



LIETUVOS BANKAS
EUROSISTEMA

COUNTERCYCLICAL CAPITAL BUFFER

BACKGROUND MATERIAL FOR
DECISION

2 0 1 5

September

Abbreviations

AB	public limited liability company
BCBS	Basel Committee on Banking Supervision
CCB	countercyclical capital buffer
CRD IV	Capital Requirements Directive IV
EU	European Union
ESRB	European Systemic Risk Board
GDP	gross domestic product
MFI	monetary financial institution
p. p.	percentage points
SE	state-owned enterprise

The publication has been prepared by the Economics and Financial Stability Service of the Bank of Lithuania. It is available in PDF format on the Bank of Lithuania's web site www.lb.lt.

Unless otherwise specified, data up to 1 August 2015 were used. In addition, for the banking sector analysis, the consolidated data provided by banks operating in Lithuania, including foreign bank branches, were used, unless otherwise specified.

Periods indicated in chart subtitles also include data for the end of period (the year, quarter, etc.).

The decision basis for setting the countercyclical capital buffer rate

The Bank of Lithuania has set the CCB rate at 0 per cent, which will come into effect as of 30 September 2015. The decision was based on core and additional indicators for setting the CCB, as well as the latest analysis of the borrowing and housing markets.

The set of core indicators used to set the CCB reference rateⁱ does not show a build-up of increasing imbalances in the credit market. Although the portfolio of credit to the private sector increased by 1.7 per cent over the second quarter of 2015, it still remained smaller than a year ago (1.1%). In Q1 2015, the gap between the credit-to-GDP ratio and its long-term trend remained negative and, subject to the method of assessment, amounted to –6.9 per cent and –21.3 per cent. Additional indicators for setting the CCB, which include external (foreign) factors of the credit market and developments in the housing market, do not indicate any unsustainable developments in the lending market either. At the end of Q2 2015 the loan-to-deposit ratio was 104 per cent and continued to be significantly below its long-term average of 120 per cent. In Q1 2015 Lithuania's current account was in deficit, amounting to –1 per cent, but this was due to one-off factors rather than a structural decrease in economic competitiveness. Based on the Bank of Lithuania's June 2015 macroeconomic projections, the current account for 2015 should remain balanced.

Residential property prices remained below their long-term equilibrium value, while the gap changed marginally over the quarter. The ratio of housing prices to household income is still significantly (10%) smaller than this indicator's long-term trend. The ratio of housing prices to household income is still significantly (10%) smaller than this indicator's long-term trend. While trading in the real estate market was much more active in Q2 2015 than in the first three months of this year, the supply and demand trends within the property market indicate a low probability of inconsistent price growth in the near future. Various early warning indicators also show that, in the near future, the probability of the event of a systemic banking crisis due to excessive credit growth within the country is low. Various early warning indicators also show that, in the near future, the probability of the event of a systemic banking crisis, due to excessive credit growth within the country, is low.

ⁱ Resolution of the Board of the Bank of Lithuania No 03-143 of 18 September 2015 on the application of the counter-cyclical capital buffers.

ⁱⁱ The calculation of deviations of the credit-to-GDP ratio from its long-term trends is based, inter alia, by taking into account credit growth in the country and the ESRB recommendations currently in effect (for more information, see the Bank of Lithuania's Occasional paper No 5 "Anticiklinio kapitalo rezervo taikymas Lietuvoje").

Assessment of imbalances in the credit and housing markets

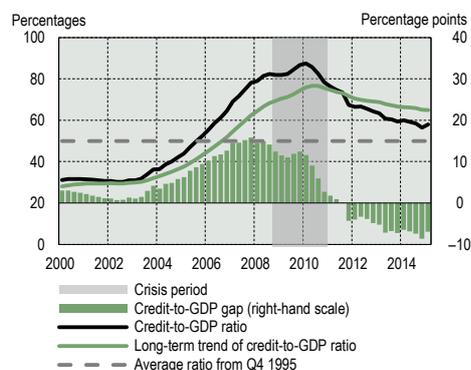
The gap between the credit-to-GDP ratio and its long-term trend remained negative in the first half of 2015 (see Chart 1); therefore, the reference rate for the CCB calculated by the Bank of Lithuania based on both the Basel method and the method augmented by a forecast was 0 per cent (see Chart 2). The CCB reference rate is computed using the data of credit to the private sector, which include all creditor-issued loans to non-financial corporations and households, as well as the holdings of debt securities issued by non-financial corporations. Subject to the method of assessment, the gap between the ratio of credit to the nominal GDP and its long-term trend remained negative and ranged from –6.9 per cent to –21.3 per cent. Compared to the previous quarter, the credit-to-GDP gap decreased slightly and became less negative. This was due to both a slowdown in GDP growth and a hike in credit extension. In Q1 2015, 69.4 per cent of the credit portfolio (i.e. a total of loans issued to the private sector and securities issued by non-financial undertakings) was comprised of other MFIs' (banks and credit unions) loans issued to the private non-financial sector; therefore the credit market analysis below is based on the latest loan data of other MFIs¹.

In Q2 2015, the indebtedness of the private non-financial sector remained broadly unchanged (see Chart 3). It was affected by an increase in the portfolio of loans to the private sector over the reference period (1.7%) and weaker nominal GDP growth than before (0.3%). The portfolio of loans to non-financial undertakings increased by EUR 148.7 million or 2.0 per cent over Q2 2015. Over the year, this loan portfolio continued to shrink, decreasing by EUR 302.3 million, or 3.9 per cent. In Q2 2015, the portfolio of loans to households

¹ Using MFI balance sheet statistics, adjusted for the elimination of MFIs that went bankrupt from statistics and other technical factors. For more information, see Annex 2 "MFI loan portfolio adjustment for technical factors" in December 2014 Lithuanian Economic Review (http://www.lb.lt/lithuanian_economic_review_december_2014).

Chart 1. Credit to private non-financial sector-to-GDP gap

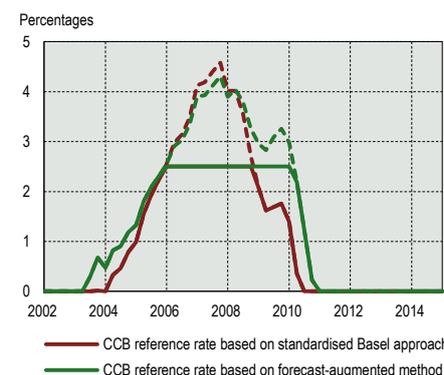
(Q1 2000 to Q1 2015)



Sources: Statistics Lithuania and Bank of Lithuania calculations.
Note: the long-term trend is estimated by applying a one-sided HP filter with the smoothing parameter 400,000; before applying the filter, the ratio is modelled for the next five-year window using a four-quarter weighted average.

Chart 2. CCB reference rates

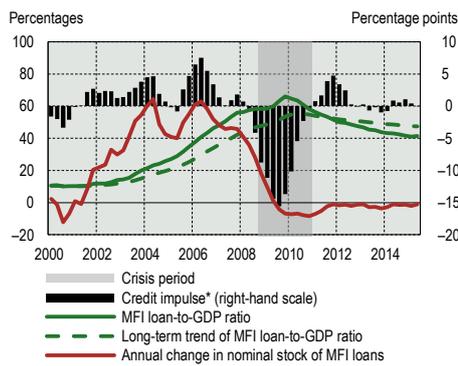
(Q1 2002 to Q1 2015)



Source: Bank of Lithuania calculations.
Note: dashed lines indicate the CCB reference rates when no ceiling of the CCB rate (2.5%) is applied.

Chart 3. Developments in MFI loans to private non-financial sector

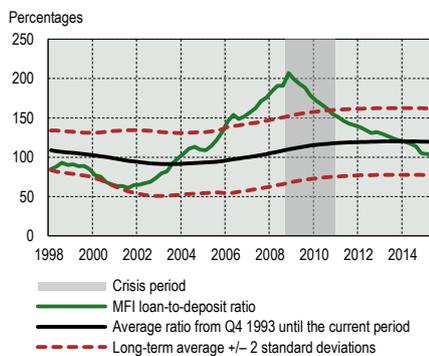
(Q1 2000 to Q2 2015)



Sources: Statistics Lithuania and Bank of Lithuania calculations.
Note: the long-term trend is estimated by applying a one-sided HP filter with the smoothing parameter 400,000; before applying the filter, the ratio is modelled for the next five-year window using a four-quarter weighted average.
* Annual difference of loan portfolio annual change as a percentage of GDP.

Chart 4. Private sector loan-to-deposit ratio

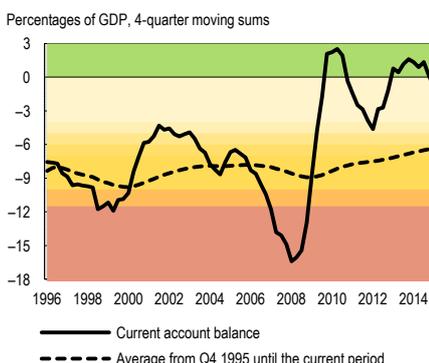
(Q1 1998 to Q2 2015)



Source: Bank of Lithuania calculations.
Note: the ratio develops in a balanced way if it does not deviate from its long-term average by more than two standard deviations. Standard deviations are computed on the basis of Q4 1993–Q1 2006 data covering the period of moderate changes in the ratio.

Chart 5. Current account balance

(Q1 1996 to 2015 Q1)



Sources: Statistics Lithuania and Bank of Lithuania calculations.
Note: different colours indicate different levels of risk which have been set based on Reinhart S. M. and V. R. Reinhart (2008): "Capital flow bonanzas: An encompassing of the past and present", NBER working paper, 14321.

increased by EUR 105.8 million, or 1.4 per cent (the year-on-year change amounted to approximately EUR 144.1 million, or 1.9%). As net growth in loans to the private sector increased over the quarter, but GDP growth slowed down moderately, the loan-to-GDP ratio hiked by 0.6 p.p. over Q2 2015 and amounted to 41.5 per cent. In Q2 2015, the credit impulse behind loans to the private sector credit, which is calculated as the loan portfolio's change acceleration to nominal GDP ratio², amounted to 0.0 per cent over the year (see Chart 3).

In Q2 2015, the loan portfolio extended to construction and real estate undertakings continued to decrease. The portfolio of loans to these economic activity undertakings, which, in Q2 2015, accounted for more than a third of the entire portfolio of loans to non-financial undertakings, decreased to 7.4 per cent over the year, meanwhile loans to energy supply, transportation, and storage and distribution enterprises, which accounted for a similar share, hiked by 8.7 per cent over the year. Banks are still cautiously assessing lending to undertakings related to real estate, while these tend to finance their activities with own funds rather. Economic activities related to the public sector (e.g., energy supply) or recovering consumption (e.g., trade, transport, production) were credited by banks somewhat more actively.

The portfolio of loans to households grew moderately. In June 2015 it was 1.9 per cent larger than a year ago. The impact on this stemmed both from the expansion of the portfolio of housing loans and growth in other loans to households (the latter strengthened in the first half of 2015). Recently residents have been borrowing relatively actively for consumption needs not only from banks, but other consumer credit providers and leasing undertakings as well. In Q1 2015, the portfolios of loans of consumer credit lenders and financial leasing undertakings issued to households for consumption boosted by 20.0 and 11.8 per cent respectively over the year.

In Q2 2015, the loan-to-deposit ratio of banks operating in the country remained broadly unchanged (see Chart 4). In Q2 2015, growth in deposits with banks lagged slightly behind growth in the portfolio of loans issued by banks, but this practically did not change the loan-to-deposit ratio. This ratio amounted to 104.0 per cent, a quarter-on-quarter decrease of 0.2 p. p. Compared to the long-term average (120%), the loan-to-deposit ratio was still low and indicated that almost all of the loans issued to the private sector equalled private sector deposits.

In Q1 2015, Lithuania's current account was only in small deficit (see Chart 5). The major influence on that came from a wider foreign trade deficit, growth in remittances from Lithuania related to equity instruments owned by foreigners and a decline in remittances to Lithuania by individuals living abroad. On the one hand, the current account balance became negative due to seasonal factors (financial year-end dividends paid), on the other hand this was due to structural changes such as a drop in export due to restrictions on foreign trade applied by Russia. Nevertheless, based on the Bank of Lithuania's June 2015 macroeconomic projections, the current account for 2015 should further remain balanced.

At the end of Q1 2015, not only credit market indicators, but also composite early crisis warning indicators suggested no build-up of imbalances in the financial sector (see Chart 6). The composite early crisis warning indicators, adapted for Lithuania, are used to summarise the state of the credit market, housing affordability, ability of borrowers to meet their financial liabilities and the development of the equity market.³ These indicators can be considered as estimates of the probability for a systemic banking crisis (in approximately a 5 y. period). Since 2012, these estimates have been close to 0;

² Biggs, M., Mayer, T. and Pick, A. (2009), "Credit and economic recovery". DNB Working paper No. 218/2009, July 2009.

³ Valinskytė, N. and Rupeika, G. (2015) "Leading Indicators for the Countercyclical Capital Buffer in Lithuania", Bank of Lithuania Occasional Paper Series, No. 4. Indicators are formed based on econometric models, which reflect various combinations of these measures: gap between the loan-to-GDP ratio and its long-term trend, annual change in housing prices-to-income ratio, debt service ratio, annual change in stock prices. The composite indicators show the estimates for the future probability of a systemic financial crisis and it is likely that they are more accurate than the single early warning indicators.

therefore, according to them, the probability of the event of a systemic banking crisis due to excessive credit growth in the future is low.

The level of indebtedness within the private non-financial sector is not likely to change much in the future. The commercial banks surveyed by the Bank of Lithuania in July 2015 expected more moderate loan portfolio growth this year than they did in April (2.2%, compared to 3.5%). Historical data shows that commercial banks tend to overestimate the expansion of the loan portfolio. Even if the commercial banks' optimistic projections materialised, the level of indebtedness would not change significantly as the growth of the loan portfolio projected by the commercial banks would not significantly exceed the growth of the nominal GDP projected by the Bank of Lithuania.

One-off factors are likely to have contributed to stronger growth in loans for household purchase as well. The increase in the share of transactions with pledge of real estate in the property market in Q2 2015 and stronger increase in the portfolio of loans for house purchase may in part have been triggered by the Responsible Lending Regulations to be amended as of 1 November 2015.⁴ Despite the fact that the Regulations are to be amended so as to be neutral in terms of credit growth (i.e. they would not affect most of potential debtors), households facing uncertainty about the changes may have rushed to transfer their plans for borrowing in the future to this period. This may lead to stronger growth in the portfolio of loans for house purchase in the short term; however, commercial bank lending surveys, conducted by the Bank of Lithuania, do not indicate that this is likely to become a long-term trend (in 2016, the annual growth rate of this loan portfolio is likely to be 1.6%).

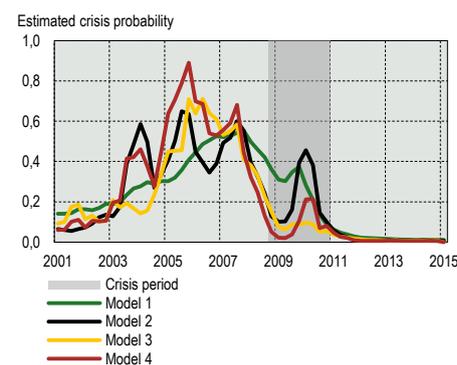
Even if, in the near future, the funding of the private sector would grow more rapidly than is indicated by banks, this would be compatible with the growing income of households. For example, one of the values indicating the households' debt burden — the ratio of the portfolio of loans for house purchase to total annual wages — in Q1 2015 amounted to 50.9 per cent, a quarter-on-quarter decrease of 1.4 p.p. Based on the Bank of Lithuania's projections for June 2015, in 2015 nominal wages in Lithuania will rise by 4.9 per cent, the number of employed — 0.6 per cent, while in the opinion of the surveyed commercial banks, the growth of the portfolio of housing loans to households would be about 1.9 per cent. Based on the Bank of Lithuania's projections for June 2015, in 2015 nominal wages in Lithuania will rise by 4.9 per cent, the number of employed — 0.6 per cent, while in the opinion of the surveyed commercial banks, the growth of the portfolio of housing loans to households would be about 1.9 per cent. If the projections materialise, the level of household indebtedness will continue to decrease in the future.

Residential property prices remained below their long-term equilibrium value, the gap changed negligibly over the quarter (see Chart 7). Lending to households for house purchase and residential property prices are closely related. The growth of housing prices, too heavily based on borrowed funds and not on underlying factors, such as general economic growth, wage increases, employment growth, etc., cannot be assessed as being sustainable. In Q2 2015, the indicator, based on the price to leasing ratio, showed that the gap was widening, since lease prices rose faster than housing prices (0.5 and 13.7% growth respectively since the beginning of the year). When assessing based on other indicators, it should be noted that the gap between housing value and the long-term equilibrium value did not change much, staying 10–19 per cent below it (a year ago — 11–14%). The gap between the ratio of housing prices to household income (applying the projections) and the long-term trend widened over 2014 due to growth in household income outpacing housing price increases and amounted to –8.7 per cent (up from –8.4% a year ago; see Chart 8).

In Q2 2015, trading in the property market was much more active than in

Chart 6. Composite early warning indicators for crisis in Lithuania

(Q1 2001 to Q1 2015)

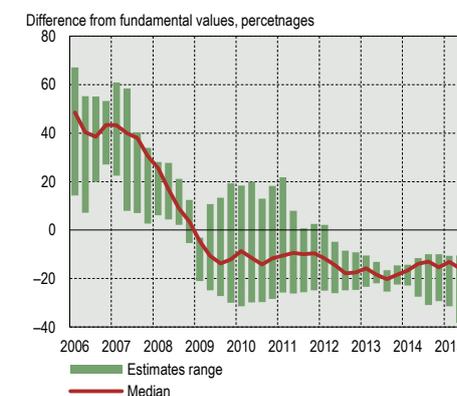


Source: Bank of Lithuania calculations.

Note: composite indicators are calculated based on logit models estimated in Detken et al (2014). Operationalising the countercyclical capital buffer: indicator selection, threshold identification and calibration options, ESRB Occasional Paper No. 5.

Chart 7. Dispersion of the gap between housing prices and long-term equilibrium value

(Q1 2006 to Q2 2015)

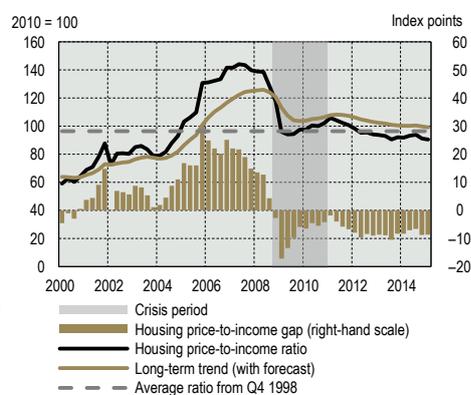


Source: Bank of Lithuania calculations.

Note: estimates are based on price to rent ratio, price to income ratio, econometric model and HP filter.

Chart 8. Long-term trend of the housing price-to-household income ratio and the gap between the ratio and the trend

(Q1 2001 to Q1 2015)



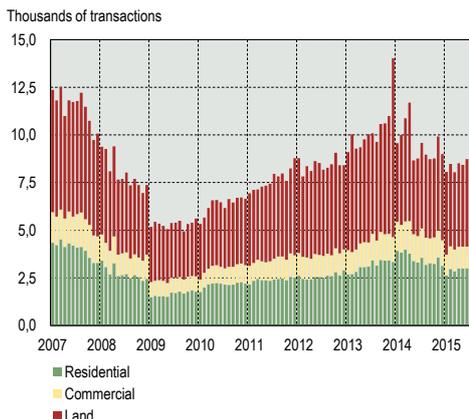
Sources: Statistics Lithuania and Bank of Lithuania calculations.

Notes: 1) income – household wages and salaries; 2) the long-term trend is estimated by applying a one-sided HP filter with the smoothing parameter 400,000; before applying the filter, the ratio is modelled for the next five-year window using a four-quarter weighted average.

⁴ See "Responsible Lending Regulations: Strengthening the Resilience of Borrowers to Adverse Interest Changes", 2 June 2015 press release in the Bank of Lithuania website. Internet access: http://www.lb.lt/atsakingoju_skolinimo_nuostatai_stiprinamas_skolininku_atparumas_nepalankiems_palukanu_pokyiams.

Chart 9. Activity of property market (seasonally adjusted)

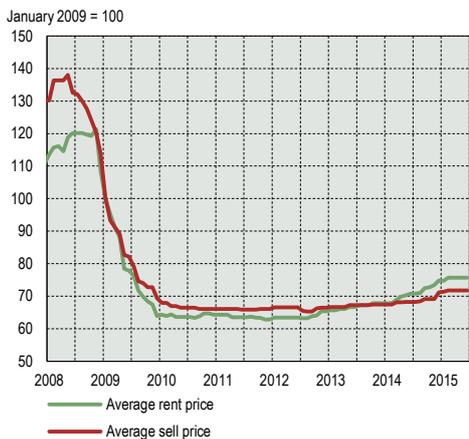
(January 2007 to July 2015)



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

Chart 10. Rent and sell prices of commercial property

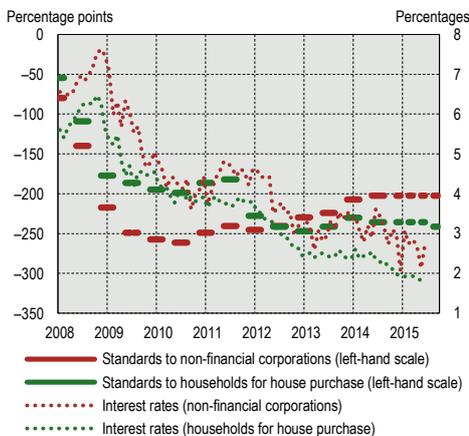
(January 2008 – June 2015)



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

Chart 11. Bank lending standards and interest rates for new private sector loans

(January 2008 to June 2015| the October 2015 forecast)



Sources: Bank lending surveys and Bank of Lithuania calculations.

the first three months of this year, but the number of purchase-sale transactions in the market decreased by 10.9 per cent over the year (see Chart 9). In Q2 2015, 27.9 thousand real estate objects were assigned, i.e. a third more than a quarter ago (eliminating seasonal influence — 3.7%). The recovery in activity was mainly due to trading in residential property (quarterly growth of 31.1%, eliminating seasonal influence — 6.8%), i.e. that market share where trading had been most subdued a quarter ago. Trading in non-residential real estate and plots of land, taking into account seasonal influence, remained broadly unchanged over the quarter.

House purchase transactions with funds borrowed from credit institutions in the period under review took place more often than usual over the previous five years. In Q2 2015, the share of housing purchased at least in part with borrowed funds was, on average, 7.9 p.p. larger than the 2009–2014 average and accounted for 37.3 per cent. It is likely that the inclination to purchase homes with a loan is a temporary phenomenon, encouraged by the upcoming amendments to the Responsible Lending Regulations from 1 November 2015. On the other hand, investing in housing in the low interest rate environment was still attractive, thus the number of those purchasing with own funds is not likely to decrease. In Vilnius, the annual profitability of middle class housing nominal lease amounted to 3.9 per cent⁵ at the end of Q2 2015 and was significantly higher than the average annual interest rates paid on deposits held with banks (0.2%).

While residential property market activity is relatively high, a large housing supply prevents significant increases in housing prices. According to provisional data, in Q2 2015 average housing prices in Lithuania dropped by 1.2 per cent, however remaining 2.6 per cent higher than a year ago. The prices of newly built housing continued to rise (at the quarterly rate of 1.7%) and were 2.4 per cent higher than a year ago. On the other hand, statistics gathered by market participants, which differ from the official statistics due to the different time of transaction recording, show that housing became 0.6 per cent more expensive in the second quarter, compared to the previous period. These changes are likely to be reflected in the official statistics at the end of the year, i.e. These changes are likely to be reflected in the official statistics at the end of the year, i.e. when they will be registered in the Real Estate Register. Price rising in the near future will continue to be prevented by a large supply of unsold new flats. According to data from market participants, the number of unsold new flats in already built homes increased by 5 per cent over the quarter and amounted to 1.1 thousand. Considering also the projects under development, this number amounted to 4.6 thousand (an increase of 1.5 thousand from the last year).

In Q2 2015, the activity in the non-residential segment of the property market also recovered (25.6% quarterly growth in purchase-sale transactions), albeit being 22.0 per cent lower than a year ago. In the first half of 2015, the sale and lease prices of commercial real estate remained almost unchanged (see Chart 10). Due to this, the ratio of office sale prices to leasing prices was stable and at the end of Q2 2015 was 4.7 per cent lower than the average for 2005–2015.

The probability of unbalanced credit growth in the near future remains low. Banks barely change their lending conditions (see Chart 11), which, historically, are relatively tight. Despite the increasing household borrowing, their income is growing more rapidly; therefore, aggregate indebtedness is decreasing. On the other hand, the inclination to borrow has recently been encouraged by one-off factors: the Responsible Lending Regulations will change as of 1 November 2015, therefore part of the households rushed to purchase a home, but this behaviour will most likely not become long-term trends. Moreover, even despite this temporary boost, housing deals are still most often made with non-borrowed funds.

⁵ These calculations were performed using data from UAB Ober-Haus, as in official statistics sources the price of housing lease is not presented by city. It can be assumed that a 60 sq. m. flat intended for leasing is newly built and over a year 1 per cent of its value is spent on its maintenance.

Annex. CCB reference rates and early warning indicators of the need to raise the CCB rate

Core indicators:

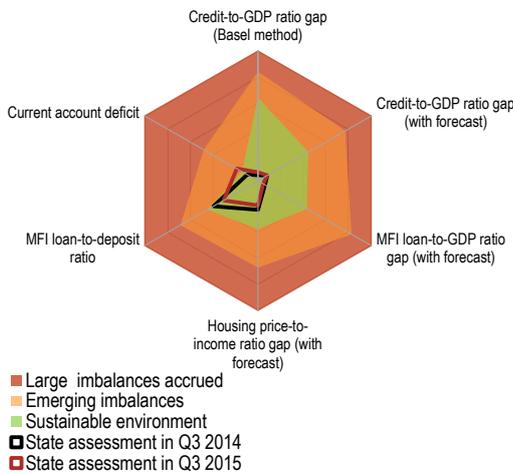
1. Credit-to-GDP gap (calculated using standardised Basel method)
2. Credit-to-GDP gap (calculated using forecast-augmented method)

Complementary indicators:

1. MFI loan-to-GDP gap (forecast-augmented)
2. Housing price-to household income gap (forecast-augmented)
3. MFI loan-to-deposit ratio
4. Current account balance (deficit)-to-GDP ratio

Chart A. Evaluation of credit market imbalances based on core and complementary indicators

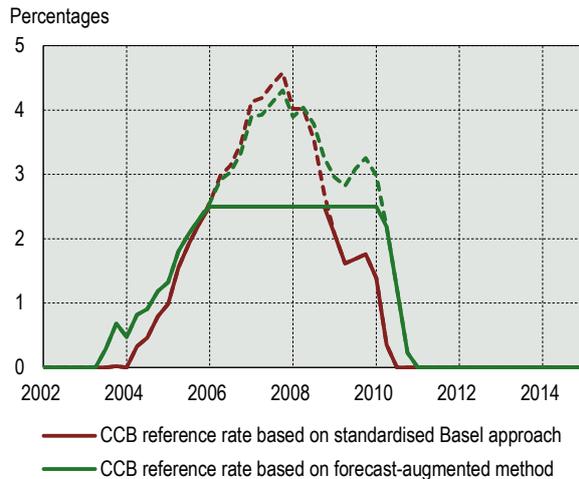
(evaluation carried in Q3 2015)



Sources: Statistics Lithuania and Bank of Lithuania calculations.
Note: axes are scaled according to the range of a particular indicator: from its minimal value up to the maximal value.

Chart B. CCB reference rates

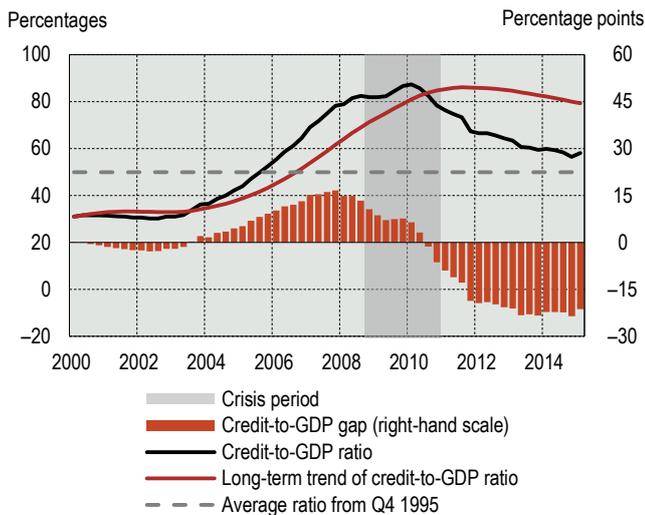
(Q1 2002 to Q1 2015)



Source: Bank of Lithuania calculations.
Note: dashed lines indicate the CCB reference rates when no ceiling of the CCB rate (2.5%) is applied.

Chart C. Core indicator I: credit to private non-financial sector-to-GDP gap (based on standardised Basel method)

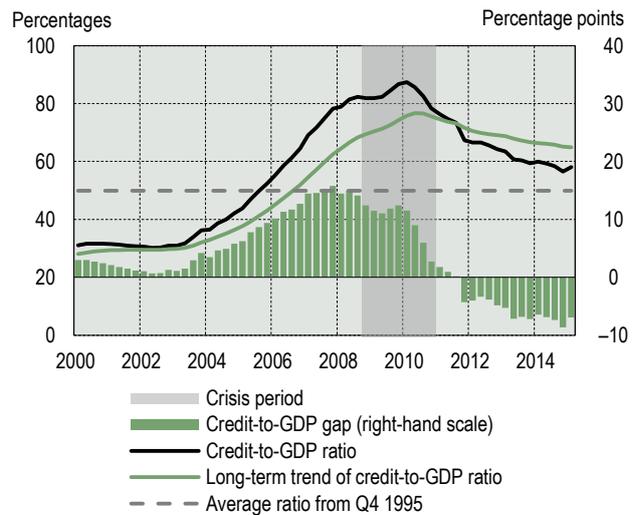
(Q1 2000 to Q1 2015)



Sources: Statistics Lithuania and Bank of Lithuania calculations.
Note: long-term trend is estimated using one-sided HP filter with a smoothing parameter 400,000.

Chart D. Core indicator II: credit to private non-financial sector-to-GDP gap (based on forecast-augmented method)

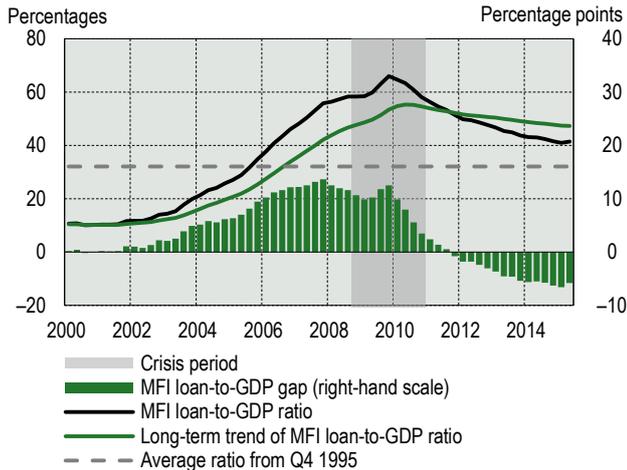
(Q1 2000 to Q1 2015)



Sources: Statistics Lithuania and Bank of Lithuania calculations.
Note: the long-term trend is estimated by applying a one-sided HP filter with the smoothing parameter 400,000; before applying the filter, the ratio is modelled for the next five-year window using a four-quarter weighted average.

Chart E. Complementary indicator I: MFI lending to private non-financial sector-to-GDP gap (forecast-augmented)

(Q1 2000 to Q2 2015)

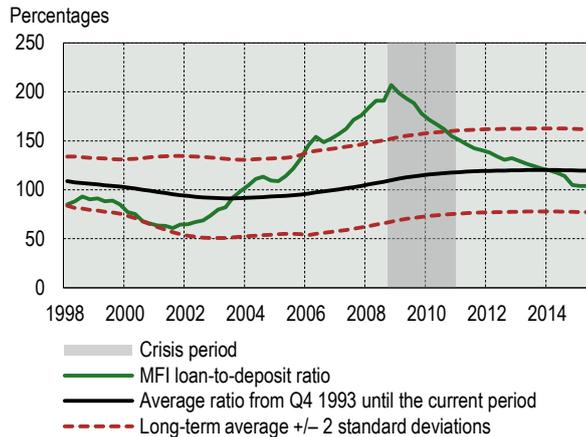


Sources: Statistics Lithuania and Bank of Lithuania calculations.

Note: the long-term trend is estimated by applying a one-sided HP filter with the smoothing parameter 400,000; before applying the filter, the ratio is modelled for the next five-year window using a four-quarter weighted average.

Chart G. Complementary indicator III: MFI lending to private sector-to-private sector deposits (seasonally adjusted) ratio

(Q1 1998 to Q2 2015)

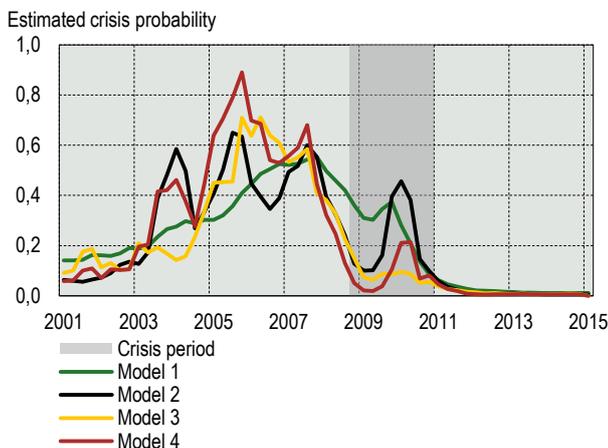


Source: Bank of Lithuania calculations.

Note: the ratio develops in a balanced way if it does not deviate from its long-term average by more than two standard deviations. Standard deviations are computed on the basis of Q4 1993–Q1 2006 data covering the period of moderate changes in the ratio.

Chart I. Composite early warning indicators for crisis, adapted to Lithuania

(Q1 2001 to Q1 2015)

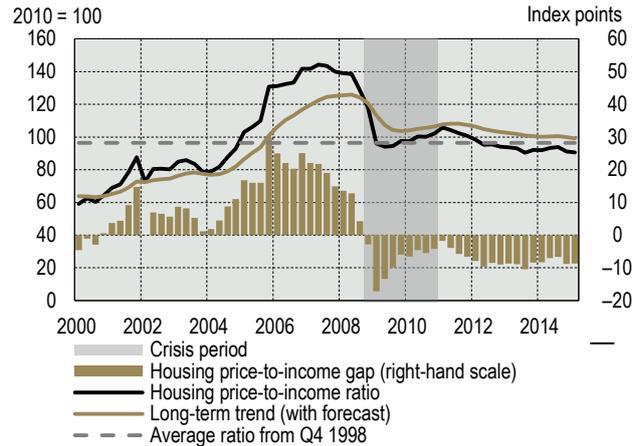


Source: Bank of Lithuania calculations.

Note: composite indicators are calculated based on logit models estimated in Detken et al. (2014), Operationalising the countercyclical capital buffer: indicator selection, threshold identification and calibration options, ESRB Occasional Paper No. 5.

Chart F. Complementary indicator II: housing price-to-household income gap (forecast-augmented)

(Q1 2000 to Q1 2015)

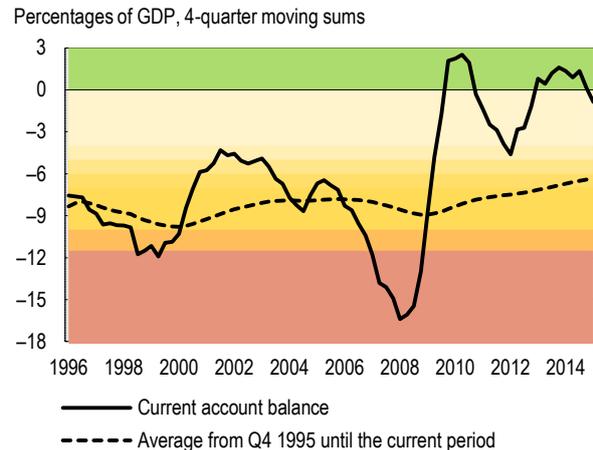


Sources: Statistics Lithuania and Bank of Lithuania calculations.

Notes: 1) income – household wages and salaries; 2) the long-term trend is estimated by applying a one-sided HP filter with the smoothing parameter 400,000; before applying the filter, the ratio is modelled for the next five-year window using a four-quarter weighted average.

Chart H. Complementary indicator IV: Current Account Balance

(Q1 1996 to Q1 2015)

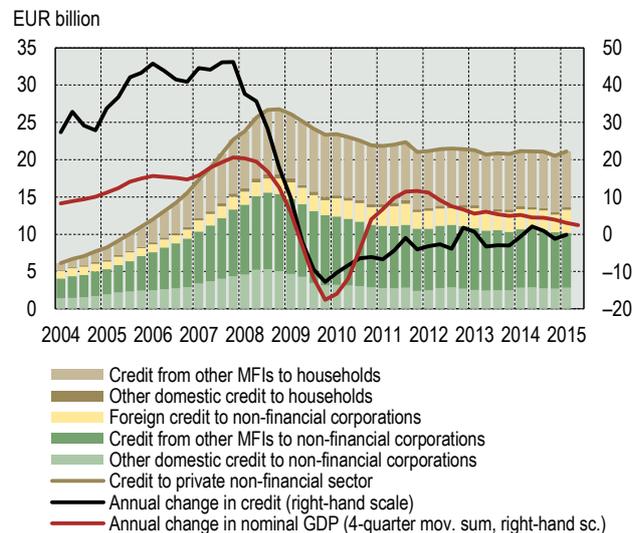


Sources: Statistics Lithuania and Bank of Lithuania calculations.

Note: colours indicate different levels of risk which have been set based on Reinhart S. M. and V. R. Reinhart (2008): "Capital flow bonanzas: An encompassing of the past and present", NBER working paper, 14321.

Chart J. Developments in credit and nominal GDP

(Q1 2004 to Q1 2015; nominal GDP growth — until Q2 2015)



Sources: Statistics Lithuania and Bank of Lithuania calculations.