAMPLE (%)



The impact of the business model changes on capitalisation varies depending on the credit institution.

Some credit institutions optimised their operating costs and reduced their assets, thereby ensuring sufficient or even good capital adequacy. At the same time, some credit institutions that have already been operating with losses for a long time find it difficult to meet the supervisory capital requirements; however, these are relatively small credit institutions, and their impact on the economy overall should not be viewed as significant.

In light of the above, it can be concluded that **credit institutions are changing their business models, albeit each at a different pace**. The credit institutions included in the sample can be divided into two groups. The first group comprises the largest part of the sample (at the end of February 2020, their assets accounted for slightly more than 13% of Latvian credit institutions' total assets). Overall, these credit institutions are on the way towards stabilisation and development, they continue to make profits and are sufficiently capitalised. Their business model changes are not homogenous: some credit institutions focus more on servicing domestic customers, others – on servicing foreign customers, and a few specialise in providing private banking services to both domestic and foreign customers. To ensure further development, these credit institutions may need to attract additional financing and increase their capital; furthermore, they should provide for additional resources to meet significantly stricter supervisory requirements as regards customer risk management systems. Several credit institutions are already actively using online deposit platforms for attracting fixed-term deposits from EU countries, and some credit institutions are also considering the issuance of debt securities

Meanwhile, a few credit institutions included in the sample are still recording asset and income declines; moreover, their profitability is low or negative and their capitalisation – low or insufficient. Furthermore, official auditor reports included in these credit institutions' annual financial reports reveal doubts regarding the operational sustainability of these credit institutions. However, their assets account for an insignificant share in Latvian credit institutions' total assets (less than 5% at the end of February 2020), and their linkage with the domestic economy is limited. Each of these credit institutions has a different background and limitations hindering the change and/or development of their business models.

Further development of their business models will also depend on the successful containment of the COVID-19 pandemic and its economic implications as the COVID-19 pandemic is affecting both domestic and foreign customers. The credit institutions included in the sample may use this time to develop lending to SMEs; overall, however, this period will be associated with heightened risks.

Capitalisation

The capital ratios of credit institutions⁴⁸ declined slightly in 2019 as a result of dividend payments by some credit institutions. **Nevertheless, at the end of 2019 the credit institutions' capitalisation level was overall good** (see Charts 2.33 and 2.34) as most credit institutions significantly exceeded the total capital ratio requirements set by the supervisory authority. At the end of 2019, the total average capital ratio of the operating credit institutions was 23.1% on a consolidated basis, including CET1 capital ratio which stood at 21.7% (24.2% and 21.8% respectively at the end of 2018). The credit institutions' leverage ratio⁴⁹ was also high reaching 10.1% at the end of 2019. The capital ratios of Latvian credit institutions exceeded the average level of EU credit institutions (see Chart 2.35) despite the fact that their risk weights were higher on average.

The quality of the credit institutions' capital remains high. At the end of 2019, CET1 capital constituted 94.1% of all capital (89.7% in 2018). Credit institutions strengthened their capital primarily by reinvesting their earnings. The role of subordinated deposits in the capital structure continued to shrink with the subordinated deposits decreasing by 13% in 2019 as compared to a 14% decline in 2018.

In 2019, the capital ratios and their components of the three largest credit institutions registered in Latvia⁵⁰ continued to develop differently from those of other credit institutions (see Chart 2.36). **The capitalisation ratios of the three largest credit institutions improved overall:** CET1 capital ratio grew from an average of 21.3% at the end of 2018 to 22.3% at the end of 2019. Two of these credit institutions reinvested part of their earnings in their capital, thus increasing and strengthening it further in 2019. Meanwhile, one credit institution (part of an international and well capitalised banking group) had

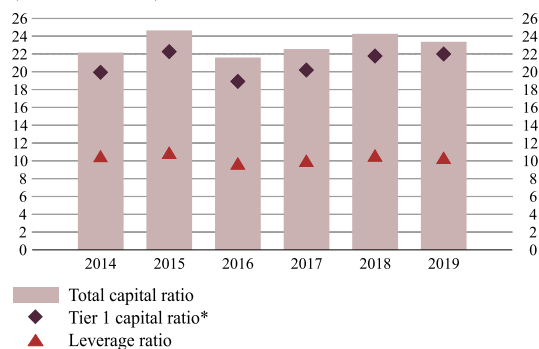
⁴⁸ Calculations only include the credit institutions operating at the end of 2019.

⁴⁹ Currently, the leverage ratio is used for monitoring purposes only: for the time being, it is not a mandatory requirement for credit institutions, but they are expected to observe the minimum threshold of 3%.

⁵⁰ Swedbank AS, AS SEB banka and AS Citadele banka. For analysis purposes, the Luminor Bank AS Latvian branch is not included as its capital is held by the parent company.

Chart 2.33
DEVELOPMENT OF CAPITAL RATIOS AT THE GROUP LEVEL

(at the end of 2019; %)



* CET1 capital ratio of all credit institutions equals Tier 1 capital ratio.

Chart 2.34
DISTRIBUTION OF CET1 CAPITAL RATIO AT THE GROUP LEVEL

(%)

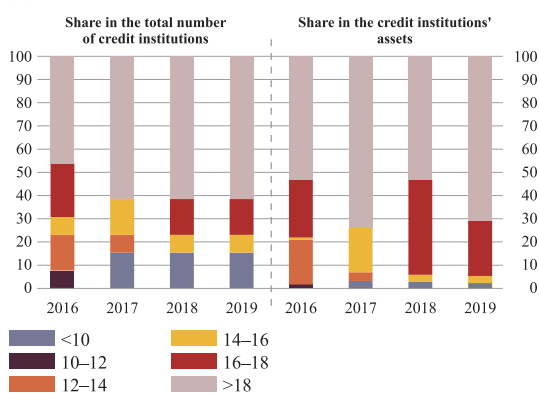
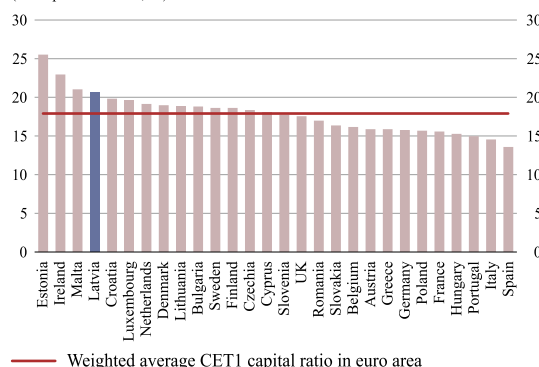


Chart 2.35
CET1 CAPITAL RATIOS OF CREDIT INSTITUTIONS ON A CONSOLIDATED BASIS IN EU COUNTRIES

(30 September 2019; %)



— Weighted average CET1 capital ratio in euro area

small discretionary capital reserves which exceeded the total capital requirements. Given the role of these credit institutions in the economy, their sufficient capitalisation is particularly important to ensure that, in times of financial stress, they would be able to perform their lending function smoothly.

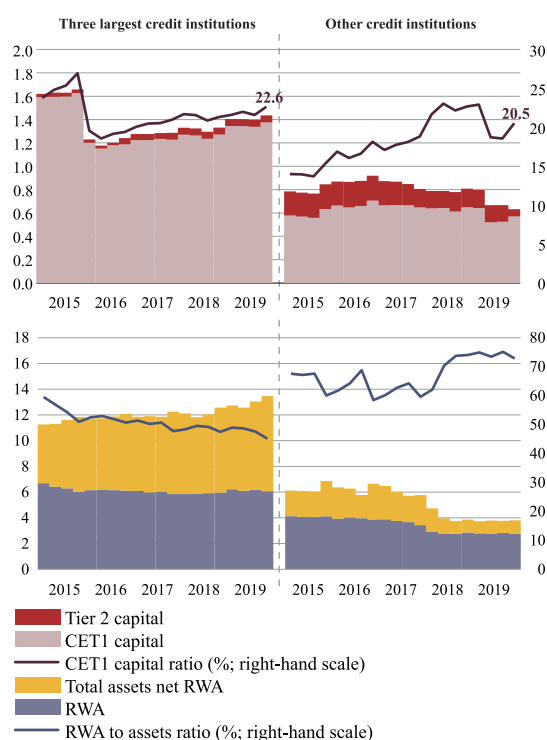
In 2019, the capital ratios of other institutions overall

declined notably due to dividend payments. CET1 capital ratio declined from 22.7% at the end of 2018 to 20.5% at the end of 2019. However, the trend was not homogenous: some credit institutions recorded an increase in their capital, the capital ratio of some credit institutions improved due to lower RWA, while some small credit institutions, whose total share of assets did not exceed 3% of the credit institutions' total assets, encountered difficulties in meeting Pillar 2 requirements. AS PNB Banka, the sixth largest credit institution in Latvia in terms of assets, was declared insolvent in September 2019.

As a result of the COVID-19 pandemic, the asset quality of credit institutions is expected to deteriorate, thus negatively affecting the credit institutions' capitalisation. Taking account of the moratorium on loans available to borrowers and the materiality threshold for credit obligations past due⁵¹, the credit institutions' reports are expected to reflect an increase in the non-performing loans towards the end of 2020 due the COVID-19 pandemic. Consequently, the credit institutions' capitalisation is expected to decrease on account of additional provisioning necessary for these loans (see Appendix 2.1). In view of the above factors, the plans to retain 2019 earnings announced by most credit institutions as well as the available parent bank support, the solvency risk of the largest lenders remains limited. At the same time, the solvency risk of some small credit institutions is increasing due to deteriorating profitability prospects. **According to the results of the stress test and credit risk sensitivity analysis conducted by Latvijas Banka (see Appendix 2.4), the overall credit institution shock absorption capacity is good; however, some credit institutions do not have sufficient capital reserves to absorb potential losses in the event of a severe shock.** Nevertheless, Latvian credit institutions are overall much better equipped for a financial crisis compared to the 2008 financial crisis. Since then, the regulatory framework

⁵¹ The materiality threshold for credit obligations past due has been met and the borrower has defaulted, where both threshold components characterising the materiality of the credit obligations past due have been exceeded for 90 consecutive days: 1) the absolute component is 100 euro for retail exposures or exposures to SMEs and 500 euro for other exposures; 2) the relative component is 1% of the credit obligations past due vis-à-vis the total value of all balance sheet exposures.

Chart 2.36
CONSOLIDATED CET1 CAPITAL, TIER 2 CAPITAL, RWA AND ASSETS OF CREDIT INSTITUTIONS*, CET1 CAPITAL RATIO AND RWA TO ASSETS RATIO
(31 December 2019; billions of euro)



* Only credit institutions operating at the end of 2019 are included.

for credit institutions has improved significantly, and the credit institutions' capital structure is much better.

To strengthen the credit institutions' resilience as well as their ability to continue lending in the context of the COVID-19 pandemic, in March 2020 the ECB asked the significant credit institutions not to pay dividends for 2019 and 2020 until 1 October 2020. The FCMC recommended the same to the credit institutions under its supervision. **Most Latvian credit institutions⁵² already announced that they will not pay out dividends from 2019 earnings to strengthen their capital.**

The ECB, the EBA and the FCMC announced that they will use a flexible supervisory approach and will treat each case individually during the crisis. Moreover, the ECB will allow the credit institutions under its direct supervision to operate temporarily below the level of capital defined by the Pillar 2

⁵² According to the information published by the Finance Latvia Association on 17 April 2020, 10 of its members decided not to distribute their profits and pay out dividends.

Guidance, the capital conservation buffer and the LCR. In addition, credit institutions are allowed to partially use capital instruments that do not qualify as CET1 capital, for example additional Tier 1 or Tier 2 instruments, to meet the Pillar 2 requirements⁵³. Part of the national supervisors that had set positive CCyBs, reset their CCyBs at 0% in the first quarter of 2020. The FCMC announced that, with respect to the credit institutions under its supervision, it will act in line with the position outlined by the ECB and the EBA. Upon assessing the decisions taken by the national supervisory authorities on lowering the CCyB, the O-SII capital buffer and the systemic risk buffer, the ECB announced that it supports the measures taken by the national supervisory authorities to mitigate the impact of the COVID-19 pandemic⁵⁴.

In 2019, the O-SII capital requirements for credit institutions remained unchanged. Four O-SIIs are identified in Latvia: Swedbank AS, AS SEB banka, AS Citadele banka and AS Rietumu Banka, with their O-SII buffer requirements set at 2%, 1.75%, 1.50% and 1.25% of RWA respectively. The overall capital requirements changed primarily due to the revision of individual requirements set by the FCMC. The ECB published the individual Pillar 2 requirements for credit institutions under its supervision for the first time⁵⁵. To dampen the shock triggered by the COVID-19 pandemic, the ECB allowed using the Pillar 2 Guidance which has been set for Swedbank AS and AS SEB banka.

⁵³ Swedbank AS and AS SEB banka meet the capital requirements set by the supervisor with CET1 capital since they currently do not have any other capital instruments.

⁵⁴ <https://www.ecb.europa.eu/press/pr/date/2020/html/ecb.pr200415-96f622e255.en.html>.

⁵⁵ Pillar 2 capital buffer requirements set for the Latvian credit institutions under ECB supervision are as follows: 1.7% for Swedbank AS and 2.25% for AS SEB banka. https://www.bankingsupervision.europa.eu/banking/srep/srep_2019/html/p2r.en.html.

BOX 2.4. CREDIT RISK AND MARKET RISK SHOCK-ABSORPTION CAPACITY

Latvijas Banka conducts sensitivity analysis⁵⁶ and macroeconomic stress tests⁵⁷ of credit institutions on a regular basis. Assessment is based on the consolidated data of credit institutions as at the end of 2019. The stress test also comprises the latest available information on credit institution capital and provisions built in the first quarter of 2020. The macroeconomic stress test covers the period up to the end of 2020. The thresholds for the stress tests are as follows: the total capital ratio of 8.0%, the Tier 1 capital ratio of 6.0% and the CET1 capital ratio of 4.5%⁵⁸. A failure to meet any of the minimum capital requirements is automatically considered a failure to meet overall capital requirements. The stress test assumes 60% provisions for loans past due over 90 days and 20% provisions for unlikely-to-pay loans past due less than 90 days.

The results of the sensitivity analysis suggest that the three major lenders' capacity to absorb the potential increase in credit risk has improved somewhat, with credit institutions strengthening their capital in the first quarter of 2020. On a consolidated basis, at the end of March 2020 the major lenders

⁵⁶ A credit risk sensitivity analysis provides an indication of the magnitude of an increase in loans past due over 90 days a credit institution would be able to absorb before its capital adequacy ratios fall below the minimum capital requirements. It is assumed that a credit institution has to build provisions in the amount of at least 60% for the over 90 days past due loans and build additional provisions totalling 60% of the increase in the loans past due over 90 days; unlikely-to-pay loans have to be provisioned by at least 20%. Credit institution capital and RWA are reduced by the amount of the additional provisions.

⁵⁷ Macroeconomic stress tests measure/assess the resilience of Latvia's credit institutions to various adverse macroeconomic shocks whose materialisation is plausible, yet their probability is low. The results of the credit risk stress tests allow assessing whether credit institutions have sufficient capital for absorbing losses stemming from a rise in credit risk in particularly severe and even extreme macroeconomic stress circumstances without additional capital injections.

⁵⁸ A characteristic feature of the capital structure of Latvian credit institutions is the fact that the Tier 1 capital requirement is met with CET1 capital; therefore, compliance with the Tier 1 capital requirement automatically means compliance with the CET1 capital requirement as well. As a result, a relatively high stress test threshold is applied to high quality capital (CET1).

would have been able to absorb a potential rise in credit risk resulting in the share of loans past due over 90 days expanding by 11.0 percentage points (10.0 percentage points at the end of 2018). Meanwhile, some small credit institutions, having built provisions for their current NPLs in the amount set by the sensitivity analysis assumptions, would find it difficult to meet the overall capital requirements already before the application of stress scenario.

Macroeconomic stress test results suggest that overall the resilience of credit institutions to potential shocks remains good. It has improved somewhat over the last year; nevertheless, some credit institutions still have to strengthen their capital. Given that credit institution investment in CIS countries has contracted considerably, the exposure of Latvian credit institution sector to CIS country credit risk has also decreased.

In the stress test market risk component, data on the securities portfolio of each credit institution, including securities measured at fair value through profit or loss, securities measured at fair value through other comprehensive income and securities measured at amortised cost, have been used. According to the accounting standards, securities measured at amortised cost are not subject to the impact of market fluctuations on capital. However, under this methodology market shocks are also applied to the portfolio of debt securities measured at amortised cost in order to assess the overall economic effect of changes in the securities portfolio market value on capital, assuming that eventually it will be necessary to recognise their fair value.

Credit institution securities portfolios mostly do not differ at individual and group levels; however, the securities portfolios of some credit institutions differ at group level. At individual credit institution's level, securities portfolio data are available at International Securities Identification Number (ISIN) level; however, at group level the securities portfolio has been extrapolated assuming that it is structurally similar to that of a credit institution's level.

Each credit institution's bond portfolio securities have been grouped by major risk category, e.g. euro area and US bond yields of different maturities, credit rating and sector, according to expert assessment. The average modified duration of each bond is set using Thomson Reuters data or, in case of lack of data, using time to maturity as an approximation, and expressed in years. The modified duration is used to calculate the impact of the interest rate shock scenario. The foreign exchange risk has been reported separately from the valuation effect, and the shock scenario is applied to the open foreign exchange position in US dollars and Russian roubles. Plain percentage shock has been applied to stocks, funds and other investment. Financial derivatives comprise a range of various types of securities, characterised by lack of market price and liquidity, as well as relatively high risk. The scenarios have been developed on the basis of securities portfolio data at the end of 2019.

The macroeconomic stress test was carried out to assess the capability of credit institutions to absorb a potential increase in credit risk and market risk caused by the deterioration of the domestic macrofinancial environment. The main risks under the stress scenario are notable declines in investment and consumption, if the application of the COVID-19 pandemic containment measures persists in Latvia and abroad, thus making the downturn in the economic activity deeper and hampering economic recovery. The credit institution capacity to absorb potential losses associated with the loan portfolio of foreign customers has also been modelled.

As the COVID-19 pandemic had already started to affect the global economy when the scenarios were developed, the stress test scenarios are much more severe than usually. The baseline scenario has already projected a decline in Latvia's economic growth exceeding the GDP decline applied in the stress test scenarios of previous years.

Tables 2.1–2.3 provide a summary of the stress test parameters.

The baseline scenario for the domestic customer loan portfolio is based on Latvijas Banka's GDP forecast of June 2020. According to the above forecast, as a result of the COVID-19 containment measures, GDP will contract considerably in the second quarter, followed by a V-shaped recovery of the economic growth; in 2020, overall Latvia's GDP is likely to fall by 7.5% (seasonally adjusted data).

Assumptions on PD on loans to the sectors of the economy hit the hardest by the crisis are shown in Table 2.1. The COVID-19 pandemic containment measures are expected to have the most pronounced impact on the accommodation and food service activities sector. The transport sector will also be affected notably; nevertheless, its PD is smaller due to the fact that the major companies of this sector are owned by the state and may receive government support. Manufacturing will also have a high PD as it will be affected by a drop in external demand. Real estate activities also have an increased PD as shopping centres are the major borrowers in this sector: the turnover of their tenants has considerably decreased as a result of the COVID-19 containment measures and the moderating demand for non-food goods. The PD for other sectors as well as household loans was estimated using Latvijas Banka's credit risk model according to the overall decline in the economic activity under the stress test scenarios.

The following assumptions have been used in the baseline scenario with regard to foreign investment: The PD on investment in the other Baltic States and other countries outside the CIS region has been set at the same level as for the domestic customer loan portfolio, but PD on investment in CIS countries (loans and claims on MFIs) is 15% on account of the negative impact of the declining oil prices on the Russian economy. LGD on loans to customers from Estonia and Lithuania has been set at the same level as for the domestic customer loans, but for other foreign customer loans LGD has been set at 75% (see Chart 2.1).

For the market risk component test under the baseline scenario, the actual asset (securities, foreign exchange) market price adjustment⁵⁹ has been used as seen in the financial markets in the first three months of 2020, where losses have not yet been included in the credit institution capital⁶⁰, and it is assumed that this adjustment remains unchanged by the end of the stress test period.

Under the stress scenario, prolonged COVID-19 containment measures cause persistent deterioration of economic sentiment, in turn having a negative impact on investment and consumption. GDP fall reaches 13.5% in 2020 (see Table 2.2).

Under the stress test scenarios, the impact on the quality of loans granted to domestic customers was estimated by using the credit risk model of Latvijas Banka and employing the assumptions about loan migration to and from the unlikely-to-pay loans category⁶¹.

⁵⁹ This approach is different from the stress test of 2019 where market risk shocks were not applied under the baseline scenario.

⁶⁰ Losses from the securities reported at market value in other income, as well as those securities reported at market value in the profit and loss statement at credit institutions having concluded the first quarter with losses, have already been taken account of in the capital data for the first quarter of 2020.

⁶¹ For the description of the assumptions see Latvijas Banka Financial Stability Report for 2017.

As to the market risk component under the stress scenario, another, even more significant market shock has been included in addition to the actual developments in the financial markets in the first three months of 2020 (see Table 2.3). The choice of the stress scenario was based on the historical data time series⁶² by comparing the falls in the financial markets over a year and applying them to the securities portfolio used in the test. Under this scenario, significant risk premium shocks have been applied to government, non-financial corporation and financial corporation securities depending on their credit ratings and stock value, as well as less significant shocks to euro and US dollar benchmark rates and US dollar and Russian rouble exchange rates. Constant initial RWA have been assumed for impact calculations. Besides the components where market price fluctuations can be measured, a plain percentage shock of 50% has been applied to illiquid financial derivatives, based on expert's judgement.

Under the stress scenario, the following assumptions have been made with respect to foreign investment (see Table 2.2). It is assumed that PD on loans to Lithuanian and Estonian customers is the same as average PD on domestic customer loans, but the provisioning rate is 60%. As regards investment in Russia and other CIS countries, it is assumed that the economic growth (and consequently PD) will deteriorate due to the COVID-19 pandemic shock and a further oil price plunge. Under the stress scenario, PD and LGD on loans to CIS customers have been set at 24% and 75% respectively. For loans to customers of countries other than Estonia, Lithuania and CIS, PD is the same as PD for domestic customer loans, but LGD has been set at 75%. To reflect the potential losses arising from investment abroad more accurately, the amount of investment made in these countries was adjusted according to the data provided in the country risk reports.

⁶² Using the time series from the beginning of 2006, all 3-month periods were selected where the existing securities portfolio value had fallen. Then the subsequent 9-month period in the financial markets was analysed for each selected period and the median adjustment coefficient was estimated for the respective 9-month period. After that the obtained coefficient was applied to the observed actual market adjustment in the first three months of 2020, thus arriving at a shock scenario for one year.

Table 2.1 PARAMETERS OF MACROECONOMIC STRESS TEST BASELINE SCENARIO (%)				
Macroeconomic and credit risk parameters				Baseline scenario
Latvia				
Annual changes in Latvia's GDP in 2020				-7.5
3-month EURIBOR forecast ⁶³				-0.37
	Household loans	Loans to non-financial corporations		
		Accommodation and food service activities	Transport and storage, manufacturing, real estate activities	Other
Probability for a performing loan or a loan past due less than 90 days to become a loan past due over 90 days within a period of one year (PD)	7.2		10.0	7.2
Provisioning rate	60	60	60	60
Expected loss rate	4.3	12.0	6.0	4.3
Probability for an unlikely-to-pay loan to become a loan past due over 90 days within a period of one year	28.8	80	40	28.8
Provisioning rate	60	60	60	60
Expected loss rate	17.3	48.0	24.0	17.3
Probability for a performing loan or a loan past due less than 90 days to become an unlikely-to-pay loan within a period of one year	7.2	20	10	7.2
Provisioning rate	20	20	20	20
Expected loss rate	1.4	4.0	2.0	1.4
Loans to foreign customers	Customers from CIS: loans and claims on MFIs	Customers from Lithuania and Estonia	Customers from other countries	
PD	15.0	8.2	8.2	
LGD	75.0	60	75.0	
Expected loss rate	11.3	4.9	6.2	

⁶³ Annual average of 3-month EURIBOR interbank market interest rates by end of 2020. Actual interest rates by May 2020 and futures rates. Bloomberg, 01.06.2020.

Table 2.2

PARAMETERS OF MACROECONOMIC STRESS TEST STRESS SCENARIO

(%)

Macroeconomic and credit risk parameters		Stress scenario		
Latvija				
Annual changes in Latvia's GDP in 2020		-13.5		
3-month EURIBOR forecast ⁶⁴		-0.37		
	Household loans	Loans to non-financial corporations		
		Accommodation and food service activities	Transport and storage, manufacturing, real estate activities	Other
Probability for a performing loan or a loan past due less than 90 days to become a loan past due over 90 days within a period of one year (PD)	14.9	30	17.0	14.9
Provisioning rate	60	60	60	60
Expected loss rate	8.9	18.0	10.2	8.9
Probability for an unlikely-to-pay loan to become a loan past due over 90 days within a period of one year	59.6	100	68.0	59.6
Provisioning rate	60	60	60	60
Expected loss rate	35.8	60	40.8	35.8
Probability for a performing loan or a loan past due less than 90 days to become an unlikely-to-pay loan within a period of one year	14.9	30	17.0	14.9
Provisioning rate	20	20	20	20
Expected loss rate	3.0	6.0	3.4	3.0
Loans to foreign customers	Customers from CIS: loans and claims on MFIs	Customers from Lithuania and Estonia	Customers from other countries	
PD	24.0	15.8	15.8	
LGD	75.0	60	75.0	
Expected loss rate	18.0	9.5	11.9	

⁶⁴ Annual average of 3-month EURIBOR interbank market interest rates by end of 2020. Actual interest rates by May 2020 and futures rates. Bloomberg, 01.06.2020.

Table 2.3
PARAMETERS OF MARKET RISK STRESS TEST UNDER THE STRESS SCENARIO
 (Compared with the baseline scenario)

Benchmark yield ⁶⁵ curve shock		Initial value (%)	Stress scenario (change; in basis points)	Risk premium ⁶⁶ shock	Initial value	Stress scenario change compared to initial value; in basis points)
Euro	1 month	-0.6	+3	Latvian central government	1.0%	+6
	3 months	-0.7	+2	Sovereign governments (AAA-BBB-)	3.1%	+46
	6 months	-0.7	-1	Sovereign governments (<BBB-)	10.2%	+142
	1 year	-0.6	0	Financial institutions (AAA-BBB-)	4.4%	+86
	3 years	-0.7	-3	Financial institutions (<BBB-)	6.5%	+131
	5 years	-0.6	-4	Non-financial corporations (AAA-BBB-)	3.1%	+50
	10 years	-0.5	-7	Non-financial corporations (<BBB-)	9.4%	+151
US dollar	1 month	0.0	-37	Exchange rate shocks ("+" means appreciation of the respective currency vis-à-vis the euro)		
	3 months	0.1	-38	US dollar	1.09	0.7%
	6 months	0.1	-37	Russian rouble	86.01	-5.1%
	1 year	0.2	-37	Other market shocks		
	3 years	0.3	-34	Equities, funds and other instruments (excluding financial derivatives)		-7%
	5 years	0.4	-34	Financial derivatives		-50%
	10 years	0.6	-33			

Table 2.4 features the aggregated stress test results.

According to the baseline scenario assumptions, the share of loans past due over 90 days would expand by 8.6 percentage points (to 11.0%) in the domestic customer loan portfolio by the end of the fourth quarter of 2020. Under the baseline scenario, the estimated losses (in the form of the necessary additional provisions) could reach 740.1 million euro or 4.3% of the total credit institution assets. Not taking into account the already accumulated provisions, the losses would reach 822.5 million euro or 4.8% of the total credit institution assets. Losses arising from asset revaluation⁶⁷ would amount to 7.9%, and those from investment in CIS countries would stand at 8.6% of total losses, while losses from loans to domestic and foreign customers outside CIS countries would account for 83.5%.

In the event of the baseline assumptions materialising, one relatively small credit institution would face problems in complying with the minimum capital requirement irrespective of the type of capital requirement, but the capital would still remain positive, while another two credit institutions would fail to meet Pillar 2 requirements.

⁶⁵ German and US government bond yields have been used as benchmarks for the euro and US dollar respectively.

⁶⁶ The spread of securities yield compared with the government benchmarks. No risk premium shock is applied to German and US government bonds.

⁶⁷ Taking into account the price adjustment seen in the financial markets in the first three months of 2020, but not reflected in the capital data for the first quarter of 2020 yet; see the description of the market risk component under the baseline scenario.

Table 2.4

AGGREGATED MACROECONOMIC STRESS TEST RESULTS

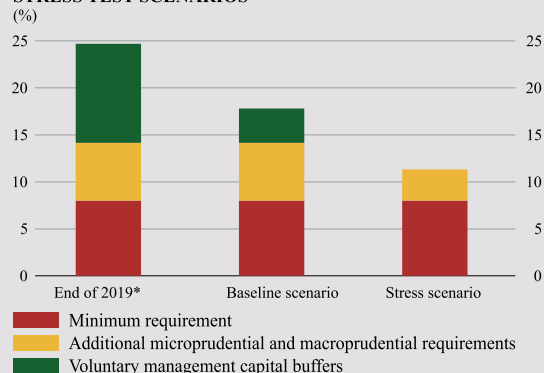
Indicator	Baseline scenario	Stress scenario
Potential losses (in millions of euro)	740.1	1331.0
Additionally required provisions (% of total credit institution assets)	4.3	7.7
Total capital ratio		
Average capital ratio of the credit institution sector (%)	17.8	11.3
Number of credit institutions with the total capital ratio below 8%	1	3
Additionally required capital (millions of euro)	3.7	152.0
Tier 1 capital ratio		
Average capital ratio of the credit institution sector (%)	16.4	9.8
Number of credit institutions with Tier 1 capital ratio below 6%	1	4
Additionally required capital (millions of euro)	3.2	127.9
CET1 capital ratio		
Average capital ratio of the credit institution sector (%)	16.4	9.8
Number of credit institutions with CET1 capital ratio below 4.5%	1	2
Additionally required capital (millions of euro)	1.9	87.5

Under the stress scenario, the share of loans past due over 90 days would expand by 16.6 percentage points (to 19.0%) in the domestic customer loan portfolio by the end of the fourth quarter of 2020. Table 2.4 features the aggregated stress test results. In the event of the stress scenario materialising, the estimated total losses could reach 1331.0 million euro or 7.7% of the total credit institution assets. Not taking into account the already accumulated provisions, the losses would reach 1413.4 million euro or 8.2% of the total credit institution assets. Losses arising from market risk and asset revaluation would amount to 8.3%, and those from investment in CIS countries stand at 6.4% of total losses, while losses from loans to domestic and foreign customers outside CIS countries would account for 85.3%.

In the event of the stress scenario materialising, two credit institutions would face problems in complying with the minimum capital requirement irrespective of the type of capital requirement and the capital would become negative; one credit institution would find it difficult to comply with total capital and Tier 1 capital requirements, and yet another credit institution would incur problems with complying with Tier 1 capital requirement. Two more credit institutions would fail to meet Pillar 2 requirements.

Overall it can be concluded that the resilience of the Latvian credit institution sector to credit risk and market risk shocks remains good, as this time the baseline scenario is more severe than the stress scenarios of the previous years and only one relatively small credit institution fails to pass the stress test; the additionally required capital is also small. In turn, in the case of the stress scenario where the fall in Latvia's GDP compares to that experienced during the global financial crisis of 2008, the average capital ratio for all types of capital would remain substantially above the level of minimum requirement (see Chart 2.37).

Chart 2.37
CREDIT INSTITUTION SECTOR CAPITALISATION UNDER STRESS TEST SCENARIOS



* Taking account of the available information on credit institution capital and provisions built in the first quarter of 2020.

3. DEVELOPMENT AND RISKS OF THE NON-BANK FINANCIAL SECTOR

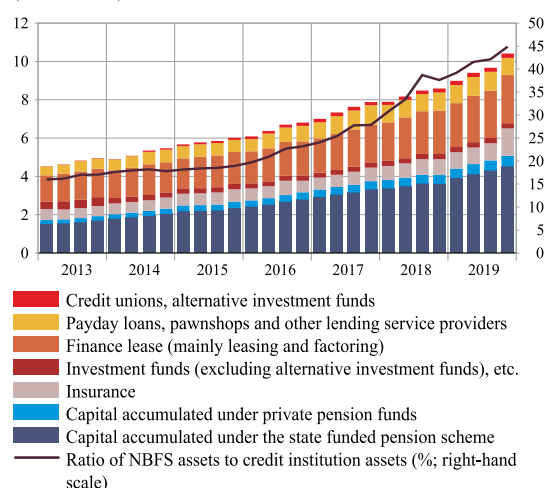
The growth of NBFS was buoyant in 2019. The NBFS assets increased by 21.3%, amounting to 10.4 billion euro or 34.2% vis-à-vis GDP at the end of the year. The amount of NBFS assets already equalled 44.9% of the assets of the credit institution sector (37.6% in 2018; see Chart 3.1). The increase in the assets of NBFS was mainly driven by the stable contributions to the 2nd pillar pension scheme and its strong return on investment, as well as the rise in the assets of the insurance sector which, in turn, was significantly affected by the creation of the insurance corporation SEB Life and Pension Baltic SE through a merger of SEB life insurance corporations of all three Baltic States.

The continuity of accessibility of NBFS services in Latvia's financial system is high as in the event of the withdrawal of a market participant, the services provided by it to ensure the functioning of Latvia's financial system may be replaced by other market participants due to the relatively low market concentration. Thus, the NBFS does not pose systemic risks to the financial system. For the time being, it is hard to estimate the impact of the COVID-19 pandemic on all NBFS subsectors; however, it is already evident that the NBFS participants investing in the financial markets – the state funded pension scheme, private pension plans and investment funds – are strongly affected.

Other lending service providers

At the end of 2019, the portfolio of loans granted to domestic households and non-financial corporations by NBFS lending service providers accounted for 23.8% of the portfolio of loans granted to domestic households and non-financial corporations by credit institutions. Loans granted by leasing companies account for 76.5% of the total loan portfolio of NBFS lending service providers, while loans granted by other lending service providers account for the remaining portion. In view of the fact that in Latvia, leasing companies are mostly subsidiaries of the largest Latvian credit institutions and thus their lending activities should be viewed on a consolidated level, consequently

Chart 3.1
NBFS ASSETS IN BREAKDOWN BY SUBSECTOR*
(billions of euro)



* The chart does not include data on investment platforms as they are not subject to supervision.

the growth of financial leasing has been discussed in section 2 of the report analysing the development of credit institutions' lending, while this section assesses other lending service providers falling under NACE code 64.92 which mainly represents payday lenders.

The share of loans granted by other lending service providers in the total loan portfolio of the financial sector is low and does not represent a systemic risk to Latvia's financial system; however, in recent years these loans grew rapidly, with their growth rate declining more notably only in 2019 when more significant restrictions took effect. Moreover, in 2019 domestic household interest payments on loans granted by other lending service providers already accounted for about one third of the total household interest payments on loans granted by credit institutions and non-bank lenders.

At the end of 2019, the annual growth rate of loans granted to domestic households by these lending service providers decreased to 3.3%. This was largely affected by the withdrawal of one company from the non-bank lender market. If the currently active other lending service providers were only taken into account, the above annual rate of increase would be 10.0% (about a half lower than in 2018 when it stood at 19.2%).

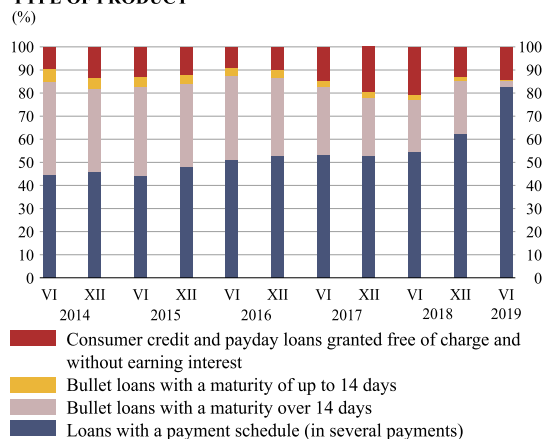
The rapid deceleration of the previously observed strong growth can be largely attributed to amendments to the Consumer Rights Protection Law taking effect on 1 July 2019. The amendments provide for the limits on advertising of lending services, the total credit amount and the total cost of a credit to a consumer (0.07% of the credit amount per day⁶⁸; for more information on the total cost of credit, see Box 3.1) as well as prohibit to extend a loan⁶⁹ repayment term more than two times. Due to the imposed limits, payday lenders have changed their offered products by reducing the supply of payday loans and consumer bullet loans, which are the riskiest⁷⁰ for consumers,

⁶⁸ From 1 January 2016 to 30 June 2019, the total cost to a consumer could not exceed 0.55%, 0.25% or 0.2% of the credit amount per day from the first to the seventh day of the use of credit facility, from the eighth to the 14th day and from the 15th day respectively. In the contracts according to which a loan must be repaid upon request or in which the time period for the use of a loan exceeds 30 days, the total credit cost to a consumer may not exceed 0.25% of the credit amount per day.

⁶⁹ Bullet loans with a maturity up to 30 days.

⁷⁰ These loans are riskier for a consumer since a person may incur additional commission fees for the extension of the repayment period due to his/her inability to make a full repayment at the end of the repayment period; this increases the risk that the consumer may fall into a debt trap.

Chart 3.2
SHARE OF NEW PAYDAY LOANS AND CONSUMER CREDIT IN TOTAL PAYDAY LOANS AND CONSUMER CREDIT GRANTED ON A SEMI-ANNUAL BASIS IN BREAKDOWN BY TYPE OF PRODUCT



and by replacing them with loans with a payment schedule (see Chart 3.2). Payday lenders are looking for ways to continue advertising, for example, by sending electronic advertisements with their brand names and links to their websites where they may advertise loans.

BOX 3.1. ADDITIONAL COMMISSION FEES FOR A FASTER ISSUANCE OF LOANS – AN OBSTACLE TO ACCESSIBILITY TO FINANCING

In the state of emergency declared in the country as a consequence of the COVID-19 pandemic, the financial situation of people may be different. According to the flash estimate of the CSB, 29.3% of Latvian households did not have any financial savings at the beginning of 2020. Therefore, the members of these households might need additional financial resources to satisfy their primary needs during the state of emergency.

Consumer loans traditionally have been the most accessible source of funding for a consumer, and in practice, it is also offered widely in the form of a distance credit agreement. In line with the current consumer lending practice, when entering into a credit agreement, the lender undertakes to transfer the funds to the borrower's settlement account within a period of up to 10 calendar days in some instances. This means that in such cases a consumer enters into a forward loan agreement instead of a credit agreement.

Such consumer lending practice significantly contrasts with the so called payday lending practice exercised in the first half of 2019 and a long time before that when it was possible to receive a small consumer loan immediately after the conclusion of a credit agreement, and sometimes it was even possible on the same day on which a credit application was submitted.

At the same time, however, some lenders have introduced a new fee for a fast issuance of loans to enable the borrower to receive the granted consumer loan on the date of entering into a credit agreement.

Looking at some loan offers, it has to be noted that the annual interest rate on loans⁷¹ for the use of such an additional service may increase from 54.1% to 84.3% and the total cost of credit vis-à-vis the amount of credit initially granted may rise from 0.07% per day to 0.0944% per day⁷² respectively, thus exceeding the total cost of credit stipulated by the Consumer Rights Protection Law by 34.9%⁷³.

The fact that such additional charges apparently do not fall within the scope of the definition of the total cost of a credit to a consumer essentially allows to circumvent the interest rate ceiling on a consumer loan set by the legislative body to promote more responsible lending and reduce the risk that the most vulnerable consumers may fall into a debt trap.

⁷¹ Based on a 1000 euro loan with repayments in 12 equal instalments and the interest rate of 44.16%.

⁷² It is not excluded that the annual interest rate and the total cost of credit per day, also including additional charge for the receipt of a credit on the date of entering into an agreement, may be higher since all lending service providers were not considered.

⁷³ The total cost of a credit to a consumer, including interest, commission, fees and any other payments which must be paid by the consumer in relation to the credit agreement and which are known to the lender (except the costs of a sworn notary). The total cost of credit also includes the costs for additional services in relation to a credit agreement, including insurance premiums, if the conclusion of an additional services contract is a mandatory precondition to receive a credit or to receive it on the terms and conditions offered. If repayment of a credit is ensured by an immovable property or the purpose of the credit is to acquire or retain the rights to an immovable property, the total cost of a credit to a consumer also comprises the cost of evaluation if such evaluation is necessary to receive a credit, but does not include the charge related to the registration of the immovable property and the related rights with the Land Register.

Investment platforms

According to publicly available information, seven investment platforms were operating in Latvia at the end of 2019, and the number of investors in them exceeded 290 thousand. The Box on investment platforms included in Latvijas Banka's Financial Stability Report 2018⁷⁴ indicated that these platforms may operate under different business models, but **investment platforms in Latvia mainly offer to purchase assigned loans**. The difference between this business model and the typical crowdfunding model is that it involves an intermediary acting between an investor and a borrower and granting a loan to a business or a consumer.

According to Brismo⁷⁵ data on investment platforms, **the amount of funding mobilised by lenders via three largest investment platforms operating in Latvia accounts for 15.0% of the funding attracted via Europe's investment platforms since the start**

⁷⁴ https://www.bank.lv/images/stories/pielikumi/publikacijas/FSP_2018.pdf, p. 40.

⁷⁵ Brismo is a fintech, whose one of the core activities is data collection from investment platforms on the amount of the debt liabilities financed through them. According to the company's estimate, its data cover 65% of the liabilities financed through investment platforms in the UK and the EU.

of their operations. However, taking into account the fact that most of the loans financed via Latvia's investment platforms are short-term, the stock of loans granted via them accounts for a much smaller share than that of new loans. In any case, the information published by the companies themselves suggests that investment platforms registered in Latvia have become a financial market participant of international significance, competing on a European scale. The information available also indicates that a relatively small percentage of investments made through these platforms and the investors in these platforms come from Latvia.

The high interest rates on loans available through investment platforms point to riskier borrowers who have not received loans at lower interest rates somewhere else. Thus, the loans financed through these platforms exhibit higher sensitivity to the business cycle. Moreover, the investment platform companies are not subject to capital requirements the compliance with which would allow absorbing losses during economic downturns, thus enabling platforms to continue their operations through the cycle. Investors may also not be fully informed about all the risks associated with the investment platform (including the company which owns the platform)

and the investment-related risks as the platform itself does not examine the financial literacy of a customer and this type of a financial service is not currently licensed. The risks related to ML/FT, fraud, internal procedures, management risks, cyber risk and other risks are also not excluded as significant risks of this sector. All seven investment platforms had expressed interest in obtaining a licence (primarily an investment brokerage licence, while some of them were also willing to acquire a payment institution licence in order to expand the operation of the platform in other directions).

Funding through investment platforms is mainly attracted by other lending service providers. The ownership structure for some platform owners and the companies granting loans through these platforms overlap, resulting in a higher risk of attracting financing by selling the doubtful loans.

The COVID-19 pandemic also increases the risk of using asymmetry of information and passing on the losses to investors, leading to lower public confidence and potential negative impact on Latvia's reputation. At the same time, in this state of emergency investors choose to withdraw funds from investment platforms and sell existing investments at discounted prices amid concerns over the solvency of borrowers and lending institutions, while realising that the lending institution or the company of the same group may fail to fulfil its guarantees in case of insolvency.

Saving service providers

Other NBFS financial services are primarily related to the placement of household savings, risk insurance as well as the execution of payments. The assets of other NBFS service providers amounted to 7.0 billion euro in 2019. Their share in the total NBFS assets was 67.3% (including the funds accumulated under the state funded pension scheme that accounted for 43.4% of the total assets).

The assets of the state funded pension scheme, private pension plans and investment funds are significantly affected by the financial market volatility. Following the sharp decrease in the financial markets in the fourth quarter of 2018, a strong market

rally was recorded in 2019 (see the section on the external macrofinancial environment). The increase in stock and bond prices was driven by the accommodative monetary policies pursued by major central banks. The financial market also benefited from a trade truce between the superpowers and the avoidance of a no-deal Brexit. However, **the rapid growth was suspended by the shock of the COVID-19 pandemic, causing a slump in the financial markets similar to the financial crisis of 2008.**

In the first quarter of 2020, the weighted average 2nd pillar investment plan's return was -8.9% in comparison with the end of 2019. The steepest fall was reported for the values of active⁷⁶ investment plans, with the return ranging from -22.7% to -8.8%, whereas previously these plans reported the highest return. The return on investment⁷⁷ in conservative⁷⁸ investment plans ranged from -13.2% to -1.2%. People who should retire at the time of fixing the unrealised fall in the value of investments will incur losses, resulting in a reduced pension. To prevent this, on 2 April 2020 the Saeima of the Republic of Latvia adopted amendments to the Law on State Funded Pensions providing that **the participants of the state funded pension scheme have the right**, when claiming the old age pension (including the early retirement pension), **to postpone the choice of using the state funded pension capital until 30 November 2021.**

The risks to pension savings are also exacerbated by the low interest rate environment. At the end of the first quarter of 2020, the interest rate on the 10-year German government bonds had decreased to -0.46% (while it was positive (0.21%) at the beginning of 2019). The coupon rates also diminish with lower bond yields. Thus, the coupon income, the reinvested capital and the new contributions are invested in fixed income instruments with low or even negative expected return. This significantly affects the growth in the

⁷⁶ Investment plans in the prospectus of which the maximum allowed investment in equity securities and instruments similar to them in terms of risk does not exceed 50% and 75% of the plans' assets respectively.

⁷⁷ Change in the value of an investment plan's unit.

⁷⁸ Investment plans in the prospectus of which it is not allowed to invest the plan assets in equity securities and instruments similar to them in terms of risk.

pension capital of individuals (particularly the new participants) in the long run as the expected investment effect from compound interest will be low; therefore, the contribution of the 2nd and 3rd pillars of the pension scheme to the wage replacement coefficient will also decrease significantly.

Expecting the persistence of a low-for-long interest rate environment, **the investment managers increased the risk level of the investment plans of the state funded pension scheme, and the participants chose to switch to investment plans with higher maximum investment in equity securities.** The share of deposits in the assets of the 2nd pillar pension scheme decreased from 30.1% at the end of 2005 to 1.3% at the end of 2019, while that of equity and alternative investment funds increased from 12.6% to 31.7%.

However, overall the 2nd pillar pension scheme is a profitable savings scheme that helps to prepare for retirement: despite the financial crisis of 2008 and the initial COVID-19 pandemic shock, the pension capital of the participants is growing. The average annual 15-year (31 March 2005–31 March 2020) return on the currently active investment plans of the state funded pension scheme ranged from 2.2% to 3.6%. From the launch of the pension scheme (July 2001) up to the end of 2019, the managers of investments in the 2nd pension pillar were also able to increase the purchasing power of savings by, on average, 0.4% per year. This is yet another confirmation that pension investments should be assessed from a longer-term perspective instead of relying on short-term results.

The investment plan management costs have been reduced significantly since 2018. The new requirements stipulate that the maximum applicable remuneration (including the variable part of remuneration) for conservative plans may not exceed 0.85%, while that of balanced⁷⁹ and active plans – 1.1%. In 2017, the maximum amount of the commission fee was 1.5% and 2% respectively. Essential amendments were also

made to the regulations of the Cabinet⁸⁰ establishing the way of calculating and deducting the variable part of remuneration by the manager of the state funded pension scheme.

According to the amendments, since the beginning of 2018 the set of reference indices to be exceeded by a manager of a 2nd pension pillar investment plan in order to receive the variable part of remuneration is a combination of the bond index Bloomberg Barclays Euro Aggregate and the equity index STOXX Europe 600. The new market indices are better representatives of the investment structure of investment plans of the state funded pension scheme, where the previous reference index (3-month EURIBOR) was inadequate due to two reasons. First, it only represented the interbank interest rate on loans instead of the developments in the stock and bond markets. Second, the maturity of this interbank interest rate is three months, but the assets of the 2nd pillar of the pension scheme are long-term investments.

The amendments also introduced the so called high watermark principle in the calculation and deduction of the variable part of remuneration. This principle was established for eight years. This means that the variable part of remuneration may be accounted for and paid only if an investment plan of the state funded pension scheme has exceeded the maximum value of the same investment plan's unit over the last eight years. As investments in the 2nd pension pillar have a long investment horizon, eight years better represent the business cycle and the long-term investment policy of the 2nd pillar pension scheme.

Based on the estimates of Latvijas Banka, **both the decrease in the fixed commission fee and the methodological changes in the calculation of the variable commission fee for the participants of the 2nd pillar of the pension scheme have, overall, helped to save approximately 62 million euro and to reduce the management costs (including the costs**

⁷⁹ Investment plans in the prospectus of which the maximum allowed investment in equity securities and instruments similar to them in terms of risk does not exceed 25% of the assets of the plan.

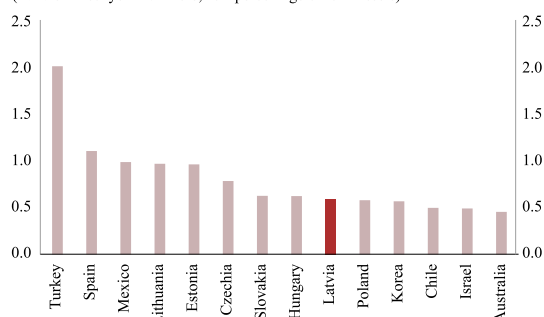
⁸⁰ The Cabinet Regulation No 765 of 19 December 2017 "Procedures by which the Manager of Funds of the State Funded Pension Scheme shall Calculate the Payment for the Management of an Investment Plan and Procedures for the Accounting and Deduction of the Abovementioned Payment".

of the custodian bank and other costs) by half over the past two years. The relative amount of the pension management costs is currently closer to the respective costs of other OECD countries (see Chart 3.3).

Although the pension system currently involves no direct risk to the stability of Latvia's financial system, it may intensify the social problems in the long run and indirectly affect the financial stability in the future, with the demographic burden increasing and the process of population ageing continuing. According to Latvijas Banka estimates,⁸¹ the wage replacement coefficient of the first two pension pillars will be 24% in 2060, and it will be, on average, 14 percentage points lower than the expected average wage replacement coefficient of the EU. This could imply that household consumption and savings patterns are currently not optimal and their pension savings are not sufficient. According to the flash estimate of the CSB, 29.3% of households did not have any savings at the beginning of 2020. If the income of people reaching retirement age decreases by three fourths, on average, they will have to continue to work to maintain the usual level of consumption. The steep decline in income, when retiring, could make many individuals live under the subsistence minimum, reduce access to health care and undermine the confidence of young people, seeing the low wage replacement coefficient, in the pension system and the government. Consequently, this might increase the political risk and the shadow economy as well as cause other negative side effects. **To increase the amount of pension in the future, it is necessary to reduce the share of the shadow economy, to improve the demographic situation and to restrict tax arrangements by lowering social insurance contributions.**

To raise the wage replacement coefficient, individuals also save in the 3rd pillar of the pension scheme. **In 2019, the assets of private pension plans grew by 21.2% (to 560 million euro; 462 million euro in 2018).** This was primarily determined by the performance of pension plans, increasing the assets by 51.5 million

Chart 3.3
PENSION MANAGEMENT COSTS IN LATVIA AND OECD COUNTRIES
(2018 or latest year available; as a percentage of total assets)



euro or 10.1%⁸². In 2019, the contributions made by the pension plan participants rose by 10.9%. This was on account of a larger amount of contributions made by active participants, although the number of active participants decreased by 6.9% in 2019. Overall, the rise in the assets due to net contributions declined by 6.4% over a year. This was largely on account of disbursements to persons having reached the retirement age specified in the pension plan. In 2019, the amount of disbursements of pensions increased by 51%.

At the same time, the administration and management costs of private pension plans have decreased from 1.8% of net assets in 2017 to 1.2% of net assets of pension plans in 2019. Lower costs will allow to build more savings in the long-run and better maintain the purchasing power of household savings in the future. **The impact of the COVID-19 pandemic on the assets of private pension plans will be negative, with the value of household savings declining.** There is a risk that people reaching the age of 55 might prefer to reduce their contributions or completely withdraw the capital from private pension plans.

In the short run, volatility in the market prices poses the most significant risk to pension plans of the 3rd pillar of the pension scheme, and this will be particularly strongly reflected in stocks, equity funds and non-investment grade corporate debt securities. The market risk to both the 2nd and 3rd pension pillar assets is mitigated by the design of a portfolio, but a more active use of derivative securities might also be

⁸¹ <https://www.makroekonomika.lv/ekspertu-saruna-pensiju-sistema-latvija-vai-bumba-ar-laika-degli>.

⁸² The return has been calculated against the average net assets of pension plans, excluding the commission fees deducted by pension funds and the FCMC.

considered. The managers of the 2nd and 3rd pillar assets are not actively engaged in hedging their investments through the use of derivative securities since under normal circumstances, these actions impose extra costs, exerting additional pressure on the return on a pension plan's assets. However, such hedging activities have the potential to reduce the fluctuations in the value of the pension plan units in the short run and to safeguard the accumulated capital against a steep fall in the market prices.

As of 1 January 2020, individuals are given the possibility to leave the capital of the 2nd pillar pension scheme in heritage if the individual dies prior to receiving the old age pension. Individuals may add their 2nd pillar pension capital to another person's funded pension capital, allow to inherit it according to the procedure specified in the Civil Law or to transfer it to the special budget of state pensions. This strengthens society's confidence in the pension system and could reduce the share of the shadow economy. Meanwhile, people reaching the retirement age have a choice: either to add the 2nd pillar pension capital to their 1st pillar pension capital and only receive the state pension or to sign a contract with an insurance corporation on the purchase of an annuity policy (it allows to inherit the accumulated pension capital, and it can be also accessed earlier). Annuity policies do not pose a significant risk to insurance companies as their share is small⁸³, and most of insurance corporations do not offer annuities with guaranteed return. However, there might be a risk in the long run when the disbursed capital accumulated under the 2nd pillar pension scheme increases, the annuity policies gain popularity and the holders of these policies live longer than 20 years – the duration estimated by insurance companies.

Insurance corporations

In 2019, the assets of Latvian insurance corporations increased by 70.0%, reaching 1.4 billion euro (829.0 million euro in 2018). This was mainly a result of the creation of SEB Life and Pension Baltic SE through

⁸³ According to SSIA data, 53.0 million euro or 23.7% of the total disbursed capital of Latvia's 2nd pillar pension scheme were used for the purchase of an annuity policy.

Chart 3.4
RETURN ON INVESTMENT OF LATVIA'S INSURANCE CORPORATIONS
(per year; % of investment)

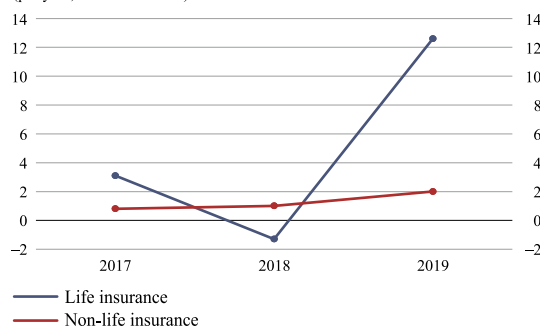
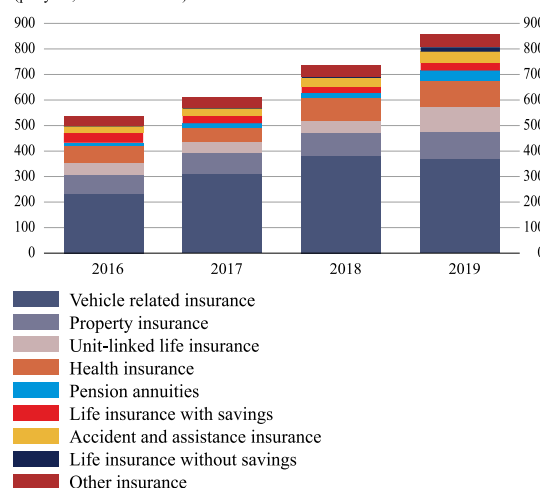


Chart 3.5
PREMIUMS WRITTEN BY LATVIA'S INSURANCE CORPORATIONS AND THE BRANCHES OF FOREIGN INSURANCE CORPORATIONS
(per year; millions of euro)



a merger of SEB life insurance corporations of all Baltic States. Excluding this structural change, the assets of the Latvian insurance sector rose by 7.4%, mainly owing to an increase in the value of investments (see Chart 3.4).

Mandatory vehicle insurance is the dominant insurance type, accounting for 43.2% of total premiums written (51.7% in 2018; see Chart 3.5). This points to limited resources of households or their lack of skills to use a greater variety of insurance resources as well as insurers' exposure to a single type of risk. It should be noted that the willingness of consumers to purchase health insurance offered by the branches of foreign insurers is increasing gradually (see Chart 3.5). Excluding the impact caused by the consolidation of SEB Life and Pension Baltic SE in Latvia, **life insurance continues to stagnate**. This is not only due to the high commission fees (administration fees even

reach 4.5% of each premium paid in), but also due to the changes in taxation regulation – the decision to extend the investment period from 5 to 10 years so that investment in life insurance and other types of saving vehicles would qualify for personal income tax refunds⁸⁴. Due to this factor, the share of life insurance contracts purchased by employers fell to 7.4% of the total number of life insurance contracts purchased.

The return on assets of Latvian insurance corporations was positive in 2019. The return on assets of life insurers reached 1.07% (–1.94% in 2018), while that of non-life insurers – 3.19% (2.18% in 2018). The increase in life insurers' profit resulted from a rise in the value of investments due to the favourable financial market conditions. The increase in the non-life insurers' profit was attributable to an increase in the premiums earned (3.0%).

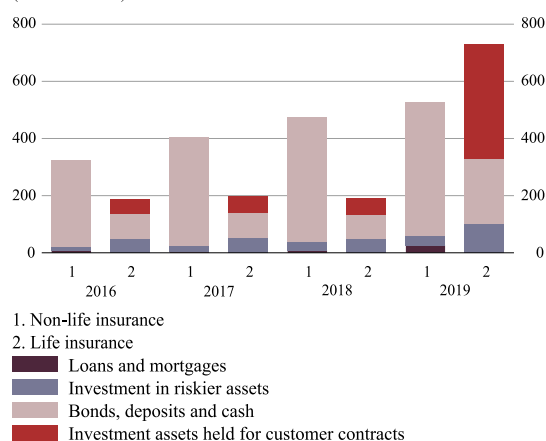
However, the return on investment of Latvian insurers is mostly low or even negative. In 2019, a steep pick-up in the return on investment of life insurers was driven by the favourable situation in the financial markets, allowing for a lower impact of losses incurred in 2018 (see Chart 3.4). Over the most recent years, insurers of other EU countries also recorded low returns on investment – EIOPA's Report on Financial Stability of December 2019⁸⁵ indicated that insurers were looking for options to invest in riskier assets since two thirds of the investment portfolio had very low or even negative returns.

Latvian non-life insurers primarily invest in ample liquidity assets – bonds and cash (see Chart 3.6). Investment in riskier assets (equity securities, real estate and collective investment undertakings) is on the rise, while still accounting for a marginal share in total investment. In 2019, investment in loans and mortgage loans increased somewhat, suggesting insurers' search for higher profit opportunities. The steep rise in the investment portfolio of life insurance corporations can be explained by the effect of the consolidation of SEB Life and Pension Baltic SE in Latvia.

⁸⁴ <https://www.vid.gov.lv/lv/butiskakas-izmainas-darbanemejiem-pec-nodoklu-reformas>.

⁸⁵ <https://www.eiopa.europa.eu/content/eiopa-financial-stability-report-december-2019>.

Chart 3.6
COMPOSITION OF INVESTMENT PORTFOLIOS OF LATVIAN INSURANCE CORPORATIONS
(millions of euro)



The potential impact of the COVID-19 pandemic on the profitability of insurers is ambiguous. The financial market volatility caused by the COVID-19 pandemic has had a negative impact on investment positions of insurers and implies an increase in short-term losses. However, the bulk of investment has been made in assets with a minor decrease in their value – cash, deposits and government bonds. A lower amount of excess funds available to households might lead to an increasing number of breaches of life insurance contracts and withdrawals of funds; however, customers are reluctant to withdraw funds not only because of the fee payable for terminating the contract, but also due to the steep fall in the value of investments. The volume of newly signed contracts is also expected to decrease as consumers choose not to have insurance coverage and reduce the use of motor vehicles (by purchasing compulsory insurance for shorter periods of time). However, with the economic activity slowing down, the amount of the claimed insurance indemnities will likewise decline, thus boosting insurers' profit respectively.

Support measures to address the problems caused by the COVID-19 pandemic have also been introduced in the segment of insurance⁸⁶ – insurance holders are given the possibility to suspend a compulsory civil liability insurance contract for a period of time during which the state of emergency lasts and the subsequent period of six months. At the same time, insurers do

⁸⁶ <https://titania.saeima.lv/LIVS13/saeimalivs13.nsf/webSasaiste?OpenView&restricttcategory=645/Lp13>.

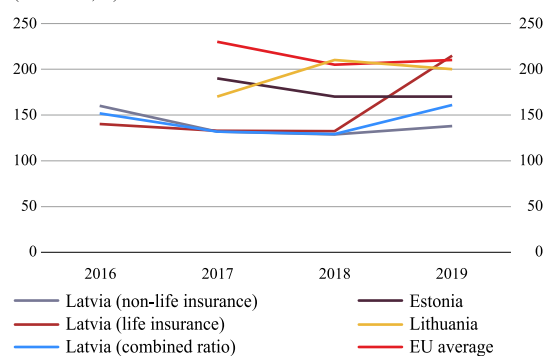
not have to repay the received premiums, and this supports the liquidity of insurers. When looking for sources of profit, some insurers have announced insurance premium holidays – the opportunity to conclude new insurance contracts, while defer the payment of premiums until the end of the state of emergency. Like credit institutions, insurers have also ceased to provide services in person or reduced the range of such services, refocusing to working remotely. To strengthen insurers' resistance to the shock caused by the COVID-19 pandemic, EIOPA has asked insurance corporations (like EBA asked banks) not to pay dividends.

In 2019, the average solvency ratio of the Latvian insurance sector⁸⁷ increased from 129.1% to 160.9%. It should be noted that the solvency ratio of Latvian insurance corporations is much lower than that of other Baltic States or the EU average (see Chart 3.7). However, it can be partly explained by the fact that, unlike several other EU countries, insurance corporations in Latvia (also in Lithuania and Estonia) do not use the exemptions set out in the Solvency II Directive⁸⁸. Such a more conservative approach ensures increased resilience of the sector to unexpected and major shocks. Non-life insurance is more common in the Baltic States and, as it is characterised by shorter maturity and more predictable losses, it allows to hold a lower level of the solvency capital. At the same time it implies that insurers have to work with customers more actively to motivate them to extend their short-term contracts, which in turn encourages insurers to concentrate on the mitigation of short-term risks. **The assets of Latvian insurers are more liquid than**

⁸⁷ The available ratio of equity to the solvency capital requirement is expressed as a percentage. The calculation of the solvency capital requirement is based on the assessment of all the risks an insurance corporation is exposed to, including the assessment of the insurance underwriting risk, the market risk, the credit risk and the operational risk. Each risk model is calibrated according to VaR method, using a 99.5% confidence level over a one-year time horizon. <https://likumi.lv/ta/id/289781-apdrosinataju-un-parapdrosinataju-maksatspejas-kapitala-prasibas-un-pasu-kapitala-aprekinasanas-normativie-noteikumi>.

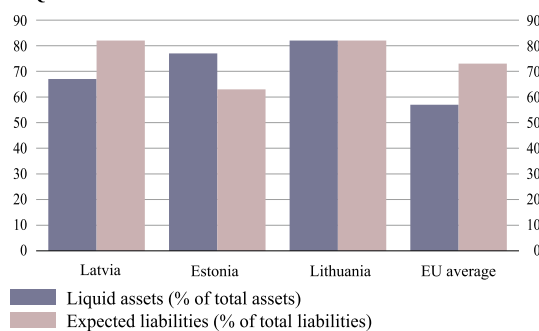
⁸⁸ Exemptions are used, for example, by Germany, Denmark, the Netherlands and Portugal. Exemptions cover, for example, the long-term guarantee assessment and the time premium of the long-term risk-free interest rate used to discount the technical reserves.

Chart 3.7
SOLVENCY RATIO OF THE INSURANCE SECTOR
(2016–2019; %)



Note. 2019 data for Estonia, Lithuania and the EU as at the end of the first half of 2019, for Latvia – as at the end of 2019.

Chart 3.8
LIQUID ASSETS AND EXPECTED LIABILITIES



the EU average (EIOPA data⁸⁹; see Chart 3.8), but the future liabilities are more predictable (and hence also more stable).

At the end of 2019, the value of the funds accumulated in the Fund for the Protection of the Insured amounted to 19.3 million euro (the minimum amount of funds for life insurance is 5 million euro (the current amount of funds – 5.7 million euro) and the minimum amount of funds for non-life insurance is 11 million euro (the current amount – 13.6 million euro)). The accumulated funds serve as an additional buffer in case of insolvency of the insurance corporation.

Non-bank payment service providers

In 2019, the non-bank payment service sector⁹⁰ continued to shrink. In 2018 and 2019, many market participants surrendered their licences, and the number

⁸⁹ https://www.eiopa.europa.eu/sites/default/files/publications/reports/eiopa_report_on_insurers_asset_and_liability_management_dec2019.pdf.

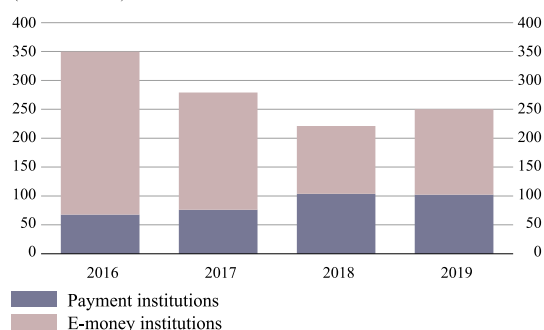
⁹⁰ Excluding electronic communication operators (Latvijas Mobilais Telefons SIA, SIA BITE Latvija and SIA Tele2) which can provide on an exception basis.

of the supervised market participants decreased by half (to 17). These were both domestic and foreign capital companies whose licences were revoked. The factors behind the decline in the number of participants of the sector were an increasingly active use of the services provided by global payment institutions and technological companies, the checks carried out by the FCMC in relation to compliance with the AML/CFT requirements already in 2018 and an increasingly wider use of instant payments (according to Latvijas Banka's data, 6.4 million instant payments totalling 1.2 billion euro were made in 2019⁹¹ (494.0 million euro in 2018⁹²)). The decrease was also affected by the policy pursued by credit institutions to raise commission fees for servicing the main account to payment service institutions in order to meet stricter AML/CFT requirements.

The minor growth in the volume of the executed payments (see Chart 3.9) was significantly supported by the inclusion of the payments executed by VAS Latvijas Pasts in the statistics (when VAS Latvijas Pasts obtained a licence for providing electronic payment services) and the strengthening of the position of the niche service providers in the market (e.g. simplified payment of public utility services bills in supermarkets).

Taking into account the strengthening of the position of the global technological companies in other countries and an increasingly wider use of instant payments, no substantial growth of Latvia's sector of non-bank payment service providers is currently expected. The deceleration of the economic activity caused by the COVID-19 pandemic may also lead to a lower volume of non-bank payment services, with consumers reducing the range of the used services in the short run.

Chart 3.9
VOLUME OF OUTGOING PAYMENTS OF PAYMENT INSTITUTIONS AND E-MONEY INSTITUTIONS
(millions of euro)



⁹¹ <https://www.bank.lv/darbibas-jomas/maksajumu-sistemas-uzdevumi/zibmaksajumi/253-darbibas-jomas/maksajumu-un-norekinu-sistemas/11777-zibmaksajumu-dati>.

⁹² <https://www.bank.lv/par-mums/jaunumi/479-preses-paziojumi/11725-pern-veikti-zibmaksajumi-pusmiljarda-eiro-apjoma>.

4. RISKS AND VULNARABILITIES OF FINANCIAL MARKET INFRASTRUCTURE

A secure and efficient financial market infrastructure, i.e. payment and securities settlement systems, is one of the most important preconditions of financial stability. Payment systems enable the public to make secure and efficient cashless payments, thereby fulfilling a significant condition for economic growth. Overall, the financial market infrastructure is necessary for the settlement of the Eurosystem's monetary policy operations as well as the settlement among financial market infrastructure participants, i.e. credit institutions.

Any operational disruptions in the financial market infrastructure may not only negatively affect its participants but also result in a wider distribution of risks. The financial market infrastructure may be both the source of financial shocks (a decrease in liquidity or a loss of funds) and, in the case of high mutual connectivity, the channel through which risks can spread to the domestic market or international markets, thereby increasing the financial stability risk.

For the purpose of ensuring safe and efficient operation of the financial market infrastructure, Latvijas Banka, in its capacity as a participant of the Eurosystem, performs oversight of the infrastructure. In Latvijas Banka's assessment, **in 2019 Latvia's financial market infrastructure operated efficiently and securely, and the risks related to its operation were adequately managed and contained so that their impact on the operation of payment and settlement systems and their participants would be minimal and would trigger no systemic disruptions.**

The oversight of the financial market infrastructure mainly focuses on systemically important payment and securities settlement systems ensuring the settlement of the Eurosystem's monetary policy operations, the settlement among financial market participants as well as the final settlement of routine payments by the public.

At the international level, the oversight of financial market infrastructures is conducted according to the "Principles for financial market infrastructures"

Chart 4.1
THE KEY RISKS FACED BY FINANCIAL MARKET INFRASTRUCTURE



(hereinafter, PFMI)⁹³ in order to make sure that the risks related to the operation of the financial market infrastructures are identified and appropriately managed and, where necessary, provide recommendations for enhanced risk containment measures. The operation of financial market infrastructures is subject to various risks, which may affect the infrastructures' ability to deliver services as expected or may cause significant losses to the financial market infrastructure itself or its participants (see Chart 4.1). Each risk, either alone or in combination with other risks, may trigger a systemic risk, thereby posing threats to the financial stability in the country.

The Eurosystem, in the light of the PFMI, performs oversight of the systemically important financial market infrastructures of the euro area according to the Eurosystem oversight framework: the Eurosystem has laid down the requirements for systemically important

⁹³ Bank for International Settlements and International Organization of Securities Commissions. Principles for financial market infrastructures. April 2012. 188 p.

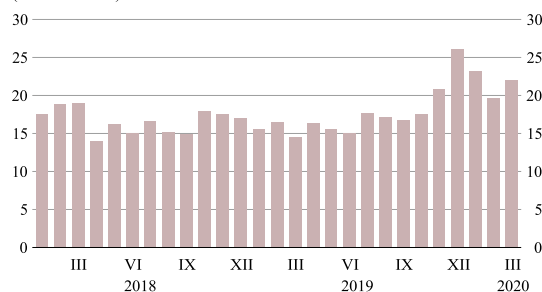
payment systems in the SIPS Regulation⁹⁴, and the requirements for the financial market instruments' settlement systems are stipulated in the CSDR⁹⁵.

TARGET2-Latvija and Latvia's securities settlement system operated by Nasdaq CSD SE (hereinafter, Nasdaq CSD) are systemically important for Latvia's financial market. Within the Eurosystem's oversight framework, both systems have been assessed as compliant with the requirements of the SIPS Regulation and the CSDR respectively. Overall, the risk assessment may only change in case of significant operational changes to the respective system. For the purpose of verifying the compliance of TARGET2, including TARGET2-Latvija, with the requirements laid down in the SIPS Regulation and the conformity of Nasdaq CSD with the CSDR requirements, the Eurosystem assesses these systems on an annual basis, taking account of the system updates and legislative amendments. However, the liquidity and operational risk assessment may also change depending on the system's performance indicators, i.e. the value of payments processed in the system, the liquidity available for settlement and the system's business continuity. Therefore, the liquidity risk faced by the system participants and the operational risk faced by the system operators have to be assessed on a regular basis, taking account of the respective system's performance indicators. In 2019, Latvijas Banka performed the liquidity and operational risk assessment for TARGET2-Latvija and Nasdaq CSD. According to the assessment, the above risks remained low in these systems, and no additional risk containment measures were necessary. TARGET2-Latvija and Nasdaq CSD provided efficient and secure payment and settlement environment to their participants and

⁹⁴ Regulation of the European Central Bank (EU) No. 795/2014 of 3 July 2014 on oversight requirements for systemically important payment systems (ECB/2014/28). *Official Journal of the European Union*, L 217, 23 July 2014, pp. 16–30 (hereinafter, the SIPS Regulation). The Eurosystem included the PFMI in its oversight framework through the SIPS Regulation.

⁹⁵ Regulation (EU) No 909/2014 of the European Parliament and of the Council of 23 July 2014 on improving securities settlement in the European Union and on central securities depositories and amending Directives 98/26/EC and 2014/65/EU and Regulation (EU) No 236/2012. *Official Journal of the European Union*, L 257, 28 August 2014, pp. 1–72.

Chart 4.2
VALUE OF PAYMENTS EXECUTED IN TARGET2-LATVIJA
(billions of euro)



the entire financial system, and their smooth operation facilitated the financial stability.

TARGET2-Latvija

TARGET2, operated by the Eurosystem, was one of the world's largest payment systems in 2019. Latvijas Banka continued to maintain TARGET2-Latvija, one of the 25 TARGET2 component systems, enabling the settlement of the Eurosystem's monetary policy operations, interbank settlement of large-value payments, settlement of urgent customer payments in euro and final settlement in euro for the EKS, Nasdaq CSD and the payment card processing system of SIA Worldline Latvia.

The total value of payments processed in TARGET2-Latvija in 2019 amounted to 209.2 billion euro, representing an increase of 4.8% in comparison with 2018 (see Chart 4.2 for the monthly value dynamics of payments). In 2019, the daily average value of payments processed in TARGET2-Latvija amounted to 820.2 million euro (in the first quarter of 2020, the daily average was 1.0 billion euro).

In order to assess the liquidity risk in TARGET2-Latvija, Latvijas Banka performed analysis of data by means of the payment and settlement system simulator (model BoF-PSS2; Bank of Finland – Payment and Settlement System Simulator 2), developed by Suomen Pankki – Finlands Bank.

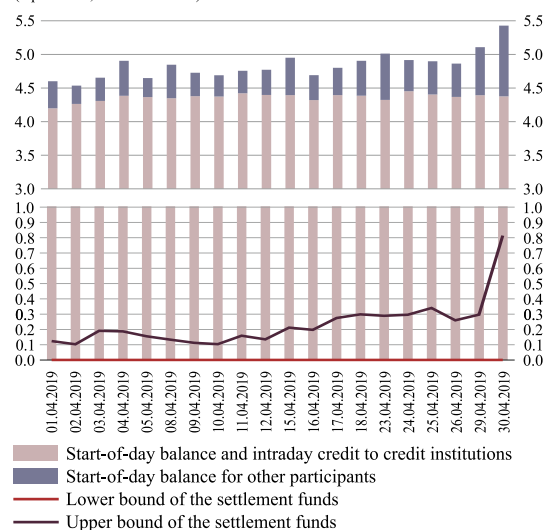
To assess the liquidity risk in TARGET2-Latvija, Latvijas Banka evaluated the value of the settlement funds necessary for the execution of all payments submitted during the day as compared to the liquidity available in the system. The following indicators were

assessed: the lower bound of the settlement funds, i.e. the value of the settlement funds ensuring the execution of all payments by the end of TARGET2-Latvija business day at the latest; the upper bound of the settlement funds, i.e. the value of the settlement funds ensuring an immediate execution of all submitted payments; the liquidity available in the system, i.e. the total value of funds of the system participants (credit institutions and the Treasury) in TARGET2-Latvija at the beginning of a business day, also including intraday credit granted to credit institutions and the value of the settlement funds necessary for the execution of the payments submitted by Latvijas Banka. Where the liquidity available in the system exceeds the upper bound of the settlement funds, the system's liquidity risk is deemed to be low. Where the liquidity available in the system is lower than the upper bound of the settlement funds, while exceeding the lower bound of the settlement funds, the system's liquidity risk is deemed to be medium. Meanwhile, where the liquidity available in the system equals to or is lower than the lower bound of the settlement funds, the system is exposed to a high liquidity risk.

For its data analysis, Latvijas Banka used April 2019 data since, compared to other months of 2019, April saw the smallest value of excess settlement funds defined as the spread between the liquidity available in TARGET2-Latvija and the total value of payments executed in TARGET2-Latvija. Therefore, the results of the April data analysis allow drawing conclusions about the liquidity risk throughout 2019.

The simulation results showed that the daily upper bound of the settlement funds amounted to 229.1 million euro on average or 4.7% of the liquidity available in TARGET2-Latvija. On none of the days in April did the upper bound of the settlement funds exceed 15% of the liquidity available in the system. Meanwhile, the lower bound of the settlement funds stood at 0.00% of the liquidity available in TARGET2-Latvija on all days in April, indicating that the participants of TARGET2-Latvija would be able to execute their payments until the end of TARGET2-Latvija business day by using only the settlement funds received from participants of other TARGET2 component systems. The liquidity available in TARGET2-Latvija in 2019 significantly

Chart 4.3
LIQUIDITY RISK ASSESSMENT IN TARGET2-LATVIJA
(April 2019; billions of euro)



exceeded the upper bound of the settlement funds (see Chart 4.3). Thus, **the liquidity risk of TARGET2-Latvija remained low.**

To assess the operational risk, Latvijas Banka evaluated the impact of the system's operational disruptions on the system's operation and its availability throughout the year, since the operational disruptions to the system may affect the smooth functioning of the system's participants and other payment and securities settlement systems and cause systemic risk.

Since TARGET2-Latvija is a component system of TARGET2 and TARGET2 technically operates as a uniform system, its business continuity is reflected by the aggregate performance indicators of TARGET2. The year 2019 saw no incidents of TARGET2 operation affecting the system's availability. Thus, TARGET2 provided 100% availability (99.98% in 2018), suggesting that the system was highly resilient to operational disruptions. **The operational risk remained low in TARGET2.**

Nasdaq CSD

In 2019, Nasdaq CSD was the only systemically important securities settlement system in Latvia. It was used for the mobilisation of collateral securities for both the settlement of the Eurosystem's monetary policy operations and the granting of intraday credit

on the settlement accounts in TARGET2-Latvija. Meanwhile, Latvia's financial market participants used Nasdaq CSD for the settlement of mutual securities transactions, including the delivery versus payment (DVP).

The total value of the DVP of securities in Nasdaq CSD amounted to 1.1 billion euro in 2019, representing a year-on-year decrease of 13.9%. In 2019, the daily value of the settlement executed by Nasdaq CSD via TARGET2 stood at 4.0 million euro on average (4.1 million euro in 2018), representing 0.5% of the daily average value of the payments processed in TARGET2-Latvija. Thus, **the liquidity risk of Nasdaq CSD cash leg settlement remained insignificant.**

To assess the operational risk, Latvijas Banka assessed the impact of the system's operational disruptions on the system's operation as well as the system's availability throughout the year, since the operational disruptions to the system may cause systemic risk. In 2019, the availability ratio of Latvia's securities settlement system stood at 99.9% (99.9% in 2018).

2019 saw insignificant operational disruptions to Nasdaq CSD which were rectified in less than two hours as required by the CSDR. Their impact on the operation of Nasdaq CSD was not material since the settlement of credit operations of the system participants, including those of the Eurosystem, was not affected. The first quarter of 2020 also witnessed only insignificant disruptions in the operation of Latvia's securities settlement system.

The availability ratio of Latvia's securities settlement system suggested that the system was highly resilient to operational disruptions. Hence, it may be concluded that **the operational risk of Nasdaq CSD remained low.**

Retail payment systems

In parallel with systemically important payment systems, retail payment systems also operate in Latvia. Latvijas Banka performs oversight of these retail payment systems as disruptions in their operation can affect the public at large. The EKS and the card settlement system Worldline Latvia CSM (hereinafter, Worldline

Latvia CSM) maintained by SIA Worldline Latvia are the payment systems playing a key role in society and providing innovative and efficient payment services.

The EKS, maintained by Latvijas Banka, ranks among the most efficient retail payment systems in Europe, providing the innovative instant payment service and the classical clearing service of credit transfers. The volume and value of payments processed in the EKS is following an upward trajectory from year to year, and its innovative instant payment service is becoming increasingly popular. However, instant settlement at the same time runs the risk of generating a wider public response in the event of system disruptions. The availability of the EKS was very high in 2019, i.e. 99.99% in the case of the instant service and 99.94% in the case of the clearing service. This illustrates the secure and efficient operation of the system. Latvijas Banka placed most emphasis on the assessment of the system's cyber resilience when performing the oversight of EKS operation (see Section "Cyber resilience of financial market infrastructures").

Worldline Latvia CSM executes clearing of card payments made by a significant share of credit institutions' customers and the subsequent interbank settlement in TARGET2-Latvija, thus providing an efficient and secure card payment infrastructure in Latvia. In 2019, Latvijas Banka carried out an oversight assessment of Worldline Latvia CSM in line with the Eurosystem's oversight framework, assessing the legal risk, credit risk, liquidity risk and operational risk (see Chart 4.1). The assessment took account of the changes introduced in the Latvian card payment infrastructure when the company Worldline Luxembourg S.A., registered in Luxembourg, became the sole owner of SIA First Data Latvia, changing the name of the Latvian company SIA First Data Latvia to SIA Worldline Latvia at the same time. In its oversight assessment, Latvijas Banka concluded that **the planned operation and legal framework of Worldline Latvia CSM did not pose any financial and legal risks that might adversely affect smooth operation of payment systems in Latvia.**

Cyber resilience of financial market infrastructures

In recent years, an increasing attention has been paid to cyberattacks, one of the most important operational risk elements of the financial market infrastructure. A cyberattack on a financial market infrastructure may not only significantly disrupt the operation of the infrastructure itself but, considering the mutual connectivity of the systems, it could also affect the functioning of the domestic market or even international financial markets. Therefore, ensuring an adequate level of cyber resilience is crucial for the financial market infrastructure to protect itself and the financial system as a whole. Among other operational risks of the infrastructure, the risk of cyberattacks is particularly significant in view of its dynamic development and the fact that it is caused by deliberate external attacks rather than deficiencies in the infrastructure itself. The IBM X-Force Threat Intelligence Index mentioned in the Finextra report⁹⁶ suggests that the financial services sector was subject to most cyberattacks in 2018.

In 2019, the Eurosystem developed the cyber resilience testing framework of TARGET2 based on the TIBER-EU framework and commenced testing. Under the cyber resilience strategy, in 2019 Latvijas Banka together with other euro area national central banks launched an assessment of the Eurosystem's systemically important payment systems, including TARGET2, in compliance with the Cyber Resilience Oversight Expectations (CROE), carrying out an in-depth assessment of the systems' operational risk to cybersecurity. The assessment of the compliance of systemically important payment systems with the oversight requirements to ensure cybersecurity, including the assessment of the TARGET2-Securities platform, is scheduled to be completed by the end of 2020. It has been intended to complete, by the end of 2020, the assessment of the compliance of systemically important payment systems with the oversight requirements to ensure cybersecurity, including the assessment of the TARGET2-Securities platform.

Within the framework of the Eurosystem's surveys on the cyber resilience of financial market infrastructures, Latvijas Banka as in previous years carried out surveys on the cyber resilience of Latvia's financial market infrastructures (Nasdaq CSD, the EKS, and Worldline Latvia CSM) to have an overall view of their resilience to cyberattacks. The Nasdaq CSD assessment is carried out by Latvijas Banka in cooperation with other central banks of the Baltic States, since Nasdaq CSD SE operates in all three Baltic States. The survey results suggested that **cyber resilience of Nasdaq CSD remained relatively high**. Latvijas Banka in its capacity as Nasdaq CSD overseer provided recommendations to Nasdaq CSD SE for further improvements in the area of cyberattack identification.

The cyber resilience assessment of the EKS and Worldline Latvia CSM also showed a relatively high cyber resilience of both systems. However, it also revealed potentially weaker areas in the system protection perimeter. Latvijas Banka in its capacity as an overseer provided its vision of further improvements to be made.

⁹⁶ <https://www.finextra.com/researcharticle/42/cyber-security-in-financial-services-orchestrating-the-best-defence-in-an-evolving-threat-landscape>.

APPENDIX 1. COMPOSITE CYCLICAL RISK INDICATOR: ALTERNATIVE GUIDE TO COUNTERCYCLICAL CAPITAL BUFFER

The countercyclical capital buffer (CCyB) is one of the main macroprudential instruments to mitigate cyclical risks. The CCyB is designed to counter the pro-cyclicality in the financial system by limiting excessive credit growth and ensuring the accumulation of capital during the upswing of the financial cycle so that credit institutions could maintain the supply of credit and absorb losses during a cyclical downturn.

Once a quarter, the FCMC takes a decision on the CCyB rate based on the cyclical risk assessment. **The so-called CCyB guide, i.e. the deviation of the domestic credit-to-GDP ratio from its long-term trend** (hereinafter, the credit-to-GDP gap), **plays a key role in the decision-making and cyclical risk assessment.** The calculation of the credit-to-GDP gap is based on the Recommendation of the European Systemic Risk Board of 18 June 2014 on guidance for setting countercyclical buffer rates (ESRB/2014/1)⁹⁷. A significant positive credit-to-GDP gap indicates that the cyclical systemic risk is high.

It should be noted, however, that the CCyB guide is not intended to give rise to an automatic setting of the CCyB rate. **To comprehensively assess the build-up of cyclical systemic risk and to ensure that the set CCyB rate is adequate for the financial cycle, additional indicators should also be taken into account.** Such indicators include measures of credit developments, overvaluation of property prices, external imbalances, strength of credit institutions' balance sheets, private sector debt burden and potential mispricing of market risks. Where possible, models combining the information of the above indicators should also be considered.⁹⁸

Evidence shows that the usefulness of the credit-to-GDP gap as a CCyB guide may vary depending on the country and the stage of the financial cycle. Therefore, **the institutions taking decisions on the CCyB should periodically review the selected indicators to ensure that they reflect the cyclical risks according to the specific features of the economy.**

The assessed credit-to-GDP gap of Latvia, like that of many other EU countries, is very negative⁹⁹ posting –35.1 percentage points in the fourth quarter of 2019. This can be explained by both the excessive developments of the previous financial cycle and the shortcomings of the statistical methodology¹⁰⁰ currently suggesting a misleadingly steep long-term trend of the credit-to-GDP ratio. Thus, even in an environment of persistent credit growth, the credit-to-GDP gap may not signal the build-up of cyclical risks sufficiently early. Given the above considerations, an alternative CCyB guide is needed. Prior to the COVID-19 pandemic, several countries, despite their negative credit-to-GDP gaps, had already applied positive CCyB rates (see Chart A1.1) based on additional indicators¹⁰¹.

⁹⁷ [https://eur-lex.europa.eu/legal-content/LV/TXT/PDF/?uri=CELEX:32014Y0902\(01\)&from=lv](https://eur-lex.europa.eu/legal-content/LV/TXT/PDF/?uri=CELEX:32014Y0902(01)&from=lv).

⁹⁸ See Appendix 4 of Latvijas Banka's Financial Stability Report 2015 "Countercyclical capital buffer: analytical framework and use" (https://www.bank.lv/images/stories/pielikumi/publikacijas/FSR_2015_en.pdf#page=62).

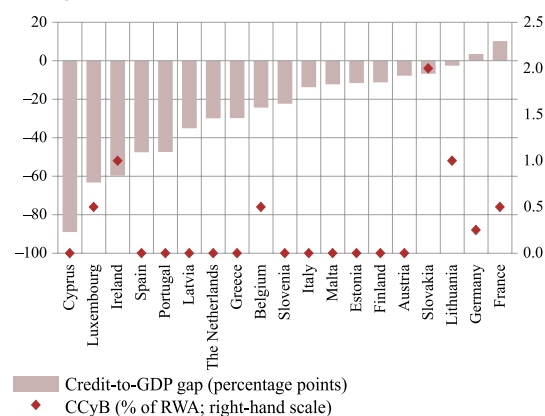
⁹⁹ Two credit-to-GDP gaps are calculated: the Basel credit-to-GDP gap and an alternative credit-to-GDP gap. The latter is based on a narrower scope of credit and better reflects the lending dynamics in Latvia compared to the credit-to-GDP gap recommended by the ESRB. The alternative credit-to-GDP gap is also very negative. It was –22.4 percentage points in the fourth quarter of 2019.

¹⁰⁰ In accordance with the BCBS's guidance, the so-called one-sided Hodrick-Prescott filtered trend of the ratio with a smoothing parameter, lambda of 400 000, should be used for the assessment of the credit-to-GDP gap. Such an assumption is not optimal for the duration of the financial cycle in Latvia. The initial intention of the ESRB was to improve the decision-taking with regard to the CCyB by developing an indicator comparable among EU countries.

¹⁰¹ To mitigate the shock caused by the COVID-19 pandemic, many national supervisory authorities of credit institutions lowered the CCyB requirement to 0% in the first quarter of 2020.

In 2018, the ECB in cooperation with the national authorities of the euro area developed the composite cyclical risk indicator¹⁰², an instrument to verify whether the CCyB requirements imposed by the national competent authorities are consistent with the cyclical risk level. It has been developed to ensure comparable assessment of the cyclical risks in all euro area countries. While this indicator provides a comprehensive understanding of the cyclical risks, its composition, the selected indicator weights and their transformations do not always reflect the features specific to the individual national financial systems. **Based on the ECB's methodology, which was slightly tailored to suit Latvia's needs, Latvijas Banka developed a composite cyclical risk indicator (CCRI) combining a set of cyclical risk indicators recommended in the ESRB guidance.**

Chart A1.1
CCyB REQUIREMENTS AND CREDIT-TO-GDP GAPS
(fourth quarter of 2019)



When assessing indicators to be included in the CCRI, only those indicators were selected, that, according to research, have the best crisis signalling properties and adequately describe the risks specific to Latvia. Where possible, the additional indicators recommended by the ESRB were also included. The indicators selected for Latvia's CCRI are included in Table A1.1.

Table A1.1
INDICATORS INCLUDED IN LATVIA'S CCRI

Category	Indicator	Weight (%)	Transformation
Housing prices	CSB's house price index	10	Annual changes
	House price index-to-average net wage index ratio	10	Two-year difference
Lending dynamics	Adjusted outstanding loans to the private non-financial sector ¹⁰³	20	Annual changes
	Credit ¹⁰⁴ -to-GDP ratio	25	Average two-year difference
External imbalance	Current account balance-to-GDP ratio	15	Current account balance-to-GDP ratio multiplied by -1
Resilience of credit institutions	Domestic loan-to-deposit ratio	15	Two-year difference
Private sector debt burden	Debt servicing ratio	5	Average two-year difference

The weights assigned to the CCRI's constituent indicators are of major importance. The weights have been assigned so as to ensure the best reflection of the factors specific to Latvia in the cyclical risk assessment. The largest weight (45%) in Latvia's CCRI has been assigned to credit development indicators such as the annual changes in loans to the private non-financial sector and the credit-to-GDP gap. Thus, with persistently weak lending activity, the CCRI also remains at low levels. Housing price indicators have been assigned 20% weight. External imbalance is reflected by the ratio of the current account balance to

¹⁰² Detken, C., Fahr, S., Lang, J. H. *Predicting the likelihood and severity of financial crises over the medium term with a Cyclical Systemic Risk Indicator (CSRI)*, 2018.

¹⁰³ Excluding one-off effects triggered by the structural changes of credit institutions.

¹⁰⁴ Loans granted by credit institutions to the non-financial sector and purchased debt securities – liabilities of non-financial corporations, households and institutions (societies and foundations) serving households to credit institutions.

GDP. Domestic loan-to-deposit ratio reveals both the credit institutions' risk appetite and whether lending takes place by attracting domestic deposits. It is used as a measure of the resilience of credit institutions. The debt servicing ratio¹⁰⁵ is assessed based on macroeconomic indicators, and it reflects the changes in the borrowers' debt burden: the cost of debt component comprises interest payments on loans granted to the private non-financial sector¹⁰⁶ using the average interest rate¹⁰⁷ and remaining maturity of the loan portfolio and replacing the income component with GDP.

Quarterly data, starting with 2001 (or from the moment the data have become available), have been used for the CCRI. This period was chosen to reflect the indicator changes throughout the financial cycle. However, it should be taken into account that the high rate of increase observed for part of indicators at the beginning of the reporting period is not related to the upswing of the financial cycle but rather to structural changes in the financial system.

Two methods were used to combine the indicators comprising the CCRI. According to the first method, which is most often used to derive composite indicators, the indicators are standardised to make them mutually comparable and then combined based on the weights assigned to them by experts. This method is used to derive the standardised CCRI. **The second method used to derive a composite indicator involves the use of percentiles: the values of an indicator are assessed against its historical observations.** This method is used to derive the CCRI.

Based on the percentile ranking method, the data are arranged in eleven equal-sized intervals with corresponding scores of 0 to 10, where a higher score represents higher risk. Consequently, decreased or increased values of an indicator signal the potential heightening of risks. Upon transforming the indicator values into risk intervals, they are multiplied by their respective weights, and then the sum of the subcomponents is divided by the sum of the weights. This means that the sum of the subcomponents is divided by the sum of weights which is smaller than 1; as a result, the CCRI exceeds their sum. The maximum CCRI value 10 in historic data was recorded in the first quarter of 2007. The CCRI values exceeding the 60th percentile of the distribution imply heightened risk. When such guide values are observed, i.e. the CCRI exceeds 6.5 indicator units, restrictive measures should be considered.

A standard deviation of 1.7 is the maximum standardised historic value, and, accordingly, a standard deviation of 0.32 corresponds to the 60th percentile. The interval between the 50th and 60th percentile of the distribution can be assumed to imply medium risk, where the standardised CCRI exceeds -0.45 and the CCRI exceeds 4.33 indicator units.

The implementation period of the CCyB is 12 months. Competent authorities would often start raising the CCyB rate from a relatively low level, thus, gradually reaching the desired buffer size. With the values of the CCyB guide continuing to grow after reaching the 60th percentile, the CCyB rate should also be raised linearly to the corresponding level. Raising the CCyB rate in a timely manner would ensure the possibility to reduce the available capital buffer when risks materialise. At the same time, if the CCyB requirement is implemented too late, the financial stress of credit institutions could increase even more. Therefore, adequate assessment of the financial cycle will play an increasingly important role.

So far, when calculating the CCyB ratio, quantitative assessment has only been carried out with respect to the credit-to-GDP gap, while expert assessment was used for the additional indicators. Thus, both

¹⁰⁵ Assessed based on the annuity method.

¹⁰⁶ Financial account data.

¹⁰⁷ Interest rate of the portfolio of loans granted to households and non-financial corporations.

CCRI values may also serve as useful extensions of the CCyB methodology framework as alternative CCyB guides.

In the fourth quarter of 2019, the CCRI value, which has been assessed based on the percentile ranking method, was 4.25 indicator units (see Chart A1.2), while the standard deviation of the standardised CCRI was -0.51 (see Chart A1.3) suggesting a low cyclical risk level. At the moment, there is no need to consider the activation of the CCyB by using both new indicators (as is the case for the credit-to-GDP gap). However, with the economy recovering from the COVID-19 pandemic, they will become increasingly more important to ensure comprehensive cyclical risk assessment.

Chart A1.2
CCRI AND ITS UNDERLYING COMPONENTS
(points)

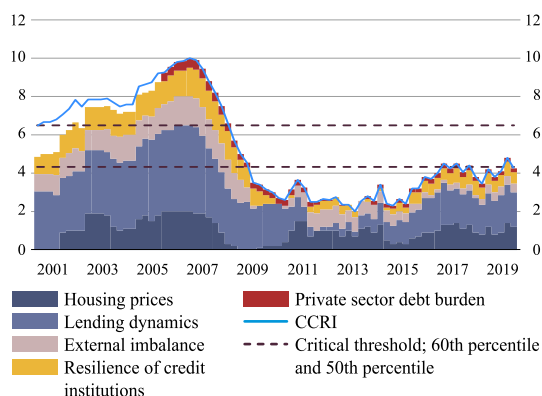
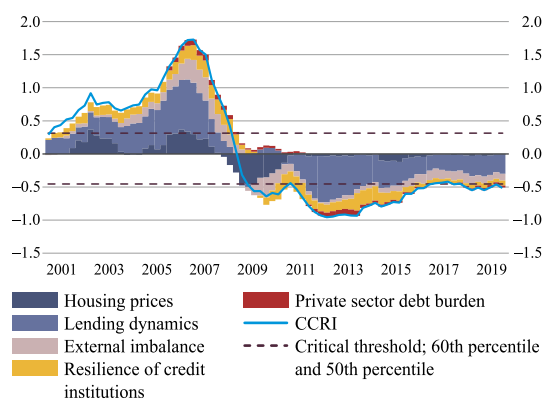


Chart A1.3
STANDARDISED CCRI AND ITS UNDERLYING COMPONENTS
(standard deviations)



APPENDIX 2. IMPLEMENTATION OF NEW BORROWER-BASED MEASURES – AN IMPORTANT ADDITION TO LATVIA'S MACROPRUDENTIAL POLICY TOOLS

As of 1 June 2020, new consumer lending requirements have been introduced in Latvia to strengthen the consumers' resilience to potential financial turbulences and to promote responsible lending. These requirements were adopted at a time when even the most pessimistic assumptions did not include an imminent and deep crisis. **The outbreak of the COVID-19 pandemic confirms the importance of having preventive measures to strengthen the borrowers' resistance to shocks put in place well in advance of any build-up of imbalances.**

On 27 November 2019, the FCMC amended its Regulation on Credit Risk Management¹⁰⁸ establishing the following quantitative requirements for loans to consumers applicable to its supervised institutions:

- a limit to the ratio of the borrower's monthly debt service to monthly net income (debt-service-to-income ratio; DSTI) at 40%;
- an upper limit to the ratio of the borrower's aggregate debt to annual net income (debt-to-income ratio; DTI) at 6;
- a limit to the maximum maturity for housing loans to natural persons at 30 years and that for consumer loans at 7 years;
- lenders are provided with an opportunity to depart from the above-mentioned debt burden and loan maturity parameters in duly justified cases: the tolerance margin may not exceed 10% of the institution's newly granted loans to natural persons in a quarter;
- limits on housing loans to consumers intended for generating income from real estate activities:
 - the amount of buy-to-let housing loans or other housing loans generating income from the borrower's activities with real estate may not exceed 70% of the market value of the loan collateral, and, when assessing the creditworthiness, only up to 70% of the expected income from the real estate are taken into account;
 - if the declared income from real estate exceeds 20% of the aggregate income of the borrower, and if the amount of the loan exceeds 70% of the market value of the loan collateral, the creditworthiness of the borrower is viewed as insufficient.

The FCMC developed these requirements in a joint working group consisting of representatives from the FCMC, Latvijas Banka, CRPC and the finance industry. These requirements are applicable to new loan agreements with consumers, signed by credit institutions and investment firms as of 1 June 2020.

The new requirements supplement the existing borrower-based requirements. A 90% limit on LTV has been established in the Consumer Rights Protection Law since 2007 and it is binding on all consumer lenders¹⁰⁹. As of 2014, the Regulation on Credit Risk Management of the FCMC provides that a credit institution should itself establish the borrower's DSTI and the ratio levels for various borrower categories in its credit risk management policy¹¹⁰. At the same time, the CRPC guidelines to lenders providing lending services to consumers¹¹¹ stipulate a maximum ratio of loan payments to the borrower's net income depending on the

¹⁰⁸ <https://www.vestnesis.lv/op/2019/247.1>.

¹⁰⁹ Amendments were introduced to the Law in 2014, stating that, in cases when the repayment of a housing loan is secured by a real estate mortgage and a state guarantee within the scope of state assistance for purchase or construction of a housing provided for in the Law On Assistance In Solving Apartment Matters, the maximum LTV value is 95%.

¹¹⁰ According to the amendments introduced to the Regulations, institutions now have to set DSTI and DTI levels for various borrower categories in their lending policies.

¹¹¹ http://www.ptac.gov.lv/sites/default/files/vadlinijas_pateretaju_spejas_atmaksat_kreditu_novertesana.pdf.

level of the borrower's income¹¹². **The new FCMC requirements supplementing the existing 90% LTV limit outline the main quantitative minimum standards to be considered in the context of responsible consumer lending.**

Motivation behind introducing the requirements

Although credit institutions in Latvia were already complying with these requirements in their lending policies, the growth rate of household lending was not excessive and the level of household indebtedness was low comparing to other countries¹¹³, at the time of implementation, the following considerations were considered in favour of these requirements:

- the reasons for the financial crisis of 2008 and its consequences as well as the stress tests of households borrowers conducted by Latvijas Banka¹¹⁴ suggest that borrowers in Latvia are sensitive to any potential fall in income or interest rate rises; therefore, structural, permanent and preventive instruments are required that would promote responsible lending and borrowing through the financial cycle, thereby strengthening the borrowers' resistance to potential financial turbulences, reducing the probability of losses and increasing the loss absorption capacity.
- it is better to introduce such measures when market participants are already complying with these credit standards and new imbalances have not yet accumulated;
- in Latvia, housing loans are mostly granted at variable rates¹¹⁵, which increases the impact of a potential interest rate rise on the borrowers' DSTI. The tendency for the maturities of new housing loans to become longer has also been taken into account, meaning that the fraction of interest payments in the borrowers' monthly payments is also growing;
- experience shows that borrower-based measures work best when combined and their mutual effect is enhanced and compounded as well as when any circumvention possibilities have been eliminated;
- limits on housing loans generating income as a result of the borrower's activities with real estate were implemented as preventive objectives. At the onset of the COVID-19 pandemic, some credit institutions announced that particularly this type of borrowers (who, for example, took a buy-to-let loan intending to provide rental services on the Airbnb platform) could turn out to be the most vulnerable in the current circumstances.

The new credit standards were complied with in practice already prior to their implementation

The new credit standards were complied with in practice already prior to their implementation; therefore, they are not going to be a dampening factor for lending growth. Yet they may become a limiting factor during the upswing of the financial cycle, reducing the growth of excessive lending or lending based on unsustainable credit standards when both lenders and borrowers tend to undertake higher risks. Consequently, such measures provide additional financial stability gains in the long term: a smoother financial cycle, better loan portfolio quality, lower crisis probability and lower losses from crisis as well as a lower potential negative effect on consumption and overall growth.

¹¹² 40%, if the net income is three times higher than the national minimum gross wage. If the income level is lower, the maximum DSTI should be lower and differentiated depending on the income level. Every month, an amount equal to no less than 80% of the national (gross) minimum wage should be left at the consumer's disposal.

¹¹³ At the end of 2019, the ratio of household debt to MFIs and leasing companies to GDP was 17.8%.

¹¹⁴ See Latvijas Banka's Financial Stability Report 2018, Appendix "Latvijas Banka's survey-based assessment of household borrowers" (https://www.bank.lv/images/stories/pielikumi/publikacijas/FSR_2018_en.pdf).

¹¹⁵ At the end of October 2019, 95% of the housing loans granted to domestic customers were variable rate loans.

According to household and borrower surveys conducted by the ECB and Latvijas Banka¹¹⁶, **only for a very small part of new household borrowers debt service costs exceed 40% of their income and the ratio of aggregate debt to income exceeds 6**¹¹⁷ (see Charts A2.1 and A2.2). These results are in line with the results of the credit institution survey on their credit standards conducted by the FCMC at the beginning of 2019. According to the information provided by credit institutions, the share of loans with the DSTI value over 40% in new loans is negligible and within the 10% tolerance margin. Latvijas Banka's annual household survey on the monetary and banking system which collects data on the ratio of debt service costs on the outstanding debt of household borrowers (rather than the new loans) to income concluded that the ratio of debt service to net income exceeds 30% only for 21% of the households (see Chart A2.3).

At the same time, Latvijas Banka's Credit Register data on the maturities and LTV values of new loans reveal a gradual easing of the credit terms since the implementation of the state support programme to families with children. Although the maturity of housing loans is longer than 30 years only in rare cases, the average maturity of new housing loans is gradually increasing (from an average of 16 years in 2013 to an average of 21.2 years in 2019; see Chart A2.4), and more than a half of borrowers (54%) were older than 34 years at the moment of taking the loan in 2019. The distribution of LTV values for new housing loans suggests that the LTV values tend to grow: in 2019, LTV exceeded 90% already for 28% of the new housing loans at the moment of granting the loan, and this is related to the state support programme for house purchase.

Chart A2.1
DSTI DISTRIBUTION ACROSS SURVEYED HOUSEHOLDS WITH A HOUSING LOAN GRANTED IN 2017 (%)

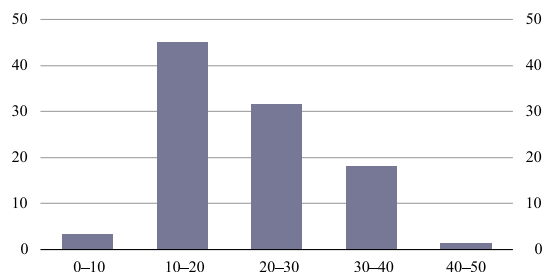


Chart A2.2
DTI DISTRIBUTION ACROSS SURVEYED HOUSEHOLDS WITH A HOUSING LOAN GRANTED IN 2017 (%)

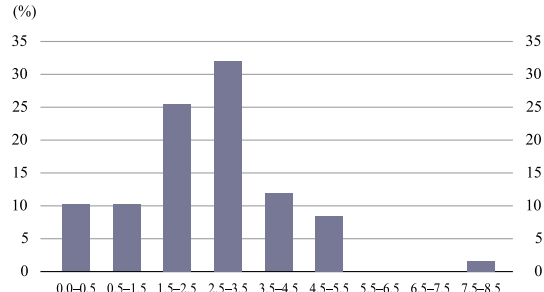
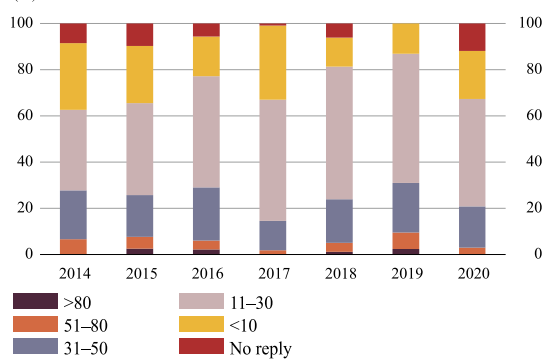
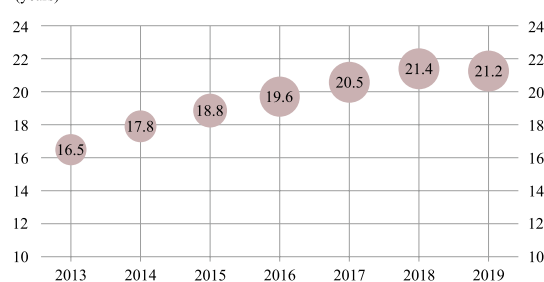


Chart A2.3
HOUSEHOLD BORROWERS' DEBT* SERVICE TO NET INCOME (%)



* Outstanding debt of all borrowers rather than new borrowers only.

Chart A2.4
WEIGHTED AVERAGE MATURITY OF NEW HOUSING LOANS (years)



¹¹⁶ The ECB's Household Finance and Consumption Survey, Latvijas Banka's survey of household borrowers, Latvijas Banka's annual household survey on monetary and credit institution system in Latvia as well as the credit institution survey conducted by the FCMC.

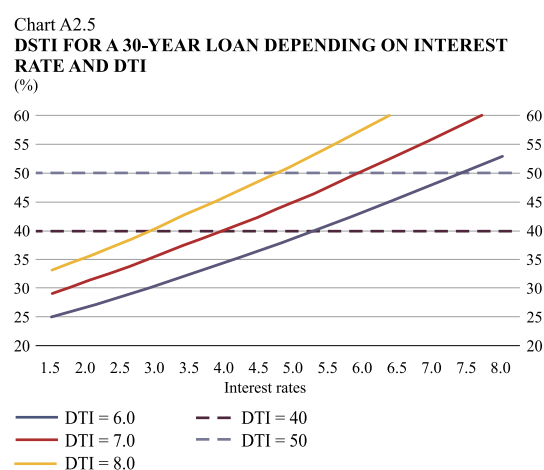
¹¹⁷ According to the data provided by Latvijas Banka's survey of household borrowers, 98% of the surveyed households with a housing loan granted in 2017 reported a DSTI value below 40%, and the average DSTI value was 22%. The survey of Latvia's households organised by the ECB in 2017 came up with similar results: 96% of the surveyed households reported that the DSTI on their outstanding loans was up to 40%.

The conceptual choice in favour of the best tool to limit the debt burden

Although both DSTI and DTI put limits on a borrower's debt burden in relation to the income, DSTI is mostly supporting the borrower's liquidity (ability to cover the payment flow), whereas DTI is targeting – the borrower's overall solvency, preventing the borrower from becoming excessively leveraged. In lower income countries where it is important to facilitate borrowers' ability cover their payment flows, DSTI requirement is used more often. DSTI ratio is easier to explain to consumers and it is also more appropriate with regard to short-term consumer credit which is granted, for example, by non-banks. At the same time, in countries with high household indebtedness DTI or LTI (loan-to-income) is preferred. DSTI may turn out to be overly limiting for borrowers with large net wealth but not so high regular income. DTI and particularly LTI can be much easier estimated in comparison with DSTI. The choice in favour of DSTI, DTI or LTI is very often based on the bank's preference for applying one or another restriction or prior guidelines set by the supervisory authorities. A combination of DSTI and DTI/LTI may also be applied.

In European countries, DSTI limits have been introduced both with and without a stressed interest rate element. Both approaches have their pros and cons. A DSTI limit with a stressed interest rate element provides for factoring in a certain risk of an interest rate rise and preserving a reasonable debt service burden also in stress circumstances. Nevertheless, this approach also has its cons: when applying a fixed "stress" interest rate to all borrowers, the stress test is not equally applied to all borrowers, i.e. a more stressful test is applied to a presumably "good" borrower with an initially low interest rate in comparison with a riskier borrower with an interest rate which may already be close to the fixed stress rate. At the same time, in order to apply a specific margin on all credit liabilities of a customer, the lender must be aware of the real interest rates on all credit liabilities of the customer and of other provisions of their loan agreements. Moreover, it would be difficult to apply a common higher fixed rate or margin on loans other than mortgage loans, because the types of those loans, inherent risks and the ranges of real interest rates are significantly different¹¹⁸. For example, in Latvia a DSTI limit is set for all loans to consumers. A combination of DSTI and DTI is an easier and more homogeneous way of supporting the borrowers debt service ability also in the event of rising interest rates.

By putting limits on the aggregate amount of debt and its maturity, limits are also imposed on DSTI, as DSTI and DTI are interrelated via interest rates, maturities and aggregate debt amount (see Chart A2.5). Using the relationship between DSTI and DTI depending on the interest rate and loan maturity assumptions, it is possible to model what DTI value would yield the targeted DSTI limit at any given interest rates and maturities and also the maximum debt that a borrower can afford at a given combination of DTI and DSTI.



Calibration of limits

When setting the levels for requirements, other countries most often consider the distribution of the actual DSTI/DTI values, assessing the parameters of the riskier borrowers and estimating which part of the newly-granted loans could be affected by the respective DSTI/DTI limits. If possible, the effect on the amount of

¹¹⁸ At the end of 2018, 32% of loans other than mortgage loans granted by Latvia's credit institutions were variable rate loans (including 12% of consumer loans).

loans available to borrowers or probability of their default is tested, or an analysis as to which loans that were granted in the upswing of the financial cycle turned out to be the most vulnerable during the crisis is conducted. These estimates require microdata. In cases where such data cannot be retrieved from credit registers or databases, bank surveys are often conducted.

In Europe, the DSTI limit is most often set in the range of 40% to 50%. DSTI limits without a stressed interest rate are most often set at 40%, whereas DSTI limits with a stressed interest rate are set closer to 50%. The maximum debt-to-gross income ratios in Europe are mostly set within the range of 4.5 to 5; whereas, debt-to-net income ratios more often range between 7 to 9. However, the levels set by various countries are not always directly comparable, as there are differences in the definitions of requirements, their scope and targets as well as lending practices.

Following an examination of the situation in Latvia and the practices pursued by other countries, a simple (without stressed interest rate element) DSTI requirement has been set in Latvia: a maximum of 40% ratio of debt service costs to average monthly net income of the borrower. A simple DSTI limit of 40% without the stressed interest rate element includes a margin for a potential interest rate increase and is more appropriate in a case when DSTI is applied to all loans to consumers rather than only housing loans¹¹⁹.

In order to prevent a customer's DSTI from increasing excessively due to rising interest rates, in addition, a limit on DTI has been set at 6 and a maximum loan maturity (30 years for housing loans and 7 years for consumer credit).

In Latvia, like in many other countries, an option to depart from the DSTI, DTI and loan maturity limits is provided: the tolerance margin may not exceed 10% of the institution's newly granted loans to natural persons in a quarter. This option ensures greater flexibility to lenders and may be resorted to in exceptional cases when the borrower's credit risk is mitigated, for example, by sufficient collateral, warranty, level of savings or other factors.

Overall, the above requirements are a structural and preventive measure aimed at the implementation of best lending practices throughout the entire financial cycle. They help to strike balance between preventive safety considerations and growth possibilities in the upswing of the financial cycle.

¹¹⁹ In many countries, these limits are imposed on housing loans only. However, several countries (particularly those where consumer credit is granted very actively), in order to limit a possible circumvention, apply them also to consumer credit or consumer credit taken by borrowers with a pre-existing housing loan. In some countries, the requirements are applicable to all types of loans.

APPENDIX 3. CYBERSECURITY RISK: CURRENT DIGITAL REALITY

The use of IT has become increasingly widespread in our daily lives, starting with every-day tech such as smart devices and ending with the infrastructure of national or EU importance such as electricity generation and distribution systems and cross-border telecommunication systems. Moreover, IT has become an integral part of the financial system and is widely used by the general public.¹²⁰ More and more people rely on fast and easy non-cash payments with payment cards and smart devices, easy online payments, inter alia instant payments, personal financial management tools, user authentication offered by credit institutions which can also be used for authentication on other websites as well as other options available on smart device applications. IT also plays an important role in ensuring smooth and secure payments for business transactions where contracts often stipulate strict time-frames for making payments. To ensure smooth operation of the above systems, it is important to mitigate and manage any risks such as the cybersecurity risk¹²¹.

Latvijas Banka has already previously drawn the attention to the cybersecurity risk (formerly referred to as the IT security risk) as a potential systemic risk from a financial stability perspective¹²². At the time, there was no conclusive evidence to believe that the cybersecurity risk might be systemic for Latvian credit institutions; nevertheless, it was undeniably important for each credit institution to mitigate the risk in order to prevent operational disruptions and losses. Today, the cybersecurity situation is different. With the expansion of the IT use, the interconnectedness of information systems has also increased; moreover, there have been several significant cybersecurity incidents with quite serious implications and wide-ranging consequences.

Two cybersecurity incidents in 2017 caused by encrypting viruses *WannaCry*¹²³ and *NotPetya*¹²⁴ should be mentioned in particular. In a matter of a few days, *WannaCry* spread in more than 150 countries and affected more than 230 thousand computers making their data unavailable unless a ransom was paid. The losses caused by the incident were estimated in hundreds of millions of euro. While this incident had no significant impact on the financial sector, it served as an example to illustrate the damage such a virus can cause in a critically important network as it partially paralysed the UK's health care system. The other incident involving the *NotPetya* virus was different in that its ransom requests only served as a cover for its main purpose – to irreversibly encrypt data and cause harm. To gain access to information systems, the virus took advantage of vulnerabilities in a widely used software solution which was specific to Ukraine. At first, it caused significant disruptions in the Ukrainian economy, including the financial sector, and later also spread to other countries and almost paralysed the operation of several international companies, e.g. Maersk¹²⁵, a company providing freight transportation services. Only several lucky coincidences prevented *NotPetya* from developing into a systemic threat to the financial stability.

In the context of the above developments, **various international institutions have intensified their efforts**

¹²⁰ According to the CSB's survey of households on the use of internet, 85.4% of households had access to the internet in 2019 (77.3% in 2016). 83.1% of households with access to internet indicated that they used online banking services (<https://www.csb.gov.lv/en/statistics/statistics-by-theme/science-ict/computers-internet/search-in-theme/2580-internet-usage-habits-latvian>).

¹²¹ For the purposes of this Appendix, cybersecurity risk includes both an operational risk associated with the use of information systems (errors and operational flaws in the information system) and a malicious external threat (cyber security risk).

¹²² Latvijas Banka's Financial Stability Report 2017, Appendix 3 "Could IT security risk pose a potential systemic risk to the financial sector of Latvia?".

¹²³ <https://www.cert.lv/lv/2017/06/ouch-junija-numura-ko-var-macities-no-wannacry>.

¹²⁴ <https://www.cert.lv/lv/2017/06/izspiedejviruss-notpetya-pazimes-un-aizsardziba>.

¹²⁵ <https://www.wired.com/story/notpetya-cyberattack-ukraine-russia-code-crashed-the-world/>.

towards analysing the cybersecurity risk and mitigating its potential systemic impact. In February 2020, the European Systemic Cyber Group (ESCG), established under the auspices of the ESRB, published a report on the systemic nature of the cyber risk¹²⁶. Based on the analytical framework developed by the ESCG and the analysis of the cybersecurity incidents of recent years, the report concludes that cybersecurity incidents have the potential of causing a systemic crisis if their damage undermines the confidence of the public in the financial system. The ESCG continues its work to identify measures that could reduce the risk of cybersecurity incidents developing into a systemic financial stability crisis.

Among other international initiatives, the Financial Stability Board¹²⁷ developed a cyber lexicon to promote common understanding of the cybersecurity terminology in the financial sector¹²⁸. Furthermore, the mandate of the European Union Agency for Cybersecurity¹²⁹ was extended to include new tasks such as ensuring cybersecurity certification, improving cyber resilience and formulating the cybersecurity policy in the EU. The ECB has rolled out a cyber incident reporting framework for the credit institutions under its supervision¹³⁰. Moreover, it actively participates in strengthening the cyber resilience of the market infrastructure¹³¹ (TIBER-EU framework¹³², cyber resilience oversight expectations for financial market infrastructures¹³³). Meanwhile, the European Supervisory Authorities (EBA, ESMA and EIOPA) have published guidelines on best practice for cybersecurity risk management in the financial market sectors under their supervision as well as a Joint Advice¹³⁴ on the need for a coherent cybersecurity management and cyber resilience testing framework. The FCMC is implementing the above guidelines¹³⁵ to strengthen the cybersecurity and resilience of the financial sector in Latvia.

Cybersecurity risk is a continuous and constant threat that cannot be completely avoided. Incidents will take place due to both system flaws and external malicious attacks. It is, however, possible to take preventive measures to ensure that the financial sector and the general public are adequately prepared for and resilient to a potential adverse impact.

For financial sector institutions, this would entail a continuous enhancement of their IT security and data protection solutions (including cyberattack simulations), close cooperation with the supervisory authorities and other market participants and development of clear contingency plans for cybersecurity incidents, inter alia dry-runs of such plans. At the EU level, significant measures are taken to enhance the resilience of the financial sector cybersecurity. In Latvia, these measures are implemented by the competent authorities. Therefore, it is important to facilitate cooperation among the competent authorities themselves (the FCMC, Latvijas Banka, CERT.LV) as well as their cooperation with the private sector institutions under their supervision to encourage information exchange and the availability of information on the best cybersecurity practice to all financial system participants. Furthermore, it should be noted that the largest systemic cybersecurity risks

¹²⁶ European Systemic Risk Board. *Systemic cyber risk*. February 2020.

¹²⁷ <https://www.fsb.org/about/>.

¹²⁸ <https://www.fsb.org/2018/11/fsb-publishes-cyber-lexicon/>.

¹²⁹ <https://www.enisa.europa.eu/news/enisa-news/the-european-union-agency-for-cybersecurity-a-new-chapter-for-enisa>.

¹³⁰ https://www.bankingsupervision.europa.eu/press/publications/newsletter/2017/html/ssm.nl170517_3_en.html.

¹³¹ For further information on the cybersecurity of payment systems, see Section "Risks and vulnerabilities of financial market infrastructure" of this report (see Section "Cyber resilience of financial market infrastructures").

¹³² <https://www.ecb.europa.eu/paym/cyber-resilience/tiber-eu/html/index.en.html>.

¹³³ https://www.ecb.europa.eu/press/pr/date/2018/html/ecb.pr181203_1.en.html.

¹³⁴ <https://www.esma.europa.eu/press-news/esma-news/esas-publish-joint-advice-information-and-communication-technology-risk>.

¹³⁵ <https://eba.europa.eu/eba-publishes-guidelines-ict-and-security-risk-management>.

to the financial sector can be posed by attackers associated with nation-states¹³⁶. Therefore, it is important to pay particular attention to the cyber resilience of widely used country- or region-specific software (e.g. e-Paraksts and e-Paraksts mobile in Latvia and Smart-ID in the Baltic States), as the cyber resilience of these solutions may not have been tested as much¹³⁷ as that of internationally more widely used solutions.

Meanwhile, the preparedness of the general public comprises awareness of potential threats and reasonable protection against incidents, e.g. more than one bank account with payment cards, opened with unrelated banks, and some cash reserves for essential spending. **Educating the general public is particularly important** as during an incident, e.g. a short-term disruption of a credit institution's internet banking service, misinformation and inadequate recommendations often spread in the social media (for instance, invitations not to trust credit institutions and to invest all money in cryptoassets), fuelling panic among the general public. Regrettably, in the context of the COVID-19 pandemic, fraudulent activities on the internet increased¹³⁸ as they mostly capitalised on people's interest in the development of the situation. The spread of panic and low public confidence in the financial system may cause an escalation where a cybersecurity incident could lead to a systemic financial stability crisis. In light of the above, Latvijas Banka is encouraging both the national competent authorities (the FCMC, the Republic of Latvia Ministry of Education and Science, CERT.LV) and credit institutions to raise further awareness of the general public and customers about potential cybersecurity risks, their day-to-day identification and precautionary measures.

¹³⁶ A small market with a relatively high level of cyber resilience might not be attractive to criminals; however, in the event of geopolitical tensions, attackers associated with another country's government, i.e. carrying out an offensive strike in the virtual environment on behalf of another country's government, might be sufficiently efficient to execute a destructive cyber attack.

¹³⁷ Lower number of users and, possibly, lower number of attempted attacks.

¹³⁸ <https://www.cert.lv/lv/2020/03/covid-19-negativi-ietekme-ari-kibertelpas-drosibu>.

APPENDIX 4. RISKS ASSOCIATED WITH CLIMATE CHANGE IN THE CONTEXT OF FINANCIAL STABILITY

Climate change raises unprecedented challenges for global socio-economic and financial systems that are difficult to solve. Current production and consumption levels are not sustainable using existing technologies, therefore, there is a need for transformation. With greenhouse gas emissions being substantially curbed to the levels sufficient to comply with the 2015 Paris Agreement¹³⁹, economies will be forced to reduce their carbon intensity¹⁴⁰. Given current technological solutions, this means restructuring of the economy, phasing out existing fossil fuel technologies and the physical capital associated with them. The incomplete and delayed actual climate change mitigation measures implemented by the world's largest countries vis-à-vis those set out in the Paris Agreement¹⁴¹ have increased both the direct global risks of climate change (hereinafter, climate risks) and the likelihood of economic transformation into a less carbon-intensive economy in a shorter period of time, i.e. faster and going through more unstable transition process. The ECB¹⁴² and ESRB¹⁴³ have also pointed to the impact of climate change in the context of financial stability.

Climate risks also affect the financial sector and can be classified as:

- 1) physical risks**, when the value of financial assets is directly affected by climate change, both sudden and dramatic (e.g. floods and fires) and gradual and longer-lasting (e.g. coastal erosion and change of species);
- 2) transition risks**, when sudden structural changes (regulatory requirements, changing market sentiment, technological innovation, consumer sentiment, etc.), which cause macroeconomic fluctuations and a fall in value of certain asset groups, may lead to turmoil in the financial sector.

With the EU taking the lead in economic transformation at the institutional and regulatory levels, several legislative initiatives (under the guidance of the EC, ECB and other institutions) have been launched to make the financial sector more sustainable as well as encourage it to support economic transition towards climate risk mitigation.

The EU financial sector witnesses an imbalance between supply of and demand for green¹⁴⁴ financial assets. Investor demand for such assets is growing rapidly, but the situation is more challenging on the supply side due to the lack of common reference points for classification of investment, measurement of the impact of investment on the climate and relevant historical data. Therefore, the incomplete information available and assessment of investment pose risks to misvaluation of such investment in financial markets.

¹³⁹ <https://unfccc.int/resource/docs/2015/cop21/eng/109r01.pdf>.

¹⁴⁰ Carbon-intensive means a process that has a high carbon dioxide (CO₂) footprint in relation to its economic importance.

¹⁴¹ <https://unepdtu.org/wp-content/uploads/2019/12/bridging-the-gap-egr-g20-chapter.pdf>, https://library.wmo.int/doc_num.php?explnum_id=10211.

¹⁴² <https://www.ecb.europa.eu/pub/financial-stability/fsr/html/ecb.fsr201911~facad0251f.en.html#toc27>.

¹⁴³ <https://www.esrb.europa.eu/pub/pdf/ar/2019/esrb.ar2018~d69ff774ac.en.pdf?19dcfbedd2f1a4460b9e7dd2368da6de>.

¹⁴⁴ "Green" in the context of this Appendix means assets or activities aimed at sustainable development, climate risk mitigation or dealing with the adverse consequences of climate change.

European initiatives on climate change

The EU has long played a leading role on the world stage in limiting the effects of climate change, mitigating climate risks and supporting the green economy. The main recent policies¹⁴⁵ concerning the financial sector are included in the EC Communication "Action Plan: Financing Sustainable Growth"¹⁴⁶ (March 2018), in the EC Communication "The European Green Deal"¹⁴⁷ (December 2019) as well as in the recommendations to the EC on the financing of sustainable European economy published in March 2020 (taxonomy of sustainable finance; Taxonomy: Final Report of the Technical Expert Group on Sustainable Finance)¹⁴⁸ and the proposal for the European Climate Law¹⁴⁹ published by the EC in March 2020. These policy documents outline a number of areas in which both restrictive and supporting measures will be taken to mitigate climate risks and contribute to the transformation of the EU economy:

The Sustainable Finance Action Plan is the EU's overall plan to reorient capital flows towards sustainable investment, to include sustainability assessment in risk management practices, to develop and support transparency and long-term thinking in financial and economic activities.

"The European Green Deal" is a roadmap of measures aimed at promoting resource efficiency, restoring biodiversity and reducing emissions to make the EU climate neutral by 2050. To achieve this, it is necessary to cut CO₂ emissions by 50%–55% by 2030 from 1990 levels as well as to review all legal acts from the climate risk perspective (implementation detailed in European Climate Law). The EU intends to promote new legislative initiatives to support the circular economy, building renovation, agriculture, innovation and biodiversity.

Taxonomy of sustainable finance is a classification tool helping investors and businesses to make more informed investment decisions about environmentally friendly economic activities. Its task is to provide clear information to market participants about what is and what is not sustainable. It is planned to introduce this taxonomy in EU countries by establishing criteria for measuring and controlling the financial sustainability of investment as well as for penalties imposed for infringements.

The European Climate Law is a regulatory proposal developed by the EC to make the objectives of the "European Green Deal" legally binding on EU countries, stipulating that all legislation has to support climate neutrality (net zero CO₂ emissions) by 2050.

For the financial sector, these initiatives will not only open up new opportunities to invest and develop the capital market but will also give rise to new risks in case of overly rapid or imprecise regulatory developments leading to turmoil in financial markets. Appropriate implementation of the regulatory framework and the achievement of its objectives will increase the attractiveness of green investment and

¹⁴⁵ Other recent important policy initiatives are Regulation (EU) 2019/2089 of the European Parliament and of the Council of 27 November 2019 amending Regulation (EU) 2016/1011 on EU climate transition benchmarks, EU benchmarks aligned with the Paris Agreement and sustainability-related disclosure of benchmarks and Regulation (EU) 2019/2088 of the European Parliament and of the Council of 27 November 2019 on sustainability-related disclosures in the financial services sector. The regulations have entered into force and provide a methodology for setting reference points of climate impact and improving the transparency of reporting on various sustainability and environmental criteria. Meanwhile, the ESMA has informed the EC of the need to integrate sustainable development risks into the internal processes and controls of EU investment funds.

¹⁴⁶ <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52018DC0097&from=EN>. <https://eur-lex.europa.eu/legal-content/LV/TXT/PDF/?uri=CELEX:52018DC0097&from=LV>.

¹⁴⁷ https://ec.europa.eu/info/sites/info/files/european-green-deal-communication_en.pdf. https://eur-lex.europa.eu/resource.html?uri=cellar:b828d165-1c22-11ea-8c1f-01aa75ed71a1.0014.02/DOC_1&format=PDF.

¹⁴⁸ https://ec.europa.eu/info/sites/info/files/business_economy_euro/banking_and_finance/documents/200309-sustainable-finance-teg-final-report-taxonomy_en.pdf.

¹⁴⁹ https://ec.europa.eu/info/sites/info/files/commission-proposal-regulation-european-climate-law-march-2020_en.pdf. file:///C:/Users/Aina/Downloads/090166e5ccd42cd0%20(1).pdf.

possibly reduce that of investment and capital assets, which cannot be classified as green. This can also create a category of "stranded" assets, i.e. property and financial assets for which there is no demand and, therefore, their value plummets.

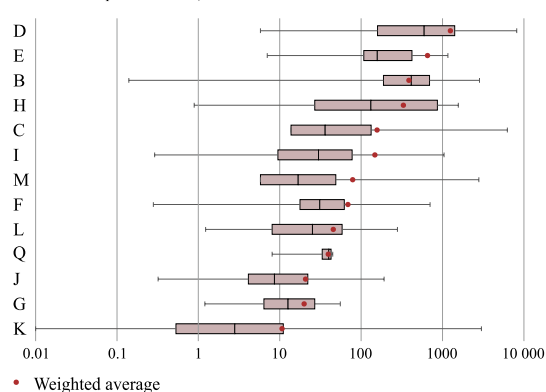
Potential impact of climate risks on the Latvian financial sector

In 2019, Latvia's National Energy and Climate Plan for 2021–2030¹⁵⁰ was published. It sets Latvia's climate change objectives in accordance with EU initiatives. Measures taken in both the EU and Latvia to reduce climate risks and promote sustainable development may also affect the Latvian financial sector.

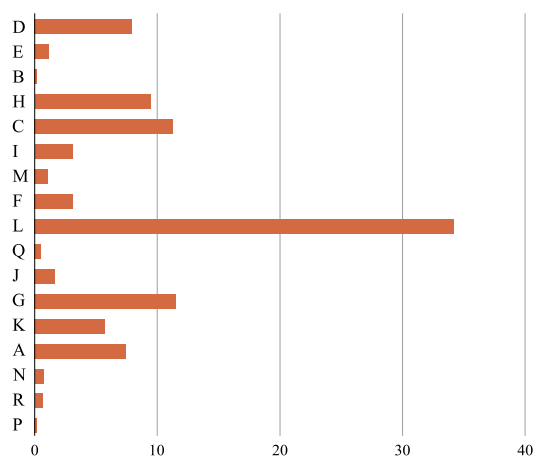
When assessing the specific nature of climate risks in Latvia, **the direct and indirect impact of these risks** on the financial sector as well as **possible risk transmission channels** have been considered. **The indirect impact of risks** on the financial sector is possible through changes in the real economy, which, in turn, is affected by climate-related **physical risks**. The report on the vulnerability of European countries to climate change¹⁵¹ by the European Environment Agency concludes that the adverse effect of climate change on the Latvian economy will be limited compared to most other EU countries, and some sectors may even benefit. Thus, **the physical risks¹⁵² related to climate change in Latvia are not expected to be too extensive or severe.**

With regard to **transition risks**, attention should be paid to the sectors that could potentially be most affected by the transition to a less carbon-intensive economy. These sectors will be impacted by the new regulations that will affect the operation of these sectors (e.g. more expensive credit institution financing or taxation of CO₂ emissions) and changes in consumer sentiment as well as new technological innovation. Chart A4.1 reflects the share of CO₂ emissions by sector and the share of these sectors in the Latvian credit institution loan portfolio (with disclaimer that these data are incomplete). The overall conclusion is that **investment by Latvian credit institutions in carbon-intensive sectors is relatively small.**

Chart A4.1
a) **CARBON INTENSITY OF SECTORS**
(CO₂ emissions in tons per 1 million US dollars in revenue generated by listed companies; 2019 or the last period available)



b) **COMPOSITION OF LATVIAN CREDIT INSTITUTIONS' PORTFOLIO OF LOANS TO NON-FINANCIAL CORPORATIONS BY SECTOR**
(in 2019; %)



D – Electricity, gas, steam and air conditioning supply; E – Water supply; sewerage, waste management and remediation activities; B – Mining and quarrying; H – Transport and storage; C – Manufacturing; I – Accommodation and food service activities; M – Professional, scientific and technical services; F – Construction; L – Real estate activities; Q – Health and social care; J – Information and communication services; G – Wholesale and retail trade; repair of motor vehicles and motorcycles; K – Financial and insurance activities; A – Agriculture, forestry and fishery; N – Administrative and support service activities; R – Arts, entertainment and recreation; P – Education.

¹⁵⁰ https://em.gov.lv/lv/nozares_politika/nacionalais_energetikas_un_klimata_plans/.

¹⁵¹ <https://www.eea.europa.eu/publications/climate-change-impacts-and-vulnerability-2016>.

¹⁵² They are set out in the Latvian National Plan for Adaptation to Climate Change until 2030 approved by the Cabinet of Ministers Order No. 380 of 17 July 2019; <https://likumi.lv/ta/id/308330-par-latvijas-pielagosanas-klimata-parmainam-planu-laika-posmam-lidz-2030-gadam>.

However, **there are several areas in Latvia that could be quite significantly affected by climate policy initiatives.** They are, e.g. transport (Latvia has a relatively old vehicle fleet with a significant share of diesel engines), housing (relatively low energy efficiency), agriculture (currently the use of fossil fuels is subsidised) and peat extraction. Of these sectors, the most significant credit institution risk exposure is related to housing given the share of mortgage loans in the loan portfolio of credit institutions where swift regulatory changes may cause a shock to the quality of the loan portfolio or collateral value.

The direct effects on credit institutions may arise from risks of change¹⁵³, such as changes in the capital requirements of credit institutions, in classification of securities or in tax incentives, and which are aimed at affecting non-investment or investment in certain asset classes. Swift regulatory changes can theoretically change credit institutions' capital ratios and/or credit availability (if, e.g. risk weights of investment in certain asset classes are significantly increased) or lead to changes in the real estate market (if, e.g. requirements are differentiated depending on the energy efficiency of the facility financed by credit institutions). Given that the competent authorities setting these requirements are aware of their impact on the operations of credit institutions and that Latvian credit institutions' investment in securities is not significant overall, the direct impact is likely to be small.

Special mention should be made of the insurance sector, which is exposed to climate risks both through assets – investment – and also more prominently – through liabilities – when the physical risks associated with climate change increase the costs of insurance events. Investment in buildings is most exposed to climate risks (see EIOPA Financial Stability Report 2018¹⁵⁴) on the asset side of the Latvian insurance sector (like in other EU countries), while the liability side is dominated by vehicles.

To summarize, it can be concluded that **climate change will affect the Latvian economy and, accordingly, its financial sector albeit less than in other EU countries. Climate risks are not significant systemic risks to the Latvian financial sector, taking into account the carbon intensity of the Latvian economy and the composition of credit institutions' loan portfolios; however, further research and monitoring of this issue are needed. It should be also noted that climate change presents both risks and opportunities.**

The Latvian financial sector should also capture these opportunities and adapt to them to ensure its healthy development. With climate risks for Latvia being less significant comparing with other countries, Latvia could focus more on potential opportunities.

The EU's objectives of strengthening sustainability of economies, including financial sector, are useful, and Latvia should also take an active part in achieving them; however, activities should be designed in a way to avoid unnecessary risks:

- 1) when implementing EU directives in Latvia, it is necessary to perform a thorough impact assessment of the relevant sector and/or credit institutions, simulating the implementation of the requirements of these directives and the possible shock scenario to set the most appropriate transitional period or identify the best solution for local conditions in Latvia;
- 2) not to postpone the transposition of the requirements of EU directives into Latvian laws until the last moment to avoid a shock caused by sudden changes and to give the financial sector more time to prepare for the relevant changes;

¹⁵³ Theoretically, physical risks can also cause direct risks when the services provided by credit institutions are interrupted due to natural disasters. However, business continuity risks are carefully managed, and they do not have a significant opportunity to become systemic in the context of climate change.

¹⁵⁴ https://www.eiopa.europa.eu/content/financial-stability-report-december-2018_en.

3) the financial sector, in cooperation with the competent authorities, should start classifying financial assets and liabilities and measuring climate impact as soon as possible and publish these data (e.g. using EU taxonomy or TFC¹⁵⁵ recommendations). Better availability of data on climate risks allows for their better assessment and consequently reduces the systemic risk to the financial sector since the risk is transparent and data reveal how various EU regulations would affect the financial sector.

¹⁵⁵ *Task Force on Climate-related Disclosures* (www.fsb-tcf.com).

APPENDIX 5. PERFORMANCE INDICATORS OF CREDIT INSTITUTIONS

Indicator	2014	2015	2016	2017	2018	2019	February 2020
Balance sheet items							
Number of credit institutions and subsidiaries of foreign banks	26	27	23	21	20	19	18
Total assets (millions of euro)	30 816.1	31 937.7	29 496.1	28 387.7	22 870.5	23 203.3	22 284.8
Share of loans in total assets (%)	47.6	46.0	51.3	50.9	59.3	58.1	59.5
Share of deposits in total liabilities (%)	72.0	72.8	72.4	71.4	71.4	74.2	77.7
Share of liabilities to MFIs in total liabilities (%)	11.4	9.2	9.5	10.0	10.8	6.6	4.9
Domestic customers' loan-to-deposit ratio (%)	117.6	114.6	104.9	101.9	91.7	84.1	83.3
Profitability¹⁵⁶							
ROE (%) ¹⁵⁷	10.2	10.7	14.3	7.6	9.8	4.5	–
ROA (%) ¹⁵⁸	1.0	1.2	1.5	0.9	1.2	0.6	–
Cost-to-income ratio (%) ¹⁵⁹	51.5	51.2	44.7	59.0	62.0	65.3	–
Capital Adequacy							
Own funds (millions of euro)	3025.2	3184.9	2910.2	3063.7	2697.3	1986.5	–
CET1 capital/Tier 1 capital (millions of euro)	2627.5	2764.5	2471.0	2732.0	2454.2	1851.9	–
Risk-weighted assets (millions of euro)	15 000.5	14 583.8	14 269.0	14 844.3	12 091.3	9284.1	–
Total capital ratio (%)	20.2	21.8	20.4	20.6	22.3	21.0	–
CET1 capital ratio/Tier 1 capital ratio (%)	17.5	19.0	17.3	18.4	20.3	19.5	–
Leverage ratio	9.2	9.4	9.2	9.6	10.6	9.9	–
Liquidity							
Liquid assets to total assets ratio (%) ¹⁶⁰	39.9	40.2	33.8	37.4	31.8	32.1	31.9
LCR (%)	–	–	342.7	313.4	253.6	308.2	317.8
NSFR (%) ¹⁶¹	–	148.2	148.5	146.0	138.2	144.9	–
Asset quality¹⁶²							
Ratio of provisions for NPLs in the loan portfolio (%)	5.6	5.2	4.2	3.7	3.1	3.1	–
Share of NPLs in the loan portfolio	11.8	10.2	9.3	8.5	7.5	7.1	–
Share of loans past due over 90 days in the loan portfolio (%)	7.4	6.3	4.7	4.2	4.0	3.9	–

¹⁵⁶ Profitability ratios for 2016–2019 have been calculated based on the data provided by the FCMC at the consolidated level, whereas those for 2014 and 2015 have been calculated based on the ECB's consolidated banking data. Profitability ratios for 2016 and 2017 have been presented without excluding the one-off effects referred to in Chapter 2 "Development and Risks of the Credit Institution Sector".

¹⁵⁷ Annualised profit/loss ratio to average capital and reserves of the reporting period (excluding data of foreign credit institution subsidiaries).

¹⁵⁸ Annualised profit/loss ratio to average assets of the reporting period.

¹⁵⁹ Cost-to-income ratio = (administrative expenses + intangible and fixed asset depreciation and disposal)/(net interest income + income from dividends + net commissions and fees + profit/loss from trades of financial instruments + financial instrument revaluation result + net ordinary income + adjustment for impairment of available-for-sale financial assets) × 100.

¹⁶⁰ Liquid assets = vault cash + claims on central banks and other credit institutions + central government fixed income debt securities (those having a regular, unlimited market, i.e. they can be sold in a short period of time without considerable loss or used as loan collateral).

¹⁶¹ Latvijas Banka's estimate at the level of individual credit institutions.

¹⁶² The loan quality indicators for 2016–2019 have been calculated based on consolidated-level data for the credit institutions subject to consolidated supervision and on individual-level data for other credit institutions and branches of foreign banks (for 2014 and 2015 – based on consolidated-level data for the credit institutions subject to consolidated supervision). Credit risk ratios have been presented without excluding the one-off effects referred to in Chapter 2 "Development and Risks of the Credit Institution Sector".

APPENDIX 6. HEATMAP OF EARLY WARNING INDICATORS

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
External macrofinancial risks															
BofA Merrill Lynch index															
Imports in the main trade partners (annual changes; %)															
Spread between 10-year and 2-year euro area government bond yields (percentage points)															
Three-year changes in the euro area private sector debt-to-GDP ratio (percentage points)															
SovCISS describing euro area governments (equally weighted)															
Domestic macrofinancial risks															
Deviation of unemployment (percentage points)															
Annual changes in the house price index (%)															
Domestic loan-to-GDP ratio (%)															
Current account-to-GDP ratio (%)															
Household credit risk															
Ratio of the house price index vis-à-vis the average net wage index (%)															
Three-year changes in the households' loan-to-GDP ratio (percentage points)															
Households' annual interest payments-to-GDP ratio (%)															
Households' deposit-to-loan ratio (%)															
Credit risk of non-financial corporations															
Interest coverage (four-year moving average; %)															
Non-financial corporations' debt-to-equity ratio (%)															
Herfindahl-Hirschman Index															
Non-financial corporations' annual interest payments-to-GDP ratio (%)															
Three-year changes in the non-financial corporations' loan-to-GDP ratio (percentage points)															
Solvency and profitability risk of credit institutions															
ROA															
CET1 indicator (%)															
Capital and reserves-to-assets ratio (%)															
Cost-to-income ratio (%)															
Liquidity and funding risk of credit institutions															
FCMC liquidity ratio for the largest credit institutions – domestic lenders* (%)															
FCMC liquidity ratio for other credit institutions (%)															
Resident loan-to-deposit ratio (%)															
Net foreign assets-to-assets ratio (%)															

* Data until 2019 and those for 2019 include four and three largest credit institutions respectively since branches are excluded from the calculation of liquidity ratio. The liquidity ratio of this credit institution group is relatively lower as liquidity of subsidiaries is managed at the group level. Although the support provided by the parent bank reduces liquidity risk and the FCMC liquidity ratio is not a mandatory supervisory requirement for these credit institutions, the FCMC liquidity ratio is employed for risk monitoring.

Notes. The heatmap is only one of the tools used by Latvijas Banka for the analysis of systemic financial stability risks. The assigned risk level should not be interpreted in absolute terms. Instead, it should be viewed in comparison with the historical benchmarks of the chosen indicators, warning of the build-up of risks. For the explanation of the heatmap methodology, see Appendix "Heatmap: analytical tool for the analysis of systemic financial stability risks in Latvia" of Latvijas Banka's Financial Stability Report 2018.

The risk level arising from the ratio of the indicator to its average historical benchmark is indicated by colour:

