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Quarterly assessment of the financial cycle in Lithuania

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Periods indicated in charts include data for the respective year, quarter, etc.

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Introduction

The Quarterly assessment of the financial cycle in Lithuania (formerly – the Credit and Real Estate Market Review) is a quarterly publication issued by the Bank of Lithuania that assesses the state of the financial cycle in Lithuania and the level of cyclical systemic risk: the sustainability of trends in the credit and real estate (RE) markets, imbalances in the financial sector and the risk of their build-up or widening. The information contained in this review forms the basis for a regular assessment of the applicable financial stability instruments: the level of the countercyclical buffer rate and the sectoral systemic risk buffer (applied for mortgage loan portfolio) rate.[1]

Explanation of the key terms used in this publication:

Financial cycle. *The financial cycle refers to the development cycle of the financial system, comprising four phases: expansion (growth), deceleration, recession and recovery, defined by the overall evolution of the various indicators of the financial system (in particular, those reflecting trends in the credit and real estate markets), which are related, for example, to the perception of the value of financial assets and real estate, the perceived level of risk, the tightening or relaxation of lending standards and the resulting impact on the supply of credit, and the interplay between these phenomena. The literature generally considers that the financial cycle tends to last longer than the business cycle and can significantly amplify economic booms and deepen recessions. The application of CCyB aims at increasing the resilience of the financial system and, to some extent, reducing its pro-cyclicality and, within the meaning of financial cycle, at reducing the size of fluctuations in the financial cycle, especially in the recession phase.*

Cyclical (systemic) risk. *Systemic risk is the risk of a disruption to the financial system or a part of the financial system, which could have significant negative consequences for the financial system and the economy. Two types of systemic risk are generally distinguished: cyclical and structural risks.*[2] *Cyclical risk is related to the evolution of the financial cycle: it rises and falls as the financial cycle unfolds, and is usually associated with changes in the supply of credit and in the risk assessment of financial system participants.*

Abbreviations

CCyB – countercyclical capital buffer

HPI – house price index

GDP – gross domestic product

HP – *Hodrick–Prescott* filter

NFC – non-financial corporations

RE – real estate

HH – households

MFI – monetary financial institutions (e. g. banks and credit unions)

NFPS – non-financial private sector

HICP – harmonised index of consumer prices

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[1] https://www.lb.lt/en/financial-stability-instruments-1

[2] Structural (systemic) risk arises from the structural features of the financial system, such as the interconnectedness of financial system participants, concentration and the specific nature of business models.

Key messages

Lithuania is still experiencing an upturn in the financial cycle, mainly due to robust corporate and household borrowing, as well as still intense, though recently slowing, annual house price growth. Rapid borrowing from monetary financial institutions (MFIs) is not yet creating credit imbalances, but overall crediting in the economy is approaching the brink of creating imbalances due to intensive business-to-business lending. In addition, the current account deficit is widening due to faster growth in imports than in exports, increasing the need of Lithuania's economy to borrow. On the other hand, MFIs are not dependent on external funding, as the loan-to-deposit ratio, although increasing, remains at a historically low level (81%). Only house prices are showing limited imbalances, as they are slightly overvalued.

Despite heightened uncertainty, rising interest rates and the risks of war, companies are borrowing faster than the economy grows. Nominal annual growth in the MFI corporate loan portfolio is 21%, while the annual growth rate of broad corporate credit (including business-to-business loans) is as much as 31%, outpacing economic growth for three consecutive quarters. Such a significant corporate borrowing has been driven by the need for working capital due to the strong increase in the prices of raw materials and intermediate goods. All this suggests that corporate borrowing is in the phase of high growth. The gap between the broad corporate credit to GDP ratio and its long-term trend is approaching the brink of the build-up of imbalances due to abundant business-to-business lending, but credit imbalances are not yet present.

Households continue to borrow robustly, both for house purchase and consumption. Nominal annual growth rate of the MFI housing loan portfolio is 12%, with the growth above 10% being observed from the second quarter of 2021. Rapid household borrowing is occurring together with even higher house price growth (19% per year), and these processes are mutually reinforcing. Despite the high pace of borrowing, there are no household credit imbalances, with the gap between the MFI household loans to GDP ratio and its long-term trend remaining negative and broadly unchanged.

The annual rate of nominal house price growth is still very high, but there are increasingly more indications that the peak of the growth cycle has been reached. Such a rate of price growth is outpacing the wage growth, thus housing affordability continues to deteriorate. At the price level, there still are limited imbalances, with prices overvalued by around 4% based on the median of 6 different estimates. However, annual price growth has been slowing down over the last few months and month-on-month changes of the price index even show a slight price decrease. Expectations for the future developments in house prices have changed significantly, with surveys showing that households, banks and property market participants mostly expect a stabilisation of prices or a small price decrease of 5–10% over the next year.

The countercyclical capital buffer (CCyB) rate is unchanged for the fourth quarter of 2022, with banks and groups of central credit unions being subject to a consolidated CCyB rate of 1% from 1 October 2023. The Board of the Bank of Lithuania has set this CCyB rate on 30 September 2022, taking into account the broader recovery of the financial cycle and the increased downside risks to economic growth. In the event of a significant economic or financial shock, the CCyB requirement would be released and would help credit institutions to absorb credit losses and sustain lending. At the same time, the 2% sectoral systemic risk buffer for the portfolio of housing loans to natural persons, which entered into force on 1 July 2022, remains in place to ensure resilience to systemic risk arising from imbalances in the housing market, albeit limited in size, and from the high significance and concentration of housing loans in the loan portfolio of credit institutions.

Financial cycle assessment

The financial cycle is broadening and accelerating, with corporate credit starting to grow at a rapid pace, while housing credit growth continuing to maintain this pace. Only house prices are showing limited imbalances, as they are slightly overvalued.

Chart 1. Cyclical risk assessment matrix

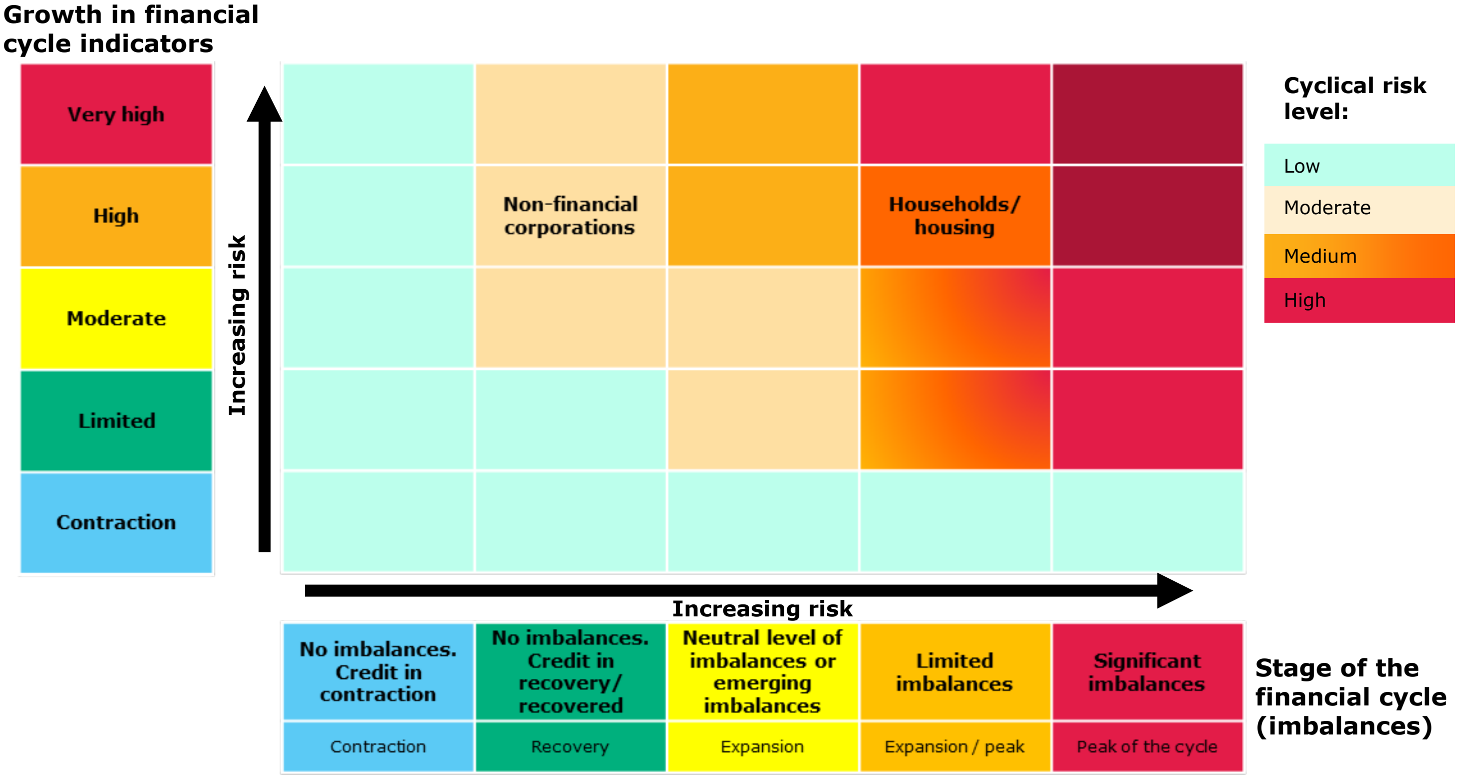
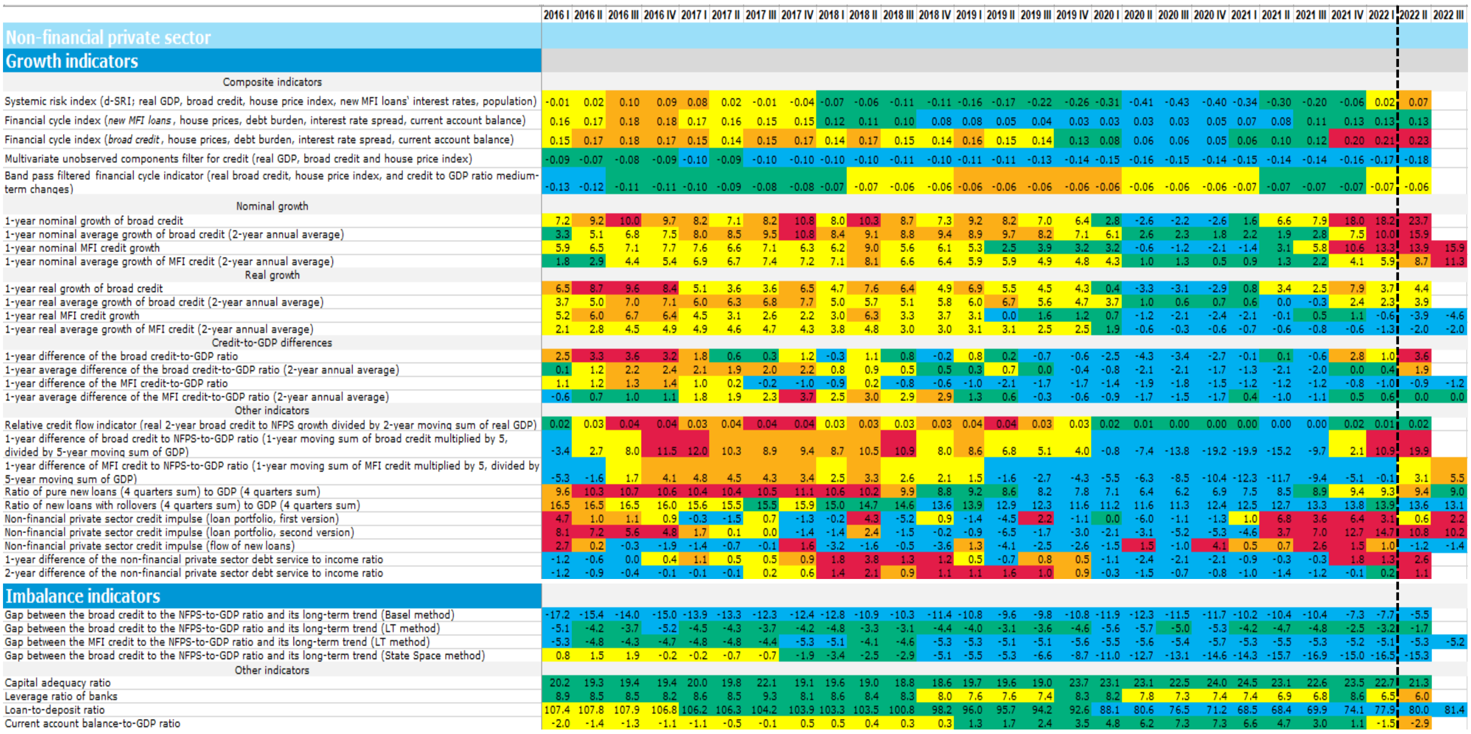


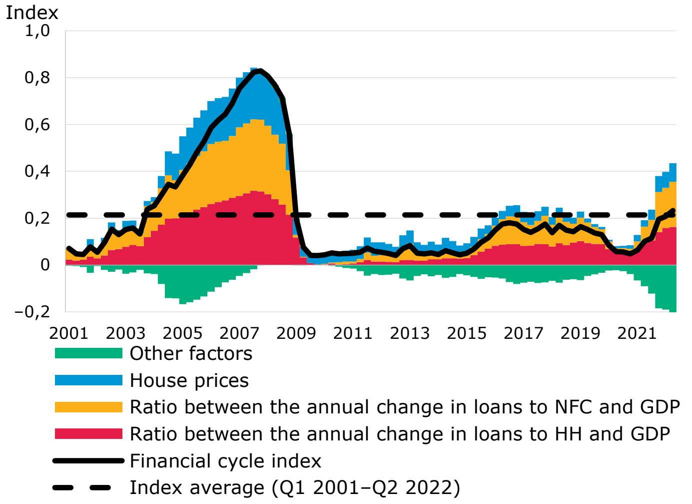
Chart 2. Heatmap of non-financial private sector credit growth, credit imbalances and composite financial cycle indicators (Q1 2016–Q3 2022, the latest data are marked by the black dashed line on the right)



Notes: values are rounded; stages of some indicators are evaluated based on the percentiles of their values, hence in some instances cells that have the same value may be coloured differently.

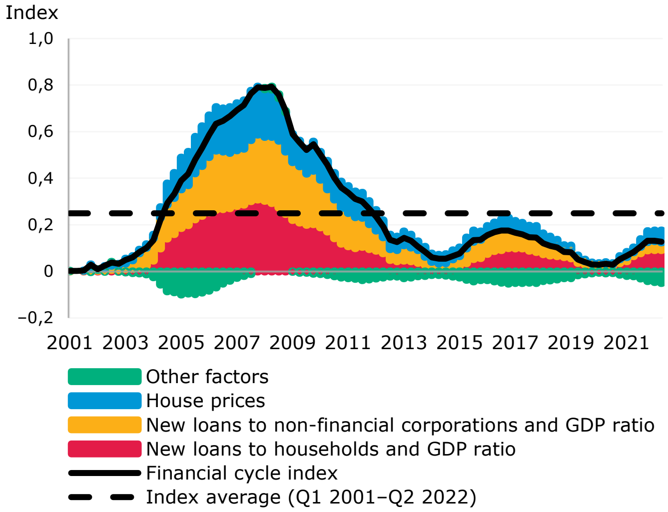
The financial cycle remains elevated and continues to grow due to business-to-business lending

Chart 3. Lithuania's financial cycle index and its drivers (total credit, Q1 2001–Q2 2022)



Sources: State data agency and Bank of Lithuania.

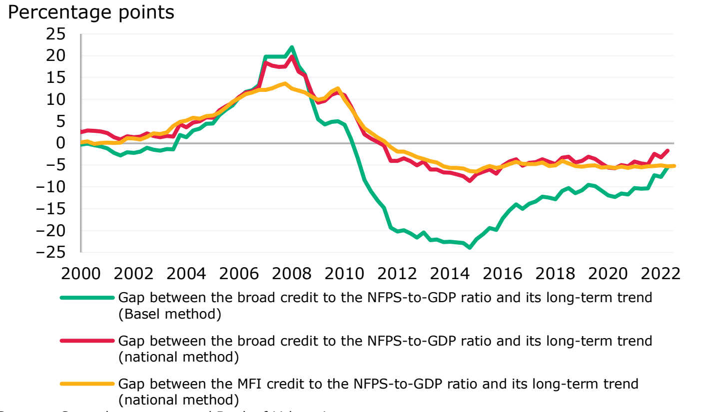
Chart 4. Lithuania's financial cycle index and its drivers (MFI loans, Q1 2001–Q2 2022)



Sources: State data agency and Bank of Lithuania.

Extremely intense business-to-business lending is significantly increasing the amount of credit in the economy, but credit imbalances are not yet present

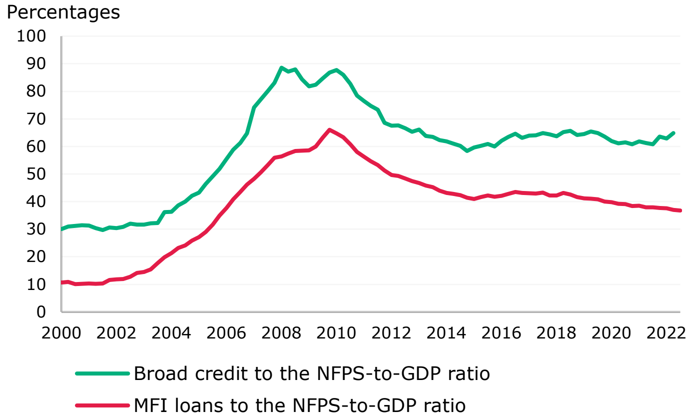
Chart 5. Credit and MFI loans to the non-financial private sector to GDP ratio gaps (Q1 2000–Q2 2022)



Sources: State data agency and Bank of Lithuania.
Notes: long-term trend is computed using a one-sided HP filter with a smoothing parameter of 400,000; for the national method, before applying the filter, the ratio is modelled for the next 5-year window using a 4-quarter weighted average.

Private sector indebtedness to monetary financial institutions is declining, but total indebtedness is rising due to intense business-to-business lending

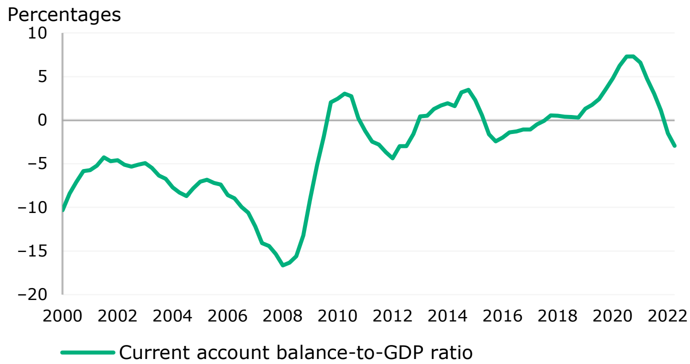
Chart 6. Credit and MFI loans to the non-financial private to GDP ratios (Q1 2000–Q2 2022)



Sources: State data agency and Bank of Lithuania.

Current account deficit widens as imports grow faster than exports, thus increasing the economy's need to borrow

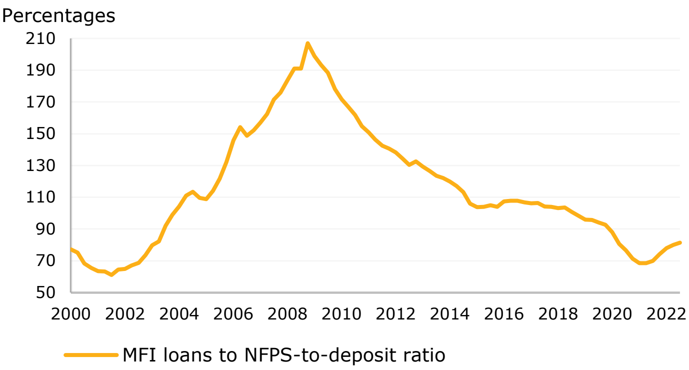
Chart 7. Current account balance to GDP ratio (Q1 2000–Q2 2022)



Sources: State data agency and Bank of Lithuania.

The MFI loans-to-deposit ratio has been rising recently but is still at a historically low level

Chart 8. Ratio of MFI loans to the non-financial private and non-financial private sector deposits (Q1 2000–Q3 2022)



Sources: State data agency and Bank of Lithuania.

Non-financial corporations sector

Corporate borrowing is growing rapidly, but there is no excess credit to corporations in the economy

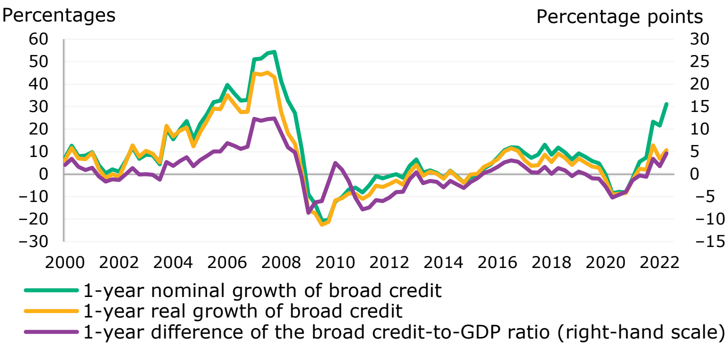
Chart 9. Map of growth and imbalance indicators in the corporate sector (Q1 2016–Q3 2022, the latest data are marked by the black dashed line on the right)

Non-financial corporations sector	2016 I	2016 II	2016 III	2016 IV	2017 I	2017 II	2017 III	2017 IV	2018 I	2018 II	2018 III	2018 IV	2019 I	2019 II	2019 III	2019 IV	2020 I	2020 II	2020 III	2020 IV	2021 I	2021 II	2021 III	2021 IV	2022 I	2022 II	2022 III
Growth indicators																											
Nominal growth																											
1-year nominal growth of broad credit	7.4	10.6	12.0	11.7	9.4	7.2	8.6	13.1	8.6	11.9	9.6	6.5	9.2	7.7	5.8	4.9	-0.2	-8.5	-7.9	-8.1	-1.8	5.6	7.3	23.4	21.7	31.2	
1-year nominal average growth of broad credit (2-year annual average)	2.9	5.2	7.4	8.2	8.7	9.3	10.8	13.2	9.4	10.0	9.5	10.2	9.3	10.2	8.0	5.8	4.5	-0.7	-1.3	-1.8	-1.0	-1.7	-0.6	6.7	9.7	19.3	
1-year nominal growth of broad and trade credit	9.5	11.0	13.5	15.6	9.0	7.6	9.0	13.0	8.4	12.4	9.3	5.9	9.4	4.8	3.7	2.2	1.0	-5.5	-2.6	-1.4	5.1	13.1	13.1	23.4	20.7	20.7	
1-year nominal average growth of broad and trade credit (2-year annual average)	4.8	5.9	6.9	9.5	9.7	9.7	11.9	15.3	9.1	10.4	9.6	9.8	9.3	8.9	6.7	4.1	5.3	-0.5	0.5	0.4	3.1	3.4	5.1	10.8	13.4	18.3	
1-year nominal MFI credit growth	6.1	5.8	6.4	7.3	6.7	5.2	6.3	5.1	5.1	10.6	3.9	3.5	1.9	-3.5	-0.8	-1.3	-2.0	-9.0	-10.1	-12.4	-11.3	-3.8	1.2	10.6	16.2	17.4	21.2
1-year nominal average growth of MFI credit (2-year annual average)	0.2	1.3	3.4	4.4	6.6	5.7	6.6	6.4	6.1	8.2	5.2	4.4	3.5	3.4	1.5	1.1	-0.1	-6.1	-5.4	-6.8	-6.5	-6.2	-4.5	-1.6	1.6	6.5	11.3
Real growth (adjusted for HICP)																											
1-year real growth of broad credit	6.7	10.1	11.6	10.3	6.3	3.7	4.0	8.7	5.4	9.1	7.3	4.0	6.9	5.0	3.4	2.8	-2.6	-9.1	-8.7	-8.3	-2.6	2.3	2.0	12.8	6.8	10.7	
1-year real average growth of broad credit (2-year annual average)	3.2	5.1	7.6	7.7	6.7	7.1	8.0	10.0	6.0	6.6	5.8	6.5	6.3	7.3	5.4	3.5	2.1	-2.3	-2.8	-2.9	-2.5	-3.5	-3.4	1.7	2.0	6.6	
1-year real growth of broad and trade credit	8.8	10.5	13.1	14.2	5.9	4.0	4.3	8.6	5.1	9.6	7.0	3.5	7.2	2.2	1.3	0.2	-1.4	-6.1	-3.5	-1.6	4.3	9.7	7.5	12.8	5.9	1.8	
1-year real average growth of broad and trade credit (2-year annual average)	5.2	5.8	7.1	9.0	7.6	7.5	9.0	12.0	5.7	7.0	5.8	6.2	6.3	6.0	4.2	1.8	2.8	-2.0	-1.1	-0.7	1.4	1.5	1.9	5.5	5.2	5.8	
1-year real MFI credit growth	5.4	5.4	6.0	6.0	3.7	1.7	1.8	1.0	1.9	7.8	1.6	1.1	-0.2	-5.9	-3.1	-3.2	-4.4	-9.6	-10.9	-12.7	-11.9	-6.7	-3.8	1.1	2.0	-0.9	-0.2
1-year real average growth of MFI credit (2-year annual average)	0.5	1.2	3.6	4.0	4.6	3.6	3.9	3.5	2.8	4.9	1.7	1.1	0.9	0.8	-0.7	-1.1	-2.3	-7.5	-6.8	-7.7	-7.9	-7.8	-7.2	-5.8	-5.1	-3.8	-2.0
Credit-to-GDP differences																											
1-year difference of the broad credit-to-GDP ratio	1.6	2.6	3.0	2.7	1.6	0.4	0.4	1.6	0.1	1.3	0.8	-0.5	0.5	0.0	-0.9	-1.0	-2.8	-5.2	-4.5	-3.9	-1.4	-0.3	-0.6	3.4	1.8	4.6	
1-year average difference of the broad credit-to-GDP ratio (2-year annual average)	-0.1	0.8	1.6	1.8	1.6	1.5	1.7	2.2	0.8	0.9	0.6	0.6	0.3	0.6	-0.1	-0.7	-1.1	-2.6	-2.7	-2.5	-2.1	-2.8	-2.6	-0.3	0.2	2.1	
1-year difference of the broad and trade credit-to-GDP ratio	4.1	4.8	6.2	7.0	2.6	1.0	0.9	2.8	0.0	2.7	1.3	-1.2	1.1	-2.1	-3.1	-3.5	-4.0	-6.8	-4.1	-2.1	2.2	4.2	2.5	6.2	2.7	2.4	
1-year average difference of the broad and trade credit-to-GDP ratio (2-year annual average)	1.1	1.9	2.6	3.8	3.3	2.9	3.5	4.9	1.3	1.8	1.1	0.8	0.5	0.3	-0.9	-2.4	-1.5	-4.4	-3.6	-2.8	-0.9	-1.3	-0.8	2.0	2.5	3.3	
1-year difference of the MFI credit-to-GDP ratio	0.6	0.5	0.5	0.6	0.3	-0.2	-0.3	-0.7	-0.7	0.4	-0.7	-0.8	-1.1	-2.3	-1.7	-1.6	-1.6	-2.5	-2.5	-2.6	-2.3	-1.6	-1.2	-0.3	0.0	0.1	0.2
1-year average difference of the MFI credit-to-GDP ratio (2-year annual average)	-0.6	-0.4	0.1	0.3	0.5	0.1	0.1	0.0	-0.2	0.1	-0.5	-0.8	-0.9	-0.9	-1.2	-1.2	-1.4	-2.4	-2.1	-2.1	-2.0	-2.0	-1.8	-1.4	-1.2	-0.8	-0.5
Other indicators																											
1-year difference of broad NFC credit-to-GDP ratio (1-year moving sum of broad NFC credit multiplied by 5, divided by 5-year moving sum of GDP)	-3.1	1.8	6.3	9.4	10.2	8.6	7.2	7.7	7.1	8.8	9.3	6.1	6.2	4.3	2.3	1.2	-3.3	-10.1	-16.2	-21.3	-21.8	-16.3	-10.4	1.2	9.3	18.0	
Ratio of pure new loans (4 quarters sum) to GDP (4 quarters sum)	6.1	6.4	6.6	6.3	6.0	6.0	6.2	6.9	6.5	6.1	5.8	4.7	5.2	4.8	4.5	4.1	3.3	2.9	2.6	3.2	3.7	4.2	4.4	4.8	4.7	4.9	4.4
Ratio of new loans (including rollovers) to GDP	11.8	11.6	11.6	10.9	10.5	10.4	10.5	11.0	10.2	9.9	9.8	8.8	9.3	8.5	7.9	7.4	6.9	7.4	7.1	8.0	8.0	7.7	8.2	8.6	8.8	8.5	7.9
NFC credit impulse (MFI loan portfolio)	3.7	-0.2	0.5	0.7	-0.5	-1.2	0.8	-0.9	-0.1	4.2	-5.1	-0.2	-1.3	-4.4	2.2	-0.2	-0.6	-5.4	-0.9	-1.4	0.9	5.7	2.9	5.4	2.8	0.6	1.8
NFC credit impulse (flow of new MFI loans)	1.5	-0.6	-0.4	-2.5	-1.7	-0.8	0.5	2.1	-3.0	-1.2	-0.6	-3.6	1.7	-3.2	-2.1	-2.2	-1.8	1.9	-1.1	3.4	0.0	-1.2	2.2	1.3	0.8	-1.0	-1.9
1-year difference of NFC debt to income ratio	1.8	3.5	3.2	2.4	0.5	-0.9	0.5	2.5	2.3	3.6	2.8	2.1	1.5	1.0	-0.9	-1.8	-4.0	-7.8	-5.8	-7.0	-4.4	-2.0	-1.6	0.5	0.7	4.2	
1-year difference of ratio of NFC liabilities to assets	-8.8	-7.2	-6.5	-2.7	3.4	2.0	1.7	6.3	2.1	0.9	-2.7	-4.7	-8.7	-7.1	-3.7	-4.5	-1.5	-10.3	-12.0	-12.8	-12.3	-5.5	-1.9	4.5	4.5	15.9	
1-year difference of the NFC debt service to income (profit) ratio	-1.2	-0.2	0.8	1.5	2.5	1.5	1.2	1.7	3.3	6.8	2.7	2.6	1.4	-0.4	2.0	1.9	-1.0	-3.5	-3.4	-3.5	-1.6	-0.4	0.3	3.9	3.1	5.4	
Imbalance indicators																											
Gap between the broad credit to NFC-to-GDP ratio and its long-term trend (Basel method)	-9.1	-7.5	-6.5	-7.7	-6.5	-6.2	-5.2	-5.3	-5.6	-4.2	-3.8	-5.1	-4.5	-3.6	-4.1	-5.4	-6.5	-7.7	-7.3	-7.9	-6.3	-6.5	-6.4	-3.2	-3.4	-1.1	
Gap between the broad credit to NFC-to-GDP ratio and its long-term trend (LT method)	-3.0	-2.1	-1.8	-3.2	-2.3	-2.2	-1.6	-1.9	-2.4	-1.2	-1.1	-2.4	-1.9	-1.2	-1.7	-2.9	-3.7	-4.5	-3.9	-4.3	-3.0	-3.4	-3.4	-0.9	-1.6	0.1	
Gap between the MFI credit to NFC-to-GDP ratio and its long-term trend (LT method)	-3.2	-3.0	-2.6	-3.0	-2.9	-3.0	-2.6	-3.2	-3.0	-2.2	-2.8	-3.4	-3.4	-3.3	-3.3	-3.8	-3.7	-4.3	-4.1	-4.5	-4.2	-4.2	-3.8	-3.7	-3.3	-3.4	-3.0
NFC to equity ratio	41.4	43.6	42.9	40.9	41.9	42.7	43.4	43.4	44.2	46.3	46.2	45.4	45.7	47.3	45.3	43.6	41.7	39.5	39.5	36.7	37.3	37.5	37.9	37.2	38.1	41.6	
NFC short-term liabilities to short-term assets ratio	40.3	42.7	41.8	37.1	43.7	44.8	43.5	43.5	45.8	45.6	40.8	38.8	37.1	38.5	37.1	34.3	35.6	28.3	25.2	21.5	23.3	22.8	23.3	26.0	27.8	38.7	
NFC debt service to income (profit) ratio	18.2	18.4	19.1	18.4	19.2	18.9	19.7	19.3	21.0	22.7	21.0	20.5	21.5	22.0	21.7	21.1	20.4	19.6	19.6	19.0	19.5	19.3	19.3	20.8	20.8	21.9	

Notes: values are rounded; stages of some indicators are evaluated based on the percentiles of their values, hence in some instances cells that have the same value may be coloured differently.

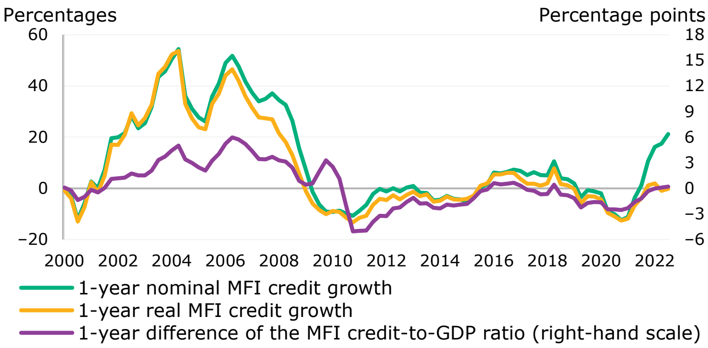
Corporate borrowing from MFIs and other corporations is growing faster than the economy

Chart 10. Developments in broad corporate credit (Q1 2000–Q3 2022)



Sources: State data agency, Bank of Lithuania and Bank of Lithuania calculations.

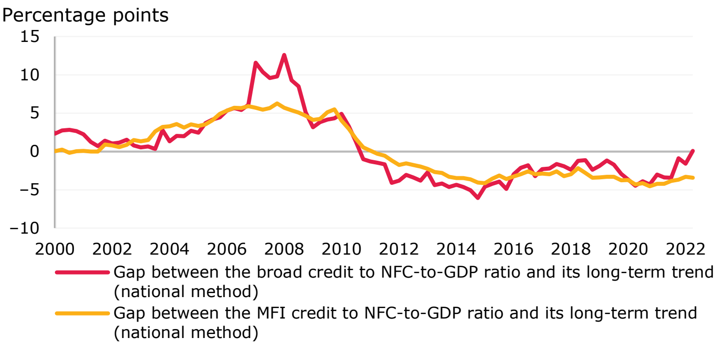
Chart 11. Developments in corporate borrowing from MFIs (Q1 2000–Q3 2022)



Sources: State data agency, Bank of Lithuania and Bank of Lithuania calculations.

There is no excess corporate borrowing from credit institutions, but borrowing is approaching the brink of emerging imbalances when business-to-business lending is taken into account

Chart 12. Corporate credit imbalances (Q1 2000–Q3 2022)

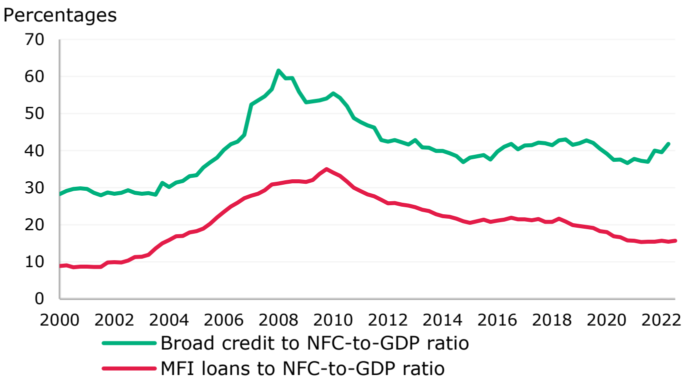


Sources: State data agency and Bank of Lithuania.

Notes: the long-term trend is computed by applying a one-sided HP filter with a smoothing parameter of 400,000; before applying the filter, the ratio is modelled for the next 5-year window using a 4-quarter weighted average.

Corporate indebtedness to monetary financial institutions is declining, but total indebtedness is rising due to rapid business-to-business lending

Chart 13. Corporate credit-to-MFI loans-to GDP ratios (Q1 2000–Q3 2022)



Sources: State data agency and Bank of Lithuania.

Household / housing sector

Housing credit and prices are growing rapidly, with limited imbalances in the house price segment

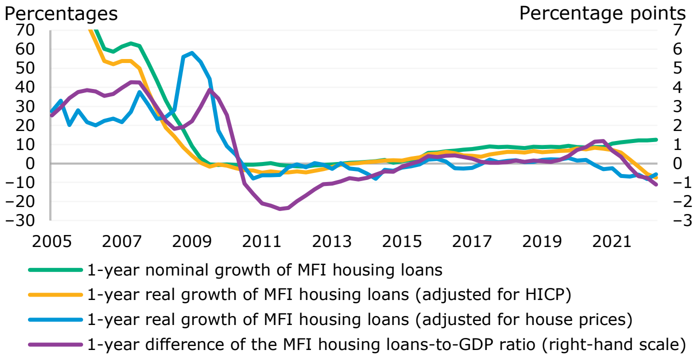
Chart 14. Map of household / housing sector growth and imbalance indicators (Q1 2016–Q3 2022, the latest data are marked by the black dashed line on the right)

	2016 I	2016 II	2016 III	2016 IV	2017 I	2017 II	2017 III	2017 IV	2018 I	2018 II	2018 III	2018 IV	2019 I	2019 II	2019 III	2019 IV	2020 I	2020 II	2020 III	2020 IV	2021 I	2021 II	2021 III	2021 IV	2022 I	2022 II	2022 III
Household / housing sector																											
Growth indicators																											
Credit																											
1-year nominal growth of MFI housing loans	5.5	5.8	6.4	6.8	7.3	7.7	8.2	8.9	8.6	8.8	8.4	8.2	8.7	8.5	8.7	8.6	9.3	8.6	8.4	8.5	8.6	10.5	11.2	11.6	12.1	12.0	12.4
1-year nominal average growth of MFI housing loans (2-year annual average)	3.0	3.6	4.2	4.9	6.6	6.9	7.6	8.2	8.2	8.6	8.6	8.9	9.0	9.1	8.9	8.7	9.4	8.9	8.9	8.9	9.4	10.0	10.2	10.5	10.9	11.9	12.5
1-year real growth of MFI housing loans (adjusted for housing prices)	2.1	2.3	1.1	-2.5	-2.7	-2.3	-0.3	2.0	0.7	1.3	1.7	0.7	0.8	1.8	2.1	2.0	2.9	1.5	1.8	-0.8	-3.0	-2.5	-6.5	-6.9	-5.9	-8.2	-5.7
1-year real average growth of MFI housing loans (2-year annual average, adjusted for housing prices)	-1.0	0.0	-0.2	-1.5	-0.3	0.0	0.4	-0.3	-1.0	-0.5	0.7	1.3	0.7	1.6	2.0	1.3	1.9	1.7	2.0	0.6	-0.1	-0.5	-2.4	-3.8	-4.4	-5.2	-5.9
1-year real growth of MFI housing loans (adjusted for HICP)	4.8	5.3	6.0	5.5	4.2	4.1	3.6	4.7	5.3	6.1	6.1	5.7	6.5	5.8	6.2	6.5	6.7	7.9	7.4	8.2	7.8	7.1	5.7	2.0	-1.6	-5.5	-7.4
1-year real average growth of MFI housing loans (2-year annual average, adjusted for HICP)	3.3	3.5	4.4	4.5	4.6	4.8	4.9	5.2	4.9	5.2	5.0	5.3	6.1	6.2	6.4	6.3	6.8	7.1	7.1	7.6	7.5	7.8	6.7	5.2	3.0	0.6	-1.1
1-year difference of the MFI housing loans-to-GDP ratio	0.4	0.3	0.4	0.4	0.3	0.2	0.1	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.4	0.7	0.9	1.1	1.2	0.7	0.4	-0.2	-0.7	-0.8	-1.1
1-year average difference of the MFI housing loans-to-GDP ratio (2-year annual average)	0.0	0.1	0.2	0.3	0.4	0.3	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.3	0.4	0.5	0.7	0.8	0.7	0.6	0.5	0.3	0.0	-0.4
Other indicators																											
Gap between the housing loan flow and its fundamentals (2-markets disequilibrium model)	-25.3	-22.9	-18.9	-17.1	-16.5	-16.6	-16.7	-15.9	-15.1	-12.4	-12.1	-12.3	-13.0	-14.6	-13.3	-15.6	-16.9	-14.2	-10.7	-2.6	6.6	11.7	17.7	19.5	20.6	20.4	
1-year difference of the broad HH credit-to-GDP ratio (1-year moving sum of broad HH credit multiplied by 5, divided by 5-year moving sum of GDP)	-0.4	0.9	1.8	2.1	1.9	1.7	1.8	1.7	1.6	1.7	1.6	1.9	2.4	2.6	2.9	2.8	2.5	2.7	2.4	2.1	1.8	1.2	0.8	0.9	1.6	1.9	
Ratio of pure new housing loans (4 quarters sum) to GDP (4 quarters sum)	2.1	2.3	2.5	2.7	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.9	2.8	2.7	2.7	2.8	2.6	2.6	2.8	3.0	3.4	3.5	3.5	3.5	3.4	3.4
Ratio of new housing loans including rollovers (4 quarters sum) to GDP (4 quarters sum)	3.0	3.0	3.0	3.1	3.2	3.3	3.2	3.2	3.1	3.1	3.2	3.2	3.2	3.1	3.1	3.0	3.1	3.0	3.0	3.2	3.3	3.7	3.8	3.9	3.9	3.8	3.8
Housing credit impulse (loan portfolio)	1.7	0.5	0.2	0.2	0.3	-0.1	0.1	0.0	-0.1	0.1	0.1	0.4	0.3	-0.1	0.0	-0.1	0.5	0.1	0.0	0.3	0.1	0.7	0.4	0.2	0.2	-0.2	0.1
Housing credit impulse (new loans)	0.6	0.3	-0.2	0.5	0.4	0.1	-0.2	-0.1	-0.1	-0.2	0.3	0.2	-0.1	-0.3	-0.1	-0.2	0.3	-0.4	0.0	0.7	0.6	1.7	0.5	0.2	0.0	-0.4	0.1
1-year difference of the household debt service to income ratio	0.0	0.0	0.0	0.0	-0.1	-0.1	-0.1	-0.1	-0.1	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.1	0.1	0.1	0.0	-0.1	-0.1	-0.1	-0.1	
House prices																											
1-year nominal growth of house prices	3.4	3.4	5.3	9.5	10.2	10.2	8.5	6.9	7.8	7.4	6.6	7.4	7.9	6.6	6.4	6.5	6.2	7.0	6.4	9.4	12.0	13.3	18.9	19.8	19.2	22.1	19.3
1-year real growth of house prices (adjusted for HICP)	2.7	3.0	4.9	8.2	7.0	6.6	3.9	2.7	4.6	4.7	4.3	4.9	5.7	3.9	4.0	4.4	3.7	6.3	5.5	9.1	11.1	9.8	13.0	9.5	4.6	3.0	-1.8
1-year real average growth of house prices (3-year annual average, adjusted for HICP)	4.2	4.5	6.7	6.0	5.5	4.6	4.5	5.1	5.0	5.0	4.6	5.5	6.1	5.3	4.2	4.2	4.9	5.2	4.8	6.5	7.3	7.1	8.0	8.3	6.8	6.7	5.7
1-year difference of the house price-to-rent ratio	-0.8	0.6	2.1	1.7	3.0	0.5	-2.0	-1.4	-2.3	-2.2	-0.5	-0.8	-0.5	1.0	-3.5	-2.9	-1.8	-2.1	3.0	2.2	3.2	5.3	4.6	7.9	3.4	-6.0	-4.1
1-year average difference of the house price-to-rent ratio (3-year annual average)	-2.4	-0.7	0.3	0.1	0.3	0.1	-0.2	0.0	0.0	-0.4	-0.1	-0.1	0.1	-0.3	-2.0	-1.7	-1.5	-1.1	-0.4	-0.5	0.3	1.4	1.3	2.4	1.6	-0.9	1.1
1-year difference of the house price-to-income ratio	-4.2	-4.6	-3.1	-0.3	0.2	-0.3	-1.5	-2.6	-2.0	-2.0	-2.9	-2.2	-1.5	-3.1	-3.1	-3.4	-3.3	-0.9	0.0	3.0	5.3	3.4	5.0	4.7	2.5	5.1	
1-year average difference of the house price-to-income ratio (3-year annual average)	-3.1	-2.7	-1.3	-1.9	-2.0	-2.5	-2.7	-2.3	-2.0	-2.3	-2.5	-1.7	-1.1	-1.8	-2.5	-2.8	-2.3	-2.0	-2.0	-0.9	0.2	-0.2	0.7	1.4	1.5	2.5	
Imbalance indicators																											
Credit																											
Gap between the broad credit to HH-to-GDP ratio and its long-term trend (Basel method)	-8.1	-7.9	-7.5	-7.3	-7.4	-7.2	-7.0	-7.2	-7.2	-6.8	-6.5	-6.3	-6.3	-6.0	-5.7	-5.4	-5.5	-4.6	-4.2	-3.9	-3.9	-3.9	-4.0	-4.2	-4.3	-4.4	
Gap between the broad credit to HH-to-GDP ratio and its long-term trend (LT method)	-2.1	-2.1	-1.9	-1.9	-2.2	-2.1	-2.1	-2.3	-2.4	-2.1	-2.0	-2.0	-2.1	-2.0	-1.8	-1.7	-1.9	-1.3	-1.1	-1.0	-1.2	-1.3	-1.4	-1.6	-1.7	-1.8	
Gap between the MFI credit to HH-to-GDP ratio and its long-term trend (LT method)	-2.1	-1.8	-1.7	-1.7	-1.9	-1.8	-1.9	-2.0	-2.1	-1.9	-1.8	-1.8	-2.0	-1.8	-1.8	-1.8	-1.8	-1.3	-1.3	-1.2	-1.1	-1.3	-1.4	-1.6	-1.8	-1.9	-2.2
House prices																											
Median of house price overvaluation indicators	-9.9	-9.4	-8.2	-6.9	-6.7	-5.4	-4.2	-4.5	-4.4	-3.6	-2.0	-2.3	-1.6	-1.9	-0.9	-0.9	-1.3	1.6	3.3	4.3	5.7	7.0	9.0	8.8	6.5	6.2	4.1
Gap between the nominal HPI and its long-term trend (HP filter)	-10.8	-9.5	-7.5	-5.5	-4.4	-2.9	-1.8	-1.5	-0.4	0.8	1.4	2.0	3.1	3.3	3.9	4.1	4.7	5.8	6.2	8.6	11.3	13.3	17.6	20.3	22.7	27.1	27.7
Gap between the real HPI and its long-term trend (HP filter)	-13.7	-13.1	-10.0	-8.8	-8.4	-8.0	-6.6	-6.6	-5.2	-4.7	-3.4	-3.2	-1.7	-2.5	-0.9	-0.9	-0.2	1.5	2.6	5.3	7.5	7.6	10.5	9.7	7.6	6.4	4.2
Gap between the house price-to-income ratio and its long-term trend	-9.1	-9.4	-8.9	-8.3	-9.0	-8.3	-8.2	-9.1	-9.3	-9.6	-9.6	-10.0	-14.3	-14.8	-14.8	-15.3	-16.6	-15.9	-17.3	-16.7	-14.8	-14.2	-10.2	-8.6	-8.8	-5.7	-3.9
Gap between the house price-to-rent ratio and its long-term trend	-25.6	-25.4	-24.6	-21.3	-18.5	-16.2	-16.2	-16.3	-15.5	-14.8	-14.8	-14.5	-14.5	-15.6	-15.3	-14.2	-12.9	-11.0	-10.2	-7.9	-3.8	-0.7	4.0	7.8	5.3	6.0	3.9
Gap between house prices and their long-term trend (1-market disequilibrium model)	-8.0	-7.2	-5.9	-5.4	-5.0	-1.9	-0.2	-2.4	-3.6	-2.6	-0.6	-1.3	-1.5	-1.2	-0.9	-0.3	-2.3	1.7	5.5	3.4	4.3	9.0	9.9	18.2	22.1	27.1	28.5
House price panel model	-4.6	-3.6	-2.2	-0.8	-1.6	-0.1	-0.4	-0.6	0.0	0.5	0.4	-0.3	-0.5	-0.9	-0.1	-0.9	-0.1	5.9	4.1	6.1	7.0	6.4	8.2	7.9	5.3	5.5	2.1

Notes: values are rounded; stages of some indicators are evaluated based on the percentiles of their values, hence in some instances cells that have the same value may be coloured differently.

Nominal housing lending remains intense, but the economy and house prices are growing faster, so there is no excess borrowing

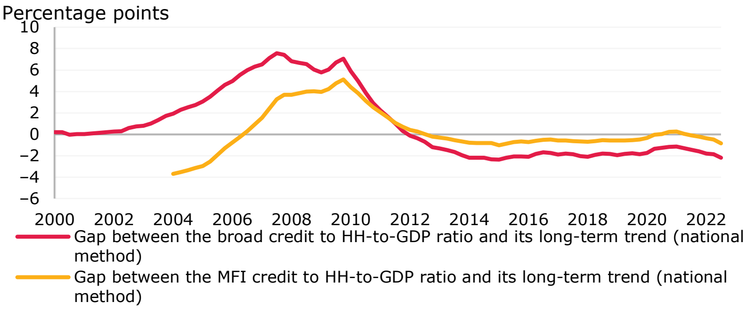
Chart 15. Housing credit developments (Q1 2007–Q3 2022)



Sources: State data agency, Bank of Lithuania and Bank of Lithuania calculations.

There is no excess housing lending

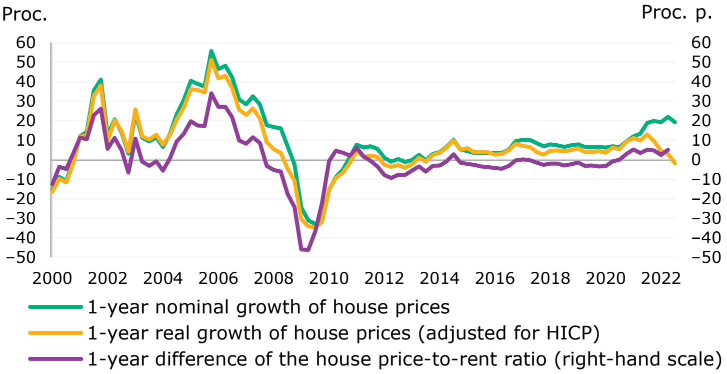
Chart 16. Household credit imbalances (Q2 2001–Q3 2022)



Sources: State data agency and Bank of Lithuania.
Notes: the long-term trend is computed by applying a one-sided HP filter with a smoothing parameter of 400,000; before applying the filter, the ratio is modelled for the next 5-year window using a 4-quarter weighted average.

Nominal house price growth is no longer accelerating, but it still outpaces wage growth, thus undermining housing affordability

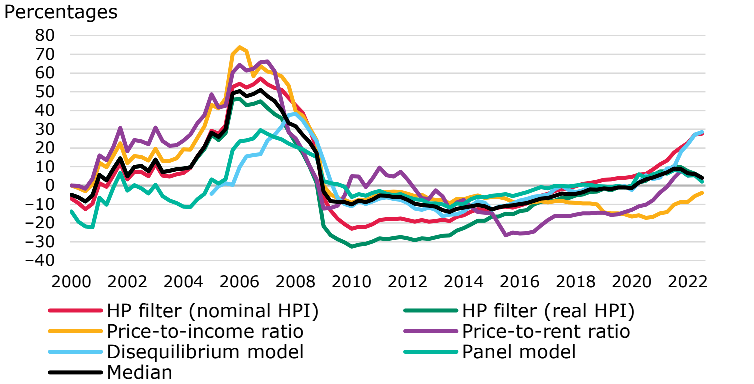
Chart 17. House price developments (Q1 2005–Q3 2022)



Sources: State data agency and Bank of Lithuania calculations.

House prices remain slightly overvalued, but overvaluation has decreased in recent quarters

Chart 18. Gap between actual house prices and their fundamental values (Q1 2000–Q3 2022)



Source: Bank of Lithuania calculations.