COUNTERCYCLICAL CAPITAL BUFFER

BACKGROUND MATERIAL FOR DECISION

2 0 1 5

December

Abbreviations

AB	public limited liability company
CCB	counter-cyclical capital buffer
GDP	gross domestic product
ECB	the European Central Bank
ESRB	European Systemic Risk Board
MFI	monetary financial institutions
VĮ	state enterprise
p.p.	percentage points

The decision basis for setting the countercyclical capital buffer rate

The Bank of Lithuania took the decision to set the CCB rate at 0 per cent, which will come into effect as of 31 December 2015.[i] 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.

A set of core indicators used to set the CCB reference rate[ii] does not show a build-up of increasing imbalances in the credit market. In Q2 2015, the credit-to-GDP gap ratio and its long-term trend remained negative and, subject to the method of assessment, amounted to –6.8 and –20.9 p.p. The portfolio of credit to the private sector increased by 1.9 per cent over the third quarter of 2015, and was 0.9 per cent greater than a year ago. MFIs' loan portfolio for house purchase increased by 1.8 per cent over the third quarter of 2015, while the portfolio of consumer and other loans to households increased by 2.2 per cent; however, this growth is compatible with growing household income.

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 the third quarter of 2015, the loan-to-deposit ratio was 105.3 per cent and continued to be significantly below its long-term average of 119 per cent.

Residential property prices remained below their long-term equilibrium value, while the gap barely changed over the quarter. The ratio of housing prices to household income was still significantly (7.2 %) smaller than this indicator's long-term trend. While trading in the real estate market was much more active in the third quarter of 2015 than a year ago, 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 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 03-199 of 22 December 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 growth of credit 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").**
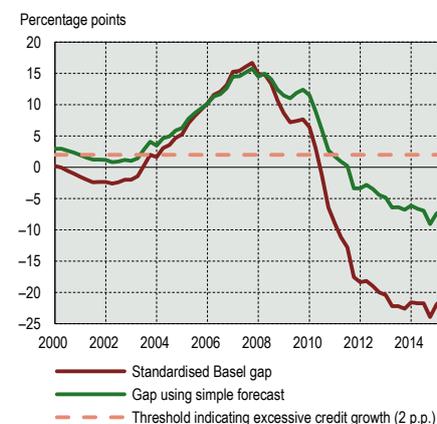
In recent years the credit market became more active, but its development remained sustainable

The gap between the credit-to-GDP ratio and its long-term trend was negative in mid-2015, but this difference decreased (see Chart 1). Despite this, 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. Depending on the assessment method, the gap between the credit-to-nominal GDP ratio and its long-term trends remained negative and amounted to –6.8 and –20.9 p.p. Compared to the first quarter of 2015, the negative gap between the credit-to-GDP ratio became respectively 0.6 and 1.1 p.p. smaller (from the beginning of the year — 3.1 and 2.2 p.p.). This was a result of slower nominal GDP growth, compared to the credit increase in the second quarter of this year. In the second quarter of 2015, 69.8 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 MFIs.[1]

In the third quarter of 2015, the portfolio of loans issued to the private non-financial sector increased. Over the third quarter it increased by 1.9 per cent, although at the same time the annual nominal GDP also grew (0.6%). The loan portfolio-to-GDP ratio increased over the third quarter of 2015 by 0.5 p.p. and amounted to 41.8 per cent (see Chart 3). The portfolio of loans to non-financial undertakings increased by EUR 150.0 million or 1.9 per cent over the third quarter of 2015. Over the year this loan portfolio con-

[1] Using the data from MFI balance statistics, adjusted for bankrupting MFI elimination from statistical and other technical factors. For more information, see the December 2014 Lithuanian Economic Review's Annex 2, "MFI loan portfolio adjustment for technical factors" (http://www.lb.lt/lietuvos_ekonomikos_apzvalga_2014_m_gruodzio_men.).

Chart 1. Credit-to-GDP gap ratio and its long-term trend

(Q1 2000–Q2 2015)

Percentage points

— Standardised Basel gap
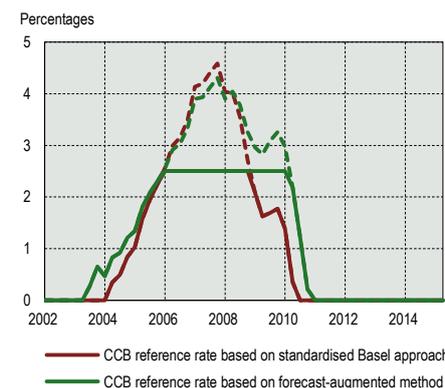— Gap using simple forecast
- - - Threshold indicating excessive credit growth (2 p.p.)

Sources: Statistics Lithuania and Bank of Lithuania calculations.

Chart 2. CCB reference rates

(Q1 2002–Q2 2015)

Percentages

— CCB reference rate based on standardised Basel approach
— CCB reference rate based on forecast-augmented method

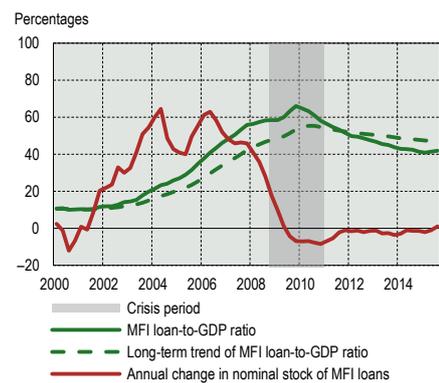*Source: Bank of Lithuania calculations.*
Note: dashed lines indicate the CCB reference rates when no ceiling of the CCB rate (2.5%) is applied.

Chart 3. Development of loans to the private non-financial sector

(Q1 2000–Q3 2015)

Percentages

Crisis period
MFI loan-to-GDP ratio
Long-term trend of MFI loan-to-GDP ratio
Annual change in nominal stock of MFI loans

*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 4. Net change of the flow of newly-issued housing loans and the number of housing transactions
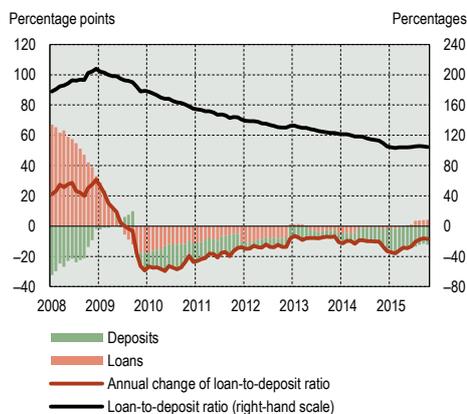
(June 2014–October 2015)

EUR million   Thousands of transactions

Net flow of new housing loans
Number of seasonally adjusted housing transactions
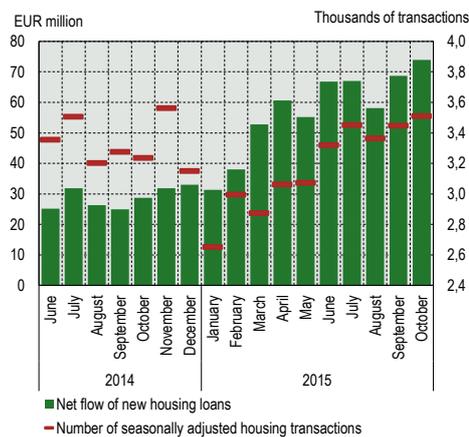
Sources: ECB and VĮ Registrų centras.

Chart 5. Contributors of loan-to-deposit changes among MFIs'

(January 2008–September 2015)

Percentage points   Percentages

Deposits
Loans
Annual change of loan-to-deposit ratio
Loan-to-deposit ratio (right-hand scale)

Source: Bank of Lithuania calculations.
Note: seasonally adjusted.

tinued to decrease (1.0%), although more slowly than a quarter ago. In the third quarter of 2015, the portfolio of loans to households increased by EUR 143.5 million or 1.9 per cent (over the year the change amounted respectively EUR 228.3 million or 3.0%). Over the second and the third quarter, the portfolio of loans to the private non-financial sector increased by EUR 0.5 billion, i.e. the most over a half year since early 2009. In the third quarter of 2015, the credit impulse of loans to the private sector (the loan portfolio's change acceleration) was positive and indicated moderately accelerating credit growth.

In third quarter of 2015, MFIs increased lending to trade and energy supply enterprises while decreasing lending to construction and real estate enterprises. The loan portfolio of enterprises related to real estate activities decreased by 2.3 per cent over the third quarter of 2015 (these loans comprised one third of the entire portfolio of MFI loans to non-financial corporations). Respectively, loans to energy supply and trade enterprises, which accounted for a similar share, hiked by 9.2 per cent over the quarter. The October 2015 bank lending survey shows that the financial situation of enterprises engaged in real estate and construction is assessed as being average or good. Nevertheless, lending to these enterprises did not increase; therefore, they increased financing from own funds. Economic activities, related to the public sector (i.e. energy supply) or consumption (i.e. trade, transport, production), were funded by banks somewhat more actively.

The growth of the loan portfolio for house purchase accelerated. The portfolio of housing loans increased by EUR 108.2 million or 1.8 per cent over the third quarter of 2015. In the aforementioned period, the net flow of new housing loans[2] amounted to EUR 194.0 million or 6.0 per cent more than a quarter ago (see Chart 4). In the third quarter the number of residential housing transactions amounted to 11.0 thousand or 12.6 per cent more than a quarter ago. In the second and third quarters of 2015, the accelerated growth in the portfolio of housing loans could have been in part encouraged by the amended Responsible Lending Regulations that entered into effect on 1 November 2015. The Regulations are to be amended so as to be neutral in terms of credit growth, households facing uncertainty about the changes may have rushed to transfer their plans for borrowing prior to the amendments coming into effect. Nevertheless, bank lending surveys, performed by the Bank of Lithuania, and other indicators do not indicate that this could become an unstable trend (in 2016 this loan portfolio should grow by about 1.9 per cent annually).

Households borrow from alternative subjects issuing consumer loans more actively. The portfolio of consumer and other loans to households increased by EUR 35.6 million or 2.2 per cent over the third quarter of 2015. Residents have been borrowing relatively actively for consumption needs not only from banks, but other consumer credit providers and leasing undertakings as well. In the second quarter of 2015, the portfolios of loans of consumer credit lenders and financial leasing undertakings issued to households for consumption boosted by 7.6 and 7.2 per cent respectively (up to EUR 386.8 million and EUR 149.7 million). Moreover, in recent years borrowing among households increased and there was growth in enterprises offering such services. In October, the balance of re-lent loans of *UAB Bendras finansavimas* (*SAVY*) amounted to EUR 2.0 million (an increase of one-fourth over the month); *UAB Finansų bitė* (*FinBee*) over the first month of its activities (August 2015) re-lent EUR 43.3 thousand; the pear-to-pear lending undertakings *Manu* and *Lendum*, although they do not yet operate, were included in the public list of consumer credit lenders.

In the third quarter of 2015, the loan-to-deposit ratio of banks operating in the country remained essentially unchanged (see Chart 5). In the third quarter of 2015, growth in deposits with banks lagged slightly behind the growth in the portfolio of loans issued by banks, but this practically did not

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[2] Difference between new agreements on loans and loans that were re-lent.

change the loan-to-deposit ratio. This ratio amounted to 105.3 per cent, a quarter-on-

quarter increase of 1.0 p.p. Compared to the long-term average (119%), the loan-to-deposit ratio remained low and indicated that almost all of the loans issued to the private sector are covered by deposits from the private sector.

In the first quarter of 2015, Lithuania's current account was in deficit. The main influence on that came from three factors: 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 nega- tive due to seasonal factors (due to dividends paid in the first half of the year), on the other hand this was due to structural changes. These changes were a drop in export due to restrictions on foreign trade applied by Russia, as well as more rapid than a year ago recovery in import, which in part could be related to the renewed activities of *AB ORLEN Lietuva*. Based on the Bank of Lithuania's macroeconomic forecasts for September 2015, the cur- rent account for 2015 will be in deficit (–1.9%) as a result of more rapid growth of imports and smaller transfers to Lithuania.

At the end of the third quarter of 2015, the composite early crisis warn- ing indicators suggested no build-up of imbalances in the financial sector (see Chart 6). The composite early crisis warning indicators, adapted for Lithuania, summarised the state of the credit market, housing affordability, the ability of borrowers to meet financial liabilities and the de- velopment of the equity market.[3] These indicators can be considered as estimates of the probability for a systemic bank crisis (approximately with a 5-year horizon). Since 2012, these estimates have been close to 0; there- fore, according to them, the probability of the event of a systemic banking crisis in the coming five years is low.

**The level of the private non-financial sector's indebtedness in 2015 should remain unchanged, while in 2016 it will most likely decrease.** In October 2015 the commercial banks surveyed by the Bank of Lithuania expected slightly more rapid portfolio growth this year and in 2016 than they did in July. Nevertheless, historical data shows that commercial banks are likely to overestimate the development of the loan portfolio. Even with the optimistic projections of commercial banks coming to pass, the level of in- debtedness would not change significantly as the Bank of Lithuania- projected nominal GDP growth in 2015 and 2016 would amount to 1.6 per cent and 4.4 per cent.

Even if, in the near future, the funding of the private sector would grow slightly more rapidly than is indicated by banks, this would be compat- ible 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 Q2 2015 amounted to 51.3 per cent, a year-on-year decrease of 1.9 p.p. Based on the Bank of Lithuania's projections for September 2015, in 2015 nominal wages in Lith- uania will rise by 4.5 per cent, the number of employed persons — 0.6 per cent (in 2016 the growth will amount to 4.9 and 0.3% respectively). In the opinion of the surveyed commercial banks, the growth of the portfolio of housing loans to households in 2015 and 2016 would be about 2.2 and 1.9 per cent respectively, while lending conditions should remain strict (see Chart 7).

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[3] Valinskytė, N. and Rupeika, G. "Leading Indicators for the Countercyclical Capital Buffer in Lithuania", Bank of Lithuania Occasional Paper, Series No 4, 2015. Indicators are formed based on econometric models, which reflect various combinations of these measures, gap between the loan-to-GDP ratio, housing prices and the annual change in the relationship between income, debt payments and receipts ratio, the annual change in the stock price. 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.

Chart 6. Composite early warning indicators for crisis in Lithuania

(Q1 2001–Q3 2015)
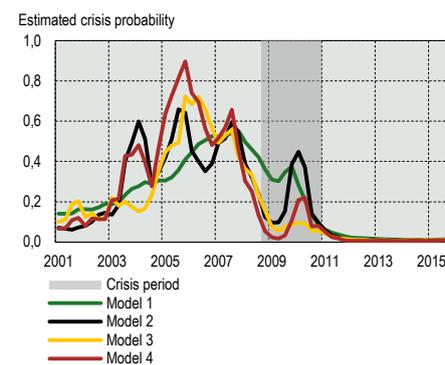
Source: Bank of Lithuania calculations.
Note: composite indicators are calculated based on logit models estimated in Detken et al (2014), Operationalising the countercyclical capital buffer: indicator selection, threshold identification and calibration options, ESRB Occasional Paper No. 5.

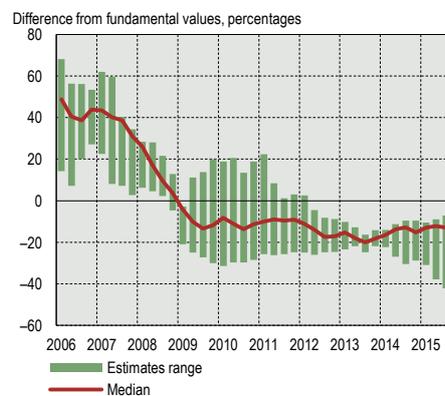**Chart 7. Bank lending conditions and loans to the private sector interest rates**

(January 2008–September 2015; December projections)
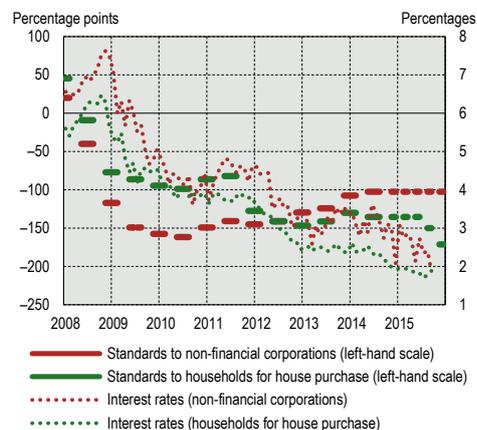
Sources: Bank lending surveys and Bank of Lithuania calculations.

Chart 8. Gap between housing prices and the long- term average

(Q1 2006–Q3 2015)

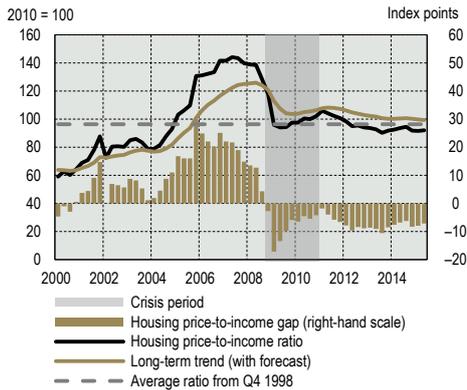*Source: Bank of Lithuania calculations.*
Note: estiamte are based on price to rent ratio, price to income ratio, econometric model and HP filter.

**Chart 9. Housing prices-to-household income gap (forecast-augmented)**

(Q1 2000–Q2 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.

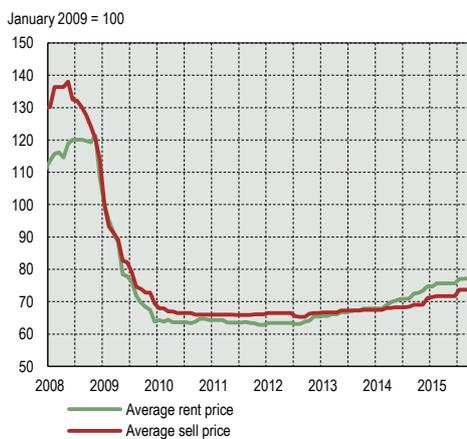**Chart 10. Activity of the real estate market (seasonally adjusted)**

(January 2007–September 2015)
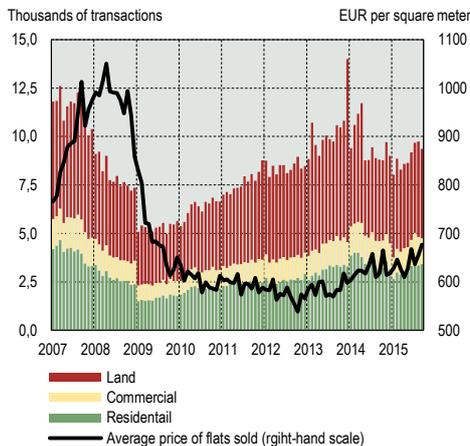
Sources: VĮ Registrų centras and Bank of Lithuania calculations.

Chart 11. Renting and selling prices of commercial property

(January 2008–September 2015)

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

The number of transactions and the price of housing in the real estate market are increasing, yet the latter remained below their long-term equilibrium value

Residential property prices remained below their long-term equilibrium value, the median of gaps changed slightly over the quarter (see Chart 8). 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 the third quarter of 2015, the indicator, based on the price to rent ratio, showed that the negative gap was widening. Other indicators show that the gap between housing value and the long-term equilibrium value did not change much, staying 9–17 per cent below it (in the second quarter — 10–14%). The gap between the ratio of housing prices to household income (applying the projections) and long-term trend over the second quarter of 2015 increased due to the more rapid growth of housing prices compared to household income and amounted to –7.2 per cent (up from –8.0% in first quarter; see Chart 9).

In the third quarter of 2015, the number of purchase-sale transactions in the real estate market increased (see Chart 10). In this period, 29.9 thousand real estate objects were assigned, i.e. 6.6 per cent more than in the previous quarter and 6.3 per cent more year-on-year (eliminating seasonal influence — 5.6% and 4.1% respectively). The growth in activity was mainly due to trading in residential property (quarterly growth of 12.6%, eliminating seasonal influence — 10.6%). Trading in non-residential real estate and plots of land, taking into account seasonal influence, grew over the quarter, by 17.5 and 3.1 per cent respectively.

The share of house purchase transactions with loans decreased slightly in this period, yet remained one of the highest over the past five years. In the third quarter of 2015 the share of housing purchased at least in part with borrowed funds was on average 35.9 per cent or 1.4 p.p. less than in the second quarter. Nevertheless, this share was 10.6 p.p. larger than the 2009–2014 average. It is likely that the increased inclination to purchase homes with a loan is a temporary phenomenon, encouraged by the amendments to the changes of Responsible Lending Regulations that came into effect on 1 November 2015. On the other hand, purchasing of housing for personal use or as an investment (to rent or sell later at a higher price) in the low interest rate environment remained attractive. In Vilnius, the annual profitability of middle class housing nominal rent amounted to 5.0 per cent[4] at the end of the third quarter of 2015 and was significantly higher than the average annual interest rates paid on loans for house purchase (1.9%).

More rapid growth of residential real estate prices over the quarter was limited by their large supply. According to data provided by VĮ Registrų centras, in the third quarter of 2015 average housing prices in Lithuania increased by 0.9 per cent and were 4.2 per cent higher than a year ago. The prices of newly built housing in Vilnius continued to rise (at the quarterly rate of 3.0%) and were 2.7 per cent higher than a year ago. Large supply of unsold new flats will prevent the significant rising of prices in the near future. According to data from market participants, the number of new flats (unsold or reserved in homes that have already been built or are under construction) increased by 6.8 per cent over the quarter and amounted to 4.9 thousand (a year-on-year increase of 0.9 thousand).

In the third quarter of 2015, the number of transactions in the commercial real estate market increased, both sale and rent prices grew. The number of purchase-sale transactions grew 13.5 per cent over the quarter and was 14.4 per cent greater than a year ago. The sale and rent prices of commercial real estate in the period under review increased by 2.8 and 1.9 per cent respectively (see Chart 11). Due to this, the profitability of office renting did not change much and at the end of the third quarter of 2015 was 0.3 p.p. lower than the average for 2004–2015.

[4] 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
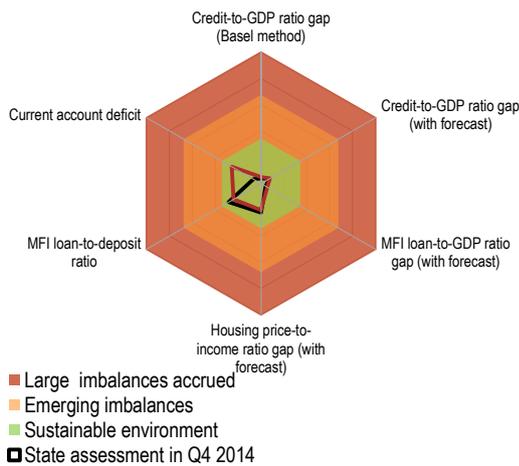
Core indicators:

1. Credit to the private non-financial sector-to-GDP gap (calculated using standardised Basel method)
2. Credit to the private non-financial sector-to-GDP gap (calculated using forecast-augmented method)

Complementary indicators:

1. MFI lending to private non-financial sector-to-GDP gap (forecast-augmented)
2. Housing prices-to-household income gap (forecast-augmented)
3. MFI lending to private sector-to-private sector deposits (seasonally adjusted) 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 Q4 2015)

- Large imbalances accrued
- Emerging imbalances
- Sustainable environment
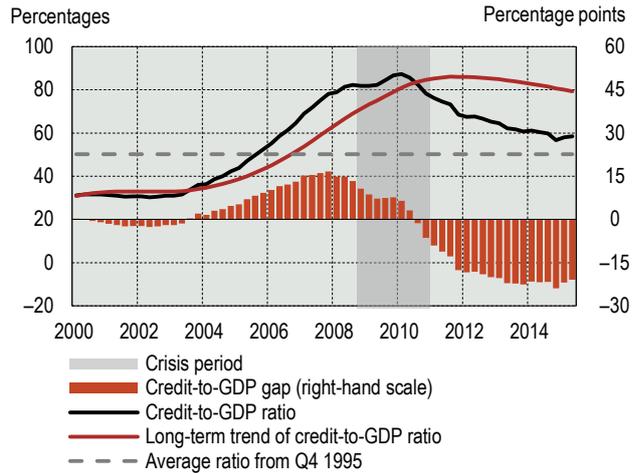- State assessment in Q4 2014

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. Core indicator I: credit to the private non-financial sector-to-GDP gap (calculated using standardised Basel method)

(Q1 2000 to Q2 2015)

- Crisis period
- Credit-to-GDP gap (right-hand scale)
- Credit-to-GDP ratio
- Long-term trend of credit-to-GDP ratio
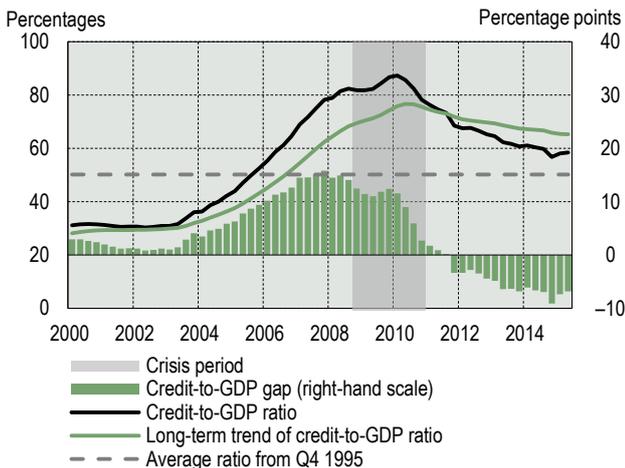- Average ratio from Q4 1995

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 C. Core indicator II: credit to private non-financial sector-to-GDP gap (forecast-augmented)

(Q1 2000 to Q2 2015)

- Crisis period
- Credit-to-GDP gap (right-hand scale)
- Credit-to-GDP ratio
- Long-term trend of credit-to-GDP ratio
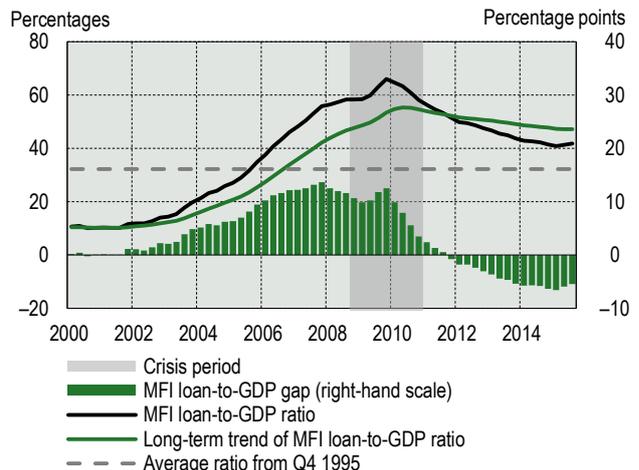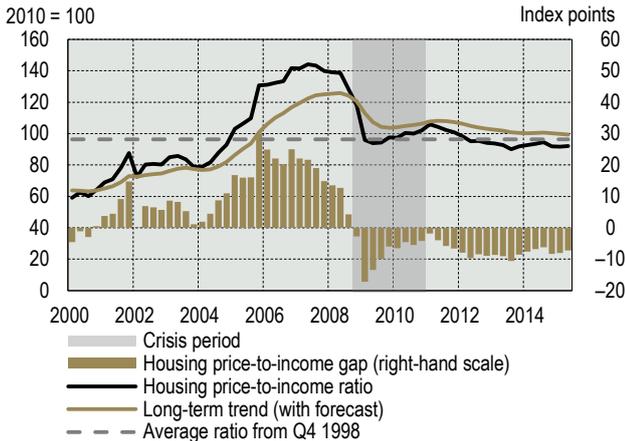- Average ratio from Q4 1995

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

(Q1 2000 – Q3 2015)

- Crisis period
- MFI loan-to-GDP gap (right-hand scale)
- MFI loan-to-GDP ratio
- Long-term trend of MFI loan-to-GDP ratio
- Average ratio from Q4 1995

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 II: Housing prices-to-household income gap (based on forecast-augmented method)
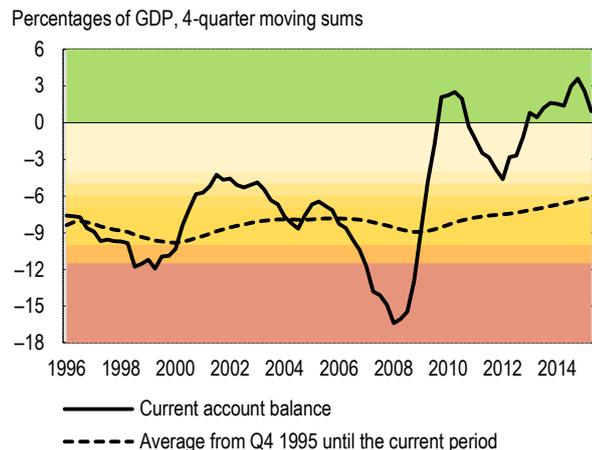
(Q1 2000–Q2 2015)

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

(Q1 1998–Q3 2015)
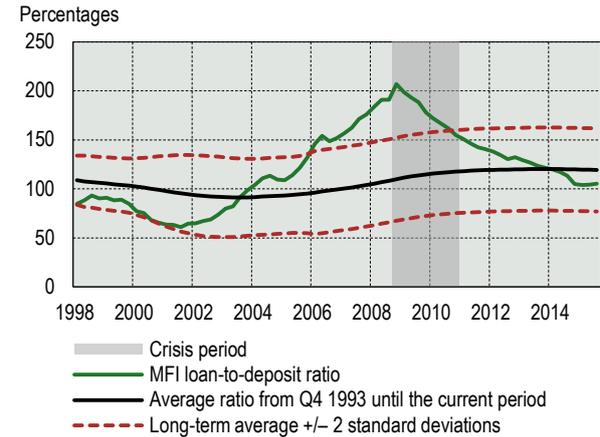
Source: Bank of Lithuania calculations.
Note: the ratio develops in a balanced way if it does not deviate from its long-term average by more than two standard deviations. Standard deviations are computed on the basis of Q4 1993–Q1 2006 data covering the period of moderate changes in the ratio.

Chart G. Complementary indicator VI: current account balance (percentages of GDP, 4-quarter moving sums)
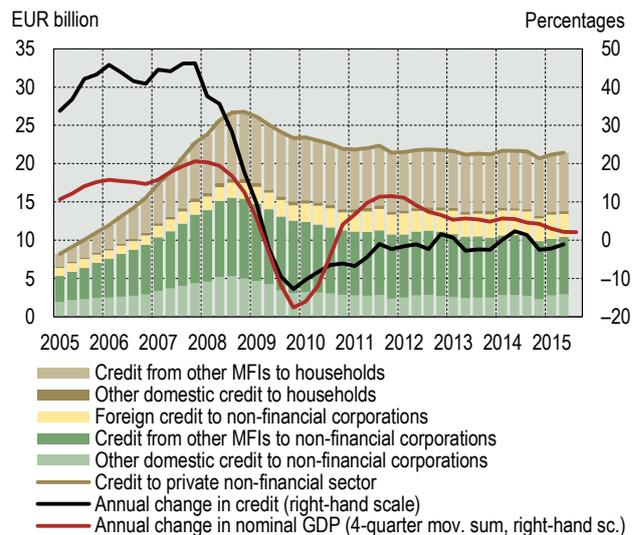
(Q1 1996–Q2 2015)

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 H. Developments in credit and nominal GDP

(Q1 2005–Q2 2015; nominal GDP growth — until Q3 2015)

Sources: Statistics Lithuania and Bank of Lithuania calculations.