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ABBREVIATIONS

AB	public company
CDS	credit default swap
CRD IV	Capital Requirements Directive IV
CSD	Central Securities Depository
DSTI	debt-service-to-income ratio
EBA	European Banking Authority
ECB	European Central Bank
EIOPA	European Insurance and Occupational Pensions Authority
EU	European Union
EURIBOR	euro interbank offered rate
GDP	gross domestic product
GS	government securities
HICP	harmonised index of consumer prices
IMF	International Monetary Fund
LCR	liquidity coverage ratio
LTI	loan-to-income ratio
LTV	loan-to-value ratio
LCCU	Lithuanian Central Credit Union
MFI	monetary financial institution
PF	pension funds
p.p.	percentage point
UAB	private company
US	United States of America
VILIBOR	Vilnius Interbank Offered Rate
VĮ	state enterprise

The Review was prepared by the Financial Stability Department of the Economic and Financial Stability Service of the Bank of Lithuania.
The Review is available in the PDF format on the website of the Bank of Lithuania at **www.lb.lt.**

The Review is based on the data available before 1 May 2015.
The periods specified in chart subheadings include the data of the cut-off date of a respective period (year, quarter, etc.).
Consolidated data of the banks operating in Lithuania, including foreign bank branches, is used to analyse the banking sector, unless specified otherwise.

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SUMMARY

The growth of advanced economies gathered pace in 2014 but the Russian economy, which is a major market for Lithuania's exporters, took a turn for the worse. The euro area, which accounts for the biggest chunk of Lithuania's visible and invisible exports, last year exited the recession and its economy is expected to grow in 2015. However, uncertainty about the future still remains heightened because of the geopolitical tensions lingering in the east of Europe due to the Russia-Ukraine conflict and the concerns about the lack of progress in tackling Greek public debt issues, which are prevalent in the western part of the region. Hit by the collapse in oil prices and economic sanctions, the economy of Russia, which is a major trade partner for Lithuania, is forecast to suffer a substantial recession in 2015, which will continue as long as until 2017 and will hamper the growth of other economies via weaker external demand. These trends of economic development in Europe shaped up in the context of a loose monetary policy, which also had repercussions for the Lithuanian economy. Investors' search for yield triggered rapid growth in prices for financial assets and brought the yields on the country's long-term government securities close to zero.

The country's commercial banks – the biggest institutions of the financial sector – are profitable and resilient to adverse shocks, despite differences in wellbeing on an individual level. Early in 2015, the banks' average capital adequacy ratio was more than twice the minimum requirement and the capital of the banks operating in Lithuania was almost entirely classified as top quality, i.e. composed of equity and retained profit. The banks' loan portfolio continued to record improvements in quality and the assets of the Lithuanian banks under the direct supervision of the ECB scored some of the best marks among the banks included in the comprehensive asset quality review conducted by the euro area's central bank. On the other hand, the banks operating in the country continue to build their resilience against adverse shocks through the ongoing reduction of risks taken on board, which leads to a decrease in risk-weighted assets. As investment in relatively safe assets becomes less lucrative in the prolonged low interest rate environment, a too cautious approach to risk assessment may undermine, in the long term, the banks' efforts to pursue the return demanded by shareholders. Moreover, even though the stress tests conducted by the Bank of Lithuania proved the resilience of the country's banks, even to the most adverse of market developments, some of the banks barely managed to meet the minimum capital adequacy requirement. Smaller players of the financial sector, i.e. pension funds and insurance undertakings, saw an increase in demand for their products in the period under review. The entities active in these market segments had a low risk of insolvency. Moreover, the tests conducted by the European Insurance and Occupational Pensions Authority (EIOPA) have shown that the insurers registered in Lithuania would safely meet the solvency capital requirement ratio of 100 per cent even in the most adverse circumstances.

A potential increase in credit risk for exporters, which might be triggered by adverse economic developments in the country's key export markets, remains the most acute concern. The outlook for trade with the euro area's countries has improved, in contrast to the prospects of trade with Russia, which look much grimmer. The risk posed by prolonged low interest rates also remains acute for the Lithuanian financial system, given the effects of such rates on non-professional market players and their borrowing decisions, on prices for financial assets and on incentives to invest in real estate. Although the risk stemming from potential shocks in the Nordic financial systems also remains relevant for the Lithuanian financial system, the banks operating in Lithuania have reduced their dependence on external funding. Moreover, Lithuania's entry into the euro area has provided the country's banks with broader access to liquidity. As regards the credit union sector, which, however, is not prominent as part of the financial industry, the most pressing risk continues to be associated with a snapback in risk premia, which have been exceptionally low due to the prolonged period of accommodative monetary policy stance.

Despite the growth of domestic economy and improvements in the financial health of the private sector, credit activity remained muted in 2014 and in the first half of 2015. The leverage level of the private sector decreased in the period under review as the portfolio of MFI loans recorded a negative annual growth rate, as opposed to positive growth in nominal GDP. Although non-financial corporations were in better financial health than the year before, they often shied away from taking on additional financial liabilities in an environment full of geopolitical uncertainty. On the other hand, the non-interest rate lending standards maintained by banks (e.g. collateral requirements) were stringent. The results of surveys of non-financial corporations on lending standards conducted by the Bank of Lithuania suggest a rejection rate of approximately 20 per cent for all loan or loan modification applications. At the same time, household income and other measures of financial wellbeing showed rapid improvements. In spite of that, the growth of lending to households was subdued.

Although the activity of the real estate market followed a choppy path of growth in 2014 and in the first half of 2015, it was not sufficient to throw the prices out of balance. Early in 2014, real estate sales activity was mostly fuelled by expectations of an increase in prices for both residential and other types of properties after the national currency changeover. The same time period also saw an increase in the number of Lithuanian expats buying a house in their home country. Real estate market activity slowed down in the latter half of 2014 and approached the level of 2013 after the switchover to the euro. Although a spike in market activity observed early in 2014 triggered a rebound in house prices, in particular in prices for new homes, the construction sector was quick to respond to this increase in demand. As a result, prices stopped rising and may even decline in 2015 amid increased supply. Lending entailed no risks of imbalance in the housing market as home transactions involving a loan accounted for approximately one-third of the total in 2014 and for about one-fourth in the first half of 2015. The segments of land parcels and commercial properties also showed sustainable developments in both activity and prices.

In 2014, the Bank of Lithuania was entrusted with a mandate to conduct macro-prudential policy, which has as its aim to contrib-

ute to the enhancement of the financial sector and to ensure its sustainable input into the economy. To make this objective clear and transparent, the Bank of Lithuania adopted a macro-prudential policy strategy, which established the main and intermediate targets of this policy as well as the procedures for decision-making, publicity and coordination with other institutions. Moreover, in 2015, the Bank of Lithuania amended its Responsible Lending Regulations with the aim to protect borrowers from excessive debt in the environment of low interest rates. Competent authorities moved forward with the reorganisation of the credit union sector as they sought to ensure its sustainability and substantial contribution to the country's economic growth. In particular, the Ministry of Finance of the Republic of Lithuania and the Bank of Lithuania were tasked with drafting, by mid-2015, a legislative package required to implement the sector's reform. Moreover, the legislation adopted in 2015 has paved the way for the Bank of Lithuania to apply new capital buffers, including a 2.5 per cent capital conservation buffer, which will be introduced on 30 June 2015. In the first month of summer, the Bank of Lithuania will decide on the introduction of a countercyclical capital buffer. Moreover, it plans to roll out, by the end of the year, a list of other systemically important institutions specifying the additional capital buffers prescribed thereto. In addition to macro-prudential policy developments, the year 2015 will also see changes in the financial market infrastructure, which will be triggered by the country's integration into the Single Euro Payments Area (SEPA) and will require intensive preparations on the part of banks.

I. STATE OF THE FINANCIAL SYSTEM AND ITS OUTLOOK

FINANCIAL MARKETS AND THE ECONOMY

In 2014, the Lithuanian economy continued its growth, which, however, was suppressed by the consequences of geopolitical tensions in the east of Europe. Even though the Lithuanian economy last year expanded at one of the fastest rates in the EU (the annual change in real GDP was 2.9%), the pace of growth was slower than expected early in the year (3.6%). Moreover, the economic growth forecasts for 2015 were (and continue to be) revised down repeatedly (see Chart 1). Concerns over the military conflict in Ukraine and its further development as well as Russia's trade restrictions derailed the investment plans of the Lithuanian companies, which were forced to seek alternative, but often less lucrative export markets. These restrictions led to an increase in the supply of food products and to a slump in their prices in Lithuania. The halving of crude prices in the second part of 2014 added downward pressure on the prices of other consumer goods. Those factors working together brought down annual inflation in Lithuania, which hit the low of –1.8 per cent early in 2015. On the other hand, lower prices gave a boost to the purchasing power of the country's consumers and, therefore, triggered improvements in their financial wellbeing. Moreover, the growth of the economy pushed the unemployment rate in Lithuania further down until it reached 10.1 per cent at the end of 2014, which was well below the euro area average (see Chart 2).

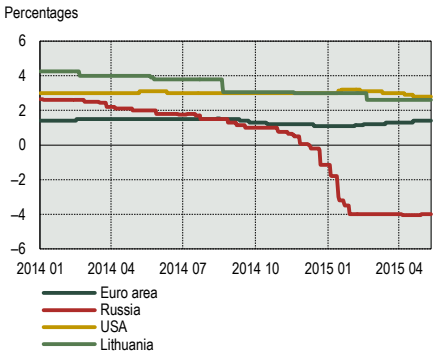
The recovery of advanced economies gathered speed in 2014 and in the first half of 2015 whereas the Russian economy went into decline. The euro area's economy, which moved into recovery after the recession, expanded by 0.9 per cent in 2014 and the growth is expected to pick up further next year (see Chart 1). The US economy, which has been on a growth track since 2010, performed even better last year and the UK economy improved as well. These growth trends of the world's major economies boosted demand for exports from other regions and countries, including Lithuania. On the other hand, China's economic expansion continued to decelerate at a moderate pace in 2014. At the same time, heightened geopolitical tensions in the east of Europe, coupled with a slump of oil prices, crippled the Russian economy. If the situation remains broadly unchanged, the Russian economy, as estimated by the IMF, will contract by up to 3.8 per cent in 2015, which will constrain economic growth in the entire Eastern European region.

In the uneven economic growth among the world's major countries and regions, the monetary policy of the major global central banks has started to diverge. The ECB twice cut its benchmark interest rate (to 0.05%) in 2014 and embarked on a large-scale euro area sovereign bond purchase programme in March 2015 as it sought to support the still fragile economic recovery in the euro area and pursued its mid-term target of annual inflation of 2 per cent. The other three major economy central banks, i.e. the central banks of the United States, the United Kingdom and Japan, also remained on the accommodative path of monetary policy. These banks maintained their benchmark interest rates at the historically low levels and the Bank of Japan, in addition, further increased the scale of its quantitative easing programme. On the other hand, the Federal Reserve, keeping true to its plans, wound up its massive asset purchases in the autumn of 2014 as the US economy continued along a strong growth path. Moreover, the US central bank is widely tipped to be the first of the major central banks to start raising its benchmark rate in 2015. These divergent monetary policy stances are likely to suppress the growth of securities' prices in the United States and accelerate their growth in Japan and Europe, which will probably lead to increased volatility of such prices in the global financial markets.

The accommodative monetary policy stance maintained by the ECB continued to drive down the interest rates in Lithuania and all across the euro area and weakened the euro. As the ECB kept cutting its key interest rate in 2014 and the liquid assets of the euro area banks remained in surplus, the interbank lending rates in the euro area (EURIBOR) followed a downward path last year. In a further development, the three-month EURIBOR interest rate moved into negative territory early in 2015. Once the Bank of Lithuania joined the Eurosystem as a member, EURIBOR replaced the domestic benchmark rates (VILIBOR), which led to a substantial decrease in the interest rates offered to the Lithuanian private sector. Moreover, efforts by global investors to redirect their capital flows to countries with higher interest rates depressed the

Chart 1. Evolution of forecasts for real GDP growth in 2015

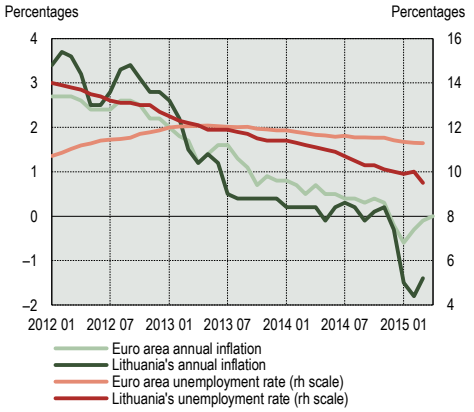
(1 January 2014–1 May 2015)



Source: Bloomberg.
Note: the forecasts used by Bloomberg build upon the average economic growth forecasts from the most influential global institutions.

Chart 2. Inflation and unemployment rate in Lithuania and euro area

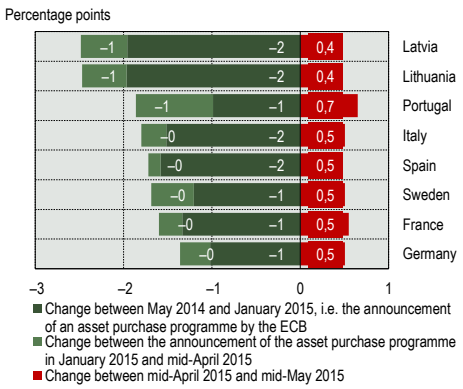
(January 2012–May 2015)



Sources: ECB and Eurostat.

Chart 3. Evolution of yields on 10-year sovereign debt of selected euro area countries

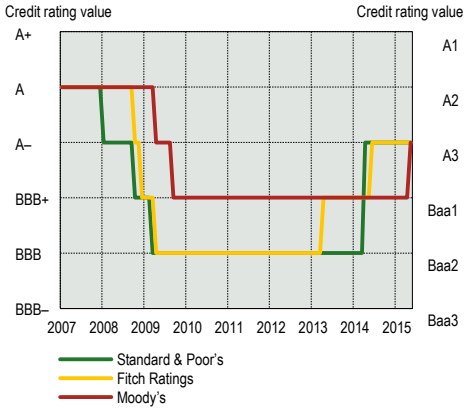
(1 May 2014–15 May 2015)



Source: Bloomberg.

Chart 4. Credit ratings of Lithuania's debt in foreign currency

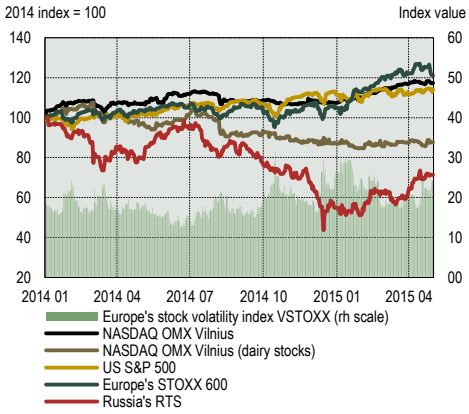
(January 2007–May 2015)



Sources: Moody's, Standard & Poor's and Fitch.

Chart 5. Global stock market indices

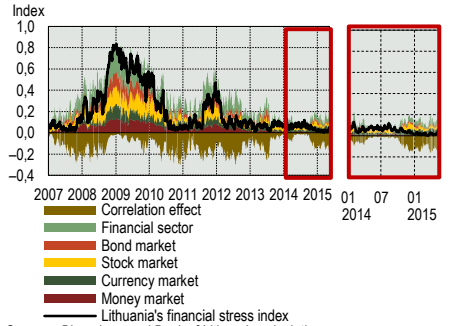
(1 January 2014–1 May 2015)



Sources: Bloomberg.

Chart 6. Lithuania's financial stress index

(1 January 2007–1 May 2015)



Sources: Bloomberg and Bank of Lithuania calculations.
Note: the correlation effect shows a system-wide stress; the financial stress index declines with the weakening of the relationship between market indices. See Hollo, D., Kremer, M. and Lo Duca, M. 2012. CISS - A Composite Indicator of Systemic Stress in the Financial System. ECB, Working Paper Series, No 1426.

demand for the euro currency and triggered its fall. Eventually, the euro plunged to its lowest level against the US dollar since as far back as 2003 early in 2015. In the mid-term, the weakening euro should help spur economic activity in Lithuania and the whole euro area as the threat of deflation will abate and the demand for products exported to other regions will expand (for more details see "**Error! Reference source not found.**" n Section II of this review).

Bond prices in the euro area performed strongly in 2014 as the measures taken by the ECB to enhance its monetary policy stimulus fuelled investor demand for safe-haven financial assets. That price rally was also substantially driven by investor expectations for quantitative easing by the ECB. With expectations running this high, the highest-rated sovereigns, such as Germany, saw the yields on their short and even mid-dated government bonds move into negative territory and the yields on long-term sovereign debt approach zero in early 2015. Investors' hunger for higher return also forced down the yields on sovereign and corporate debt of riskier countries, such as Portugal, Spain or Italy, which led to a decrease in risk premia in bond markets (see Chart 3). The current depressed level of risk premia reinforces the likelihood of their sudden shift towards a higher long-term rate, which would trigger a decrease in bond value and, simultaneously, a decline in financial assets of economic entities holding these papers. That probability got even higher at the end of April 2015 as the yields on euro area sovereign bonds suddenly shot back to the level of the beginning of the year (see "Snapback in risk premia" in Section II of this review).

The yields on government securities of the Republic of Lithuania headed down at a rapid pace in 2014 and early in 2015 while the risk ratings showed improvements. All of the "Big Three" rating agencies upgraded Lithuania's foreign currency credit ratings in 2014 and early in 2015 to reflect the country's progress in public finances and the growth of its economy (see Chart 4). The same time period saw a decrease in the prices for credit default swaps (CDS) of various maturities, which track investors' assessment of Lithuania's sovereign risk. For example, ten-year credit default swaps dropped 1.7 p. p. to 2.1 per cent in 2014. The country's lower risk profile was also supported by its accession to the euro area, which would enable the Government of the Republic of Lithuania to tap the European Stability Mechanism and the country's banks — to use the ECB's liquidity facilities to address liquidity challenges, if there were any. With Lithuania joining the euro area, Lithuania's risk assessment improved also due to the inclusion of the country's sovereign bonds into the early-2015 ECB purchase programme list for euro area sovereign bonds. This programme and Lithuania's decreasing risk profile triggered a rapid slide in the yields on the country's sovereign bonds of all maturities in 2014 and Q1 2015. As an example, the yield on ten-year bonds fell by 2.5 p. p. between May 2014 and mid-April 2015, which was among the largest decreases among the euro area countries (see Chart 3).

The direct contagion effect on Lithuania and other euro area countries from a Greek default, which has become more likely, should be limited. The early elections held in Greece early in 2015 brought into power a political party that has vowed to renegotiate the terms of the country's bailouts. This sent the probability of the country's default soaring and triggered a fall in Greek stocks and sovereign bonds as well as an increased run-off of retail deposits, which forced the country's banks to turn to liquidity assistance provided by the ECB. On the other hand, the probability of euro-area contagion from a potential Greek default is now considered smaller than what it was during the euro area sovereign debt crisis back in 2012. Since that time, the banks operating in the region have shored up their finances, the EU has created the European Stability Mechanism, the euro area's private sector has cut its holdings of Greek sovereign debt and the ECB has embarked on an expanded asset purchase programme. Therefore, contrary to 2012, mounting tensions in the Greek financial markets basically did not cross over to the bond markets of other euro area countries early in 2015 (see "Snapback in risk premia" in Section II of this review). Moreover, Lithuania has few direct links with Greece. In particular, Lithuania has not participated as a lender in the bailout programmes for Greece and investment by the country's households and the private sector in Greek sovereign debt accounts for mere 0.01 per cent of the total financial portfolio. On the other hand, the principle of solidarity between the central banks that are part of the Eurosystem implies that some of the losses, which would be incurred by the ECB in the event of a Greek default, would have to be borne by the Bank of Lithuania. There are also indirect risks as a debt default by Greece is likely to trigger a slight increase in government borrowing rates for the euro area countries, including Lithuania.

In 2014 and early in 2015, the Lithuanian and major global stock markets exhibited increased volatility, which was exacerbated by geopolitical tensions, the monetary policies pursued by central banks and the slump in oil prices. The indices derived to track volatility in the US and European stock markets hit their highest since 2012 at the end of 2014. Heightened uncertainty in 2014 depressed the performance of stocks in both major global stock markets and Lithuania (see Chart 5). The growth of NASDAQ OMX Vilnius, the benchmark index of the Lithuanian stock exchange was primarily suppressed by shocks stemming from escalating geopolitical tensions in the eastern part of Europe (see Chart 5). Even though the benchmark gained 7.3 per cent in 2014, the stocks of listed Lithuanian dairy companies recorded heavy losses (of 8.8% on average in 2014). The major global markets experienced a larger shock in the second half of 2014 amid investor fears over the looming end of quantitative easing by the Fed, which were further stoked by plummeting oil prices. Global oil prices plunged by more than half in the second part of 2014, mostly due to increased supply from the United States, which further added to the demise of the Russian currency and the fall of that country's stock market. Increased volatility in the European stock markets was also exacerbated by the uncertainty over Greece and expectations about the quantitative easing programme implemented by the ECB. Still, these developments did not trigger any system-wide financial tensions in Lithuania in the period under review and the country's financial stress index was way below its values recorded in previous periods of financial stress (see Chart 6). Moreover, the growth of stock markets in Europe accelerated substantially early in 2015, as well as growth in the NASDAQ OMX Vilnius index (9.3% over the first four months of the year) as geopolitical tensions abated and the ECB announced its stimulus package.

BANKS' RESILIENCE TO RISKS

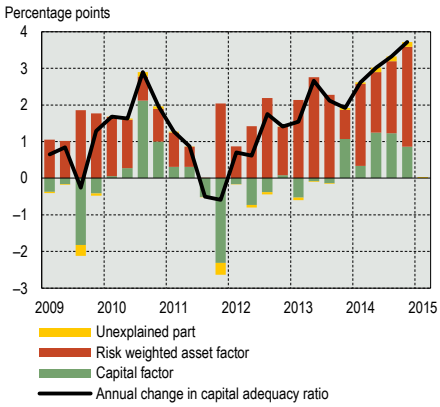
In 2014, the banks shored up their cash holdings at the central bank against the backdrop of a rapid growth in deposits in the run-up to the euro. The sector's assets increased by 7.4 per cent in the course of 2014, to reach EUR 24.1 billion at the end of the year. Aside from the increase in deposits at the central bank (the conditions were provided by the time deposits auctions for banks operating in Lithuania, updated by Bank of Lithuania in May 2014), the banks' assets stayed broadly unchanged in structure last year. However, the banks remained wary of taking more risks on board. The loan portfolio was virtually unchanged in the period under review. Meanwhile, the holdings of securities decreased somewhat yet remained concentrated in risk-free and, therefore, less lucrative markets. On the one hand, improvements in asset quality enhanced the banks' resilience to market adversities (the risk-weighted assets continued to decrease supporting the banks' capital adequacy, see Chart 7). On the other hand, cautious risk taking undermined efforts to eke out higher returns on assets.

Improvements in the quality of the banks' loan portfolio were mainly driven by bad loan write-offs, some of which, given the absence of any chances of asset recovery, were made in the natural course of the final stage of recovery procedures opened in the previous years, while others resulted from a more conservative approach to bad loan write-offs introduced by some of the banks. The quality of loan portfolio was also supported by improvements in the financial wellbeing of the banks' biggest debtors, i.e. households and non-financial corporations. As a result, the non-performing loan ratio decreased to 6.5 per cent at the end of 2014 (see Chart 7). However, this ratio varied among individual banks. If the forecasts of Lithuania's economic growth come true, the banks' biggest debtors will get healthier in financial terms and, therefore, the quality of the banks' loan portfolio should continue to improve in 2015. Other banks' assets also showed no signs of excessive risk-taking in the period under review. For example, the banks' holdings of debt securities mainly comprise papers sold by issuers from Lithuania, Germany, France, the Netherlands and Denmark.

The banks also enhanced their resilience against potential losses through the reduction of risks taken on board. In 2014, the capital adequacy ratio of the banking sector, at 21.3 per cent, was well above the regulatory requirement. Based on the results of the ECB's in-depth review, the assets of the Lithuanian banks under the direct supervision of the ECB scored some of the best marks among the banks included in the exercise. The capital of the banks in Lithuania qualifies as the top tier, i.e. Tier 1, as it consists of shareholders' equity and retained earnings. The banks' regulatory capital holdings remained broadly unchanged in 2014 and amounted to EUR 2.2 billion. However, the banks continued to improve their capital adequacy ratio through investment in less risky assets (housing loans or loans to economic sectors with a strong risk profile,

Chart 7. Contributions to the development of capital adequacy ratio of Lithuania's banks (excluding foreign bank branches)

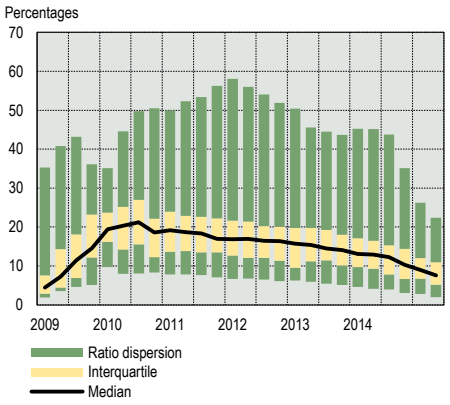
(Q1 2009–Q4 2014)



Source: Bank of Lithuania calculations.

Chart 8. Non-performing loan ratio of the Lithuanian banking sector vs loan portfolio (gross)

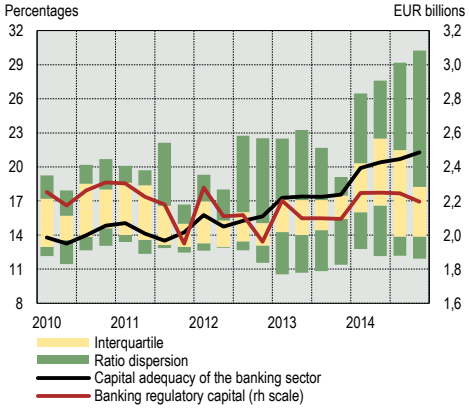
(Q1 2009–Q4 2014)



Source: Bank of Lithuania calculations.

Chart 9. Capital adequacy of the banks operating in Lithuania

(Q1 2010–Q4 2014)



Source: Bank of Lithuania calculations.

high-rated debt securities and/or deposits with banks) (see Chart 9).

The banks may face difficulties in generating income due to increased risk aversion. Given the high capital adequacy levels of certain banks and weakening income generating opportunities, banks should give a thought to an alternative of lending to slightly riskier customers or corporate groups, e.g. to step up lending to small companies. In this way, the banks operating in Lithuania could make a stronger contribution to economic growth (the gap between loan portfolio growth and GDP growth has been getting wider in the last few years, see "Credit market" in Section I of this review), and, with the capital adequacy level this high, remain resilient against potential adversities.[1] However, some of the banks are not in a position to step up lending to sectors with a higher risk profile. The capital adequacy ratio of some of the banks just barely exceeds the regulatory minimum (see Chart 9) hence they should focus on efforts to strengthen their capital, in particular in the light of future tightening of capital requirements.

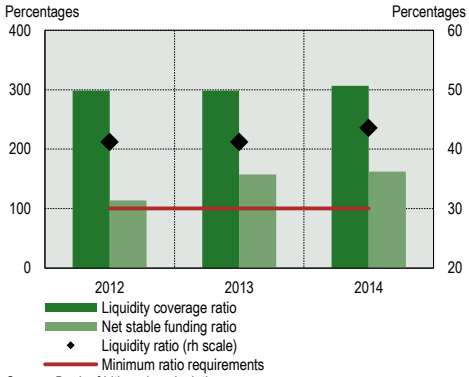
As the interest rates paid by banks on longer-term deposits came close to zero, the depositors increasingly shifted their funds to current accounts (as overnight deposits). Ultra-low interest rates paid on time deposits, coupled with the depositing of cash to current accounts before the adoption of the euro led to a decrease in the maturity of banks' liabilities in the period under review. At the end of 2014, the ratio between the banks' liabilities with up to 1-year maturities and total assets amounted to 61.7 per cent. This gave the banks access to very cheap funding but at the same time heightened their sensitivity to unexpected demand for funds. To remain liquid, the banks had to build larger holdings of short-term assets. At the same time, larger holdings of liquid and higher quality assets translated into weaker income generating capacity.

Although the maturities of liabilities got shorter, banks safely met the liquidity requirements in the period under review and the country's accession to the euro area has further widened the range of liquidity management tools available.[2] At the end of 2014, the liquidity ratio of the banking sector, at 43.3 per cent, exceeded the statutory requirement by nearly one-third (see Chart 10). The liquidity coverage ratio (LCR) and the net stable funding ratio (NSFR), which still have to be adopted, also exceeded the minimum requirements by a wide margin. Lithuania's accession to the euro area and access to the Eurosystem's monetary policy operations have further enhanced the liquidity coverage capacity of the banks operating in the country. As of 31 March 2015, the banks operating in Lithuania were in a position to use approximately EUR 1.7 billion worth of assets as collateral in monetary policy operations, while many of the securities, worth EUR 0.4 billion, have been pledged with the Bank of Lithuania.[3] Moreover, some of the domestic banks are part of strong Nordic banking groups, which are able to provide the required liquidity assistance. At the same time, however, the risk factors present in the Nordic markets do not appear to decrease in number (see "Risks stemming from the activities of parent banks" in Section II of this review).

The earnings of the banking sector showed a mid-single-digit decrease in 2014 (of 6.2%). On an individual bank level, the earnings picture was mixed last year: one bank accounted for nearly a half of the total sector's profit while another one suffered losses (see Chart 11). Despite the prolonged low interest rate environment, the banking sector still managed to attain a slight increase in net interest margin (see Chart 12), which grew thanks to ultra-low interest paid on deposits. For example, the interest rate paid on the balance of deposits of the private sector was meagre 0.2 per cent in December 2014. In effect, therefore, interest expense decreased at a faster pace than interest income.[4] In 2014, the banks recorded an increase in their net fee and commission income; however, their expenses, including loan impairment charges (EUR 33.6 million) and administrative costs (EUR 334.6 million), which showed a slight increase,[5] grew faster than gross income, which led to a year-on-year decline in earn-

Chart 10. Banks' liquidity ratios

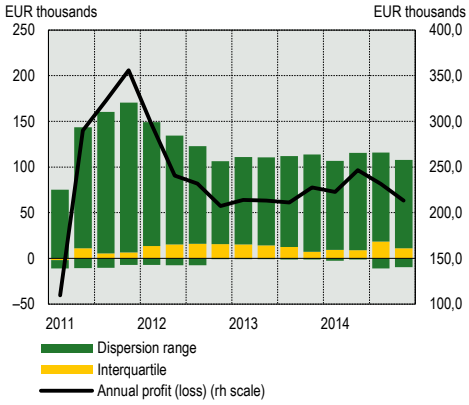
(2012–2014)



Source: Bank of Lithuania calculations.
Note: at the time of writing of this review, the liquidity coverage ratio and the net stable funding ratio were not adopted officially yet.

Chart 11. Dispersion of banks' earnings

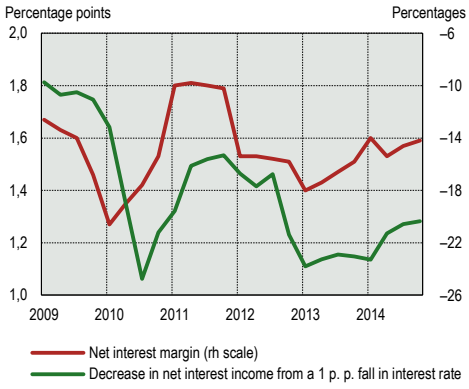
(Q1 2011–Q4 2014)



Source: Bank of Lithuania calculations.

Chart 12. Banks' net interest margin and sensitivity of net interest income to interest rate changes

(Q1 2009–Q4 2014)



Source: Bank of Lithuania calculations.

[1] Jočienė, A. (2015). "Business Models of Scandinavian Banks Subsidiaries in the Baltics: Identification and Analysis", Lietuvos bankas, Occasional Paper Series, No 4.
[2] The banks' liquidity status in stress is assessed in "Bank Liquidity Testing", see Section II of this review.
[3] An asset accepted as collateral would also be subject to a valuation haircut, see http://www.ecb.europa.eu/paym/coll/risk/liquidity/html/index.en.html.
[4] See the position of the Bank of Lithuania on the calculation of interest in loan contracts with customers, published on 23 April 2015: http://lb.lt/lietuvos_banko_pozicija_del_palukanu_skaiciavimo_kredito_sutartyse_su_klientais.
[5] The 2014 data shows increases in the number of bank employees and wages. Moreover, last year the banks had to shoulder higher costs relating to the adoption of the euro.

ings. Lower income squeezed the banking sector's returns on assets and equity,[6] which decreased by 0.1 p.p. and 0.8 p.p., respectively, over the year (to 0.9% and 8.1%, respectively).

A further decline in interest rates will further weaken the banks' capacity to achieve income growth and high equity return in the mid to long term. As the ECB continues to maintain its accommodative monetary policy stance, interest rates will stay low for a while more hence, with all other factors unchanged, the earning power of financial assets will show no growth. Many of the banks have already lowered their interest rates for deposits of up to 1 year maturity to or close to zero (although these rates cannot be slashed into negative territory, based on existing legislation, and the banks normally cannot refuse deposits). Moreover, despite paying no interest to depositors, the banks were still obliged to pay insurance contributions to the public deposit and investment insurance vehicle *VĮ Indėlių ir Investicijų Draudimas*. Hence the banks have nearly exhausted their ways of saving on interest expenses and the asset yields may still continue to decline. Despite a slight decrease recorded in 2014, the interest rate sensitivity of the banks' asset and liability holdings remains rather significant. For example, a 1 p.p. decline in interest rates (with all other factors held constant) would slash the net interest income of the banking sector by one-fifth over the year (see Chart 12). Nonetheless, the banks could still find some room to manoeuvre to reduce their expenses. One of the possible solutions — streamlining their activities and exiting lower margin businesses, such as cash management. However, even though the movement of services to the online environment helps the banks reduce their operating costs; it also requires much investment in security. Cybersecurity poses great challenges all across the world, including Lithuania (see Box 3), which means that the banks will need to invest heavily to shore up their cyber defences.

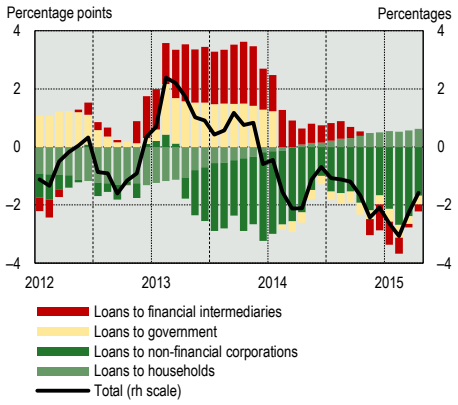
A well-measured risk appetite, coupled with an adequate level of capital, would enable the banks to enhance their contribution to the economic growth in the long term. In the earlier periods, bank lending in Lithuania was highly concentrated in the economic sectors connected with real estate. This type of economic activity is not too productive or innovative, which limits its contribution to the economic growth potential. For example, the property and construction industries accounted for 12.2 per cent of the total added value created in 2014. At the same time, loans to these economic activities constituted 34.9 per cent of the banking loan portfolio. Stepped-up bank lending to the tradable economic activities with higher added value as well as to SMEs would bolster up their contribution to the acceleration of economic growth.[7] Even though such a credit policy requires enhanced risk management, it would do well given the extremely high capital adequacy levels currently achieved by some of the banks. Moreover, the banks would be in a position to offer a wider range of savings alternatives to deposits, which could create opportunities for customers to invest deposits in other financial assets. Higher-yielding investment should be far more attractive for the private sector than deposits. For banks, such investment would translate into lower interest expenses (as they would be relieved of deposit insurance premiums) and higher income from commissions. This would pave the way for credit institutions to generate a higher return. Moreover, in the long term, the intensified lending would give a boost to economic growth and would lead to improvements in the financial health of debtors. Still, the alignment of higher returns with sufficient amount of capital remains a big challenge for some banks.

CREDIT MARKET[8]

The level of leverage in Lithuania decreased in 2014 and early in 2015 as the portfolio of MFI loans followed a downward path, in contrast to positive growth of the economy. By the end of March 2015, the MFI loan portfolio contracted by 2.3 per cent in year-on-year terms (see Chart 13) to EUR 17.2 billion. The ratio between loans to the private sector, i.e. households and non-financial corporations, and GDP shrank by 2.2 p. p. over the past year to reach 40.9 proc. (see Chart 14). Since

Chart 13. Contributions to changes in MFI loan portfolio

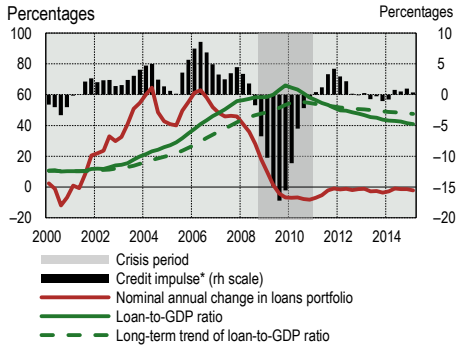
(January 2012–March 2015)



Source: Bank of Lithuania calculations.

Chart 14. Ratio between the portfolio of loans to private non-financial sector and GDP, and credit impulse

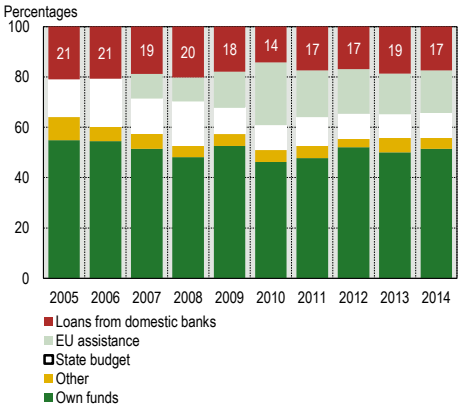
(Q1 2000–Q1 2015)



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

Chart 15. Structure of tangible investment financing by non-financial corporations

(2005–2014)

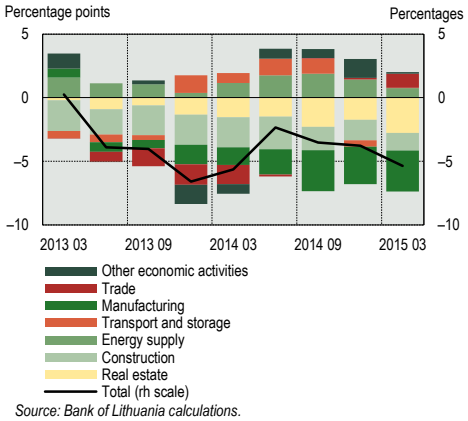


Sources: Statistics Lithuania and Bank of Lithuania calculations.

[6] The return on assets covers both banks and foreign bank branches, while the return on equity excludes foreign bank branches.
[7] For example, the manufacturing, trade, transport and accommodation industries accounted for 47.5 per cent of the total added value created in 2014 whereas loans to these types of economic activities comprised 44.0 per cent of the banking loan portfolio.
[8] Loans are assessed on the basis of MFI data published by the Statistics Department of the Economics and Financial Stability Service of the Bank of Lithuania, as adjusted to take account of recent bankruptcies and mergers in the financial institution sector (for details see Annex 2 to the Lithuanian Economic Review of December 2014). It may differ from the data collected from banks for supervisory purposes.

Chart 16. Contributions to annual changes in MFIs' loans to non-financial corporations

(Q1 2013–Q4 2014)



Source: Bank of Lithuania calculations.
Note: names of some economic activities are abbreviated.

reaching the peak five years ago, this ratio has fallen by 25 p. p. In the first quarter of 2015, the annual credit impulse of the credit to the private sector, which shows the change in credit flows relative to nominal GDP, was 0.4 per cent, unchanged from its 2014 average. As compared to 2006–2008, the credit impulse of the credit to the private sector has decreased several-fold by now.

The portfolio of MFI loans to non-financial corporations recorded a descending trend in 2014 as businesses tended to make more ample use of alternatives to bank loans to finance their operations. In 2014, the sales revenues of non-financial corporations rose by an annual 0.6 per cent and their earnings grew by an annual 13.1 per cent, which put them in a better position to use own resources to finance their businesses (see Chart 15). Moreover, the year 2014 saw a rise in trade credits extended to enterprises (see Box 1) and a gradual pickup in borrowing from financial institutions other than banks. For example, the portfolio of loans issued to privately-owned leasing companies for the purchase of movable property increased by 0.8 per cent year-on-year to EUR 1.2 billion. In the year ended March 2015, the portfolio of MFI loans to non-financial corporations shrank by 4.8 per cent.

The largest decrease came in the portfolio of loans extended to the banks' biggest debtors, i.e. the companies involved with real estate activities. Commercial real estate and construction loans, which contracted by 7.4 per cent over 2014, accounted for more than one-third (EUR 2.6 billion) of the total non-financial sector loans at the end of the year. At the same time, loans to energy, transport and storage companies, which together account for 14.8 per cent of the total portfolio of non-financial sector loans, grew by nearly one-tenth over the year. A wide range of projects (including the construction of a liquefied natural gas facility, the building of electricity interconnections with Sweden and Poland, etc.) implemented by energy suppliers in Lithuania in the past several years led to an increased need for additional sources of financing. Being rather risk avert, the banks are now more biased towards lending to the economic activities with closer ties with the public sector as well as to the activities that are more open to foreign trade (e.g. transport, see Chart 16).

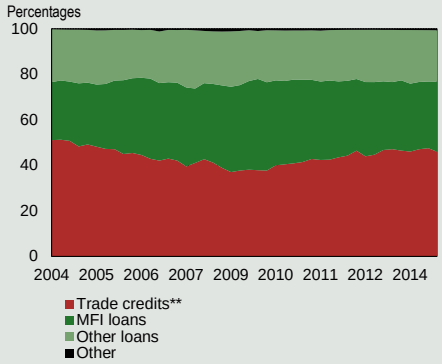
Lending to households is picking up gradually, yet its growth lags behind improvements in household income and other indicators of household financial well-being. The ratio of household loans to the total compensation of employees shrank by an annual 3.1 p. p. to 53.4 per cent in 2014. As Russia slapped restrictions on the imports of certain goods produced in the EU, the consumer confidence index plunged to –20 per cent between August and September 2014 but then recovered to reach –5 per cent in April 2015. The same time period saw a slight increase in the proportion of households planning to purchase durable goods (some of these purchases have already been made on credit of lately). This led to increases in the portfolio of MFI loans to households (by 0.7% in March 2015 year-on-year) and in the portfolio of loans extended to natural persons by leasing companies. The banks' portfolio of housing loans in March 2015, which rose at a stable rate, was 0.5 per cent larger than a year ago. Meanwhile, the increasing use of high-interest loans for household consumption needs raises a more worrying concern. For example, the weighted average interest rate on consumer finance loans extended to households by MFIs was 14.2 per cent in the fourth quarter of 2014 – a fraction of the average annual interest rate on small consumer loans (of up to EUR 289), which was a whopping 99.0 per cent. The portfolio of loans issued for consumption by non-banks rose by an annual 16.7 per cent to reach EUR 338.9 million at the end of 2014. In the long term, continued fast growth in this loan portfolio, which is rather expensive, may undermine the sustainability of household financial health.

Box 1. Trade credit behaviour of non-financial corporations

It is common practice for non-financial corporations to defer payments for inventory or services, which in certain cases helps to achieve cost savings (e.g. by making one payment instead of several). Moreover, trade credits, payables or debts to suppliers (hereinafter collectively referred to as trade credits) effectively represent a free source of financing, which can be relied upon when access to other sources of finance is restricted. In cases where trade credits cost nothing, companies feel the urge to abuse this source of funding. Measures which may be invoked to achieve that purpose include the use of existing bargaining power in the market, for example, in oligopsony — a market with a few large and dominant buyers which often impose their conditions of cooperation on smaller suppliers to the detriment of the latter. In view of that, authorities seek to regulate the misuse of trade credit by means of appropriate legal tools. However, there are signs in Lithuania that the use of this financing instrument in certain sectors is over-intensive.

Chart A. Structure of financial liabilities* of non-financial corporations

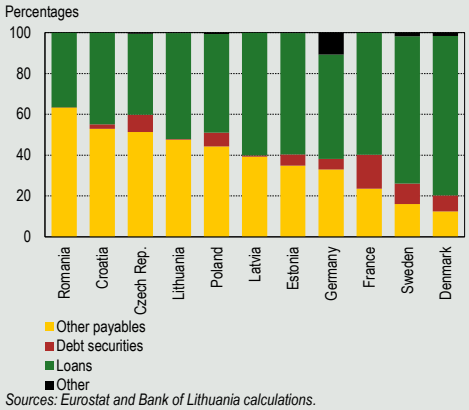
(Q1 2004–Q4 2014)



Source: Bank of Lithuania calculations.
** Excluding common stock and other equity instruments.*
*** Trade credits, advance payments and other payables.*

Chart B. Structure of financial liabilities* of non-financial corporations in selected EU countries

(Q3 2014)



Sources: Eurostat and Bank of Lithuania calculations.
** Excluding common stock and other equity instruments.*

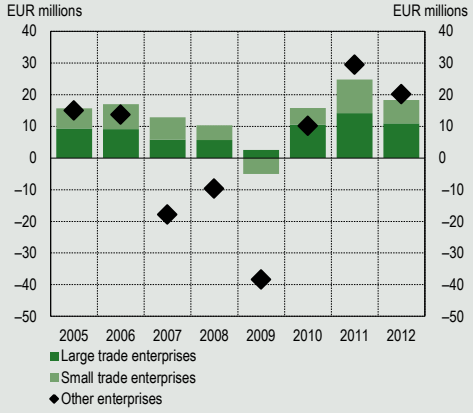
The economic downturn experienced in 2009 has triggered changes in the structure of financial liabilities of non-financial corporations operating in Lithuania, most notably, due to the decrease in borrowing from banks and the growing tendency to use trade credits. As an example, the average share of trade credits in the structure of financial liabilities of non-financial corporations (excluding common stock and other equity instruments) went up to 46.0 per cent at the end of 2014, from 37.7 per cent in 2009 (see Chart A). In the third quarter of 2014, Lithuania also stood out from other EU countries with a relatively wide use of trade credits for operational financing (see Chart B), which is characteristic of lower-income countries with less developed financial markets. Still, the intensified use of trade credits can also be explained by the expansion of the economy as the growth of corporate turnover and household consumption inherently leads to larger needs of money to finance business activity.

As shown by the data on debts to suppliers[i], large companies in Lithuania tend to take advantage of their existing bargaining power and step up the use of trade credits to finance their activity. In 2012, the ratio of debts to suppliers to total assets in large companies (i.e. companies with a workforce of more than 50) amounted to approximately 37.6 per cent.[ii] At the same time, the respective ratio for small companies (i.e. companies with a workforce of less than 50) was 27.1 per cent. Between 2006 and 2012, large enterprises consistently surpassed small ones in terms of this ratio. Nonetheless, smaller companies recorded a wider gap between receivables and debts to suppliers (which reflects net financing via trade credits[iii]), as compared to large enterprises. Nearly 90 per cent of the total debts to suppliers were concentrated in five segments of economic activity, including trade, manufacturing, energy supply, construction and transport. This means that debts to suppliers, as a source of finance for business, depend on both the size of the company and on the type of its activity.

In several recent years, around one half of the total net benefit derived from the use of trade credits has been shared by trade enterprises. The use of such credits is common practice in the trade sector, which, as far as Lithuania is concerned, is dominated by a handful of large companies with sufficient bargaining power to dictate the terms of payment to the suppliers of goods and services. Between 2005 and 2012, the net benefit (a gap between the interest expenditure on trade credits, which has not been paid, and the interest income from trade credits, which has not been received) generated by large enterprises through the use of trade credits with a maturity of more than 60 days amounted to approximately EUR 58.8 million. For small trade enterprises, the net benefit amounted to around EUR 37.8 million and for all other economic activities — to approximately EUR 7 million (see Chart C). Hence the use of market power and the imposition of self-serving contractual clauses are likely to bring a tangible benefit to some market players to the detriment of others.

Chart C. Net benefit derived by non-financial corporations through the use of trade credits (with 60 days maturity)

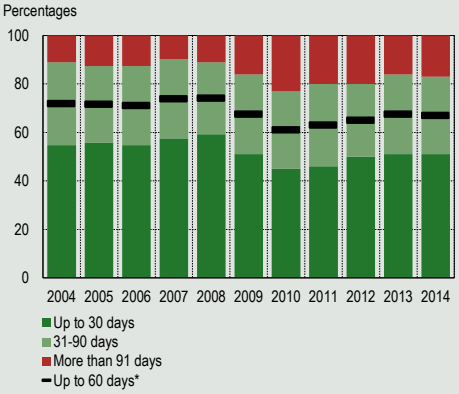
(2005–2012)



Sources: Statistics Lithuania and Bank of Lithuania calculations.

Chart D. Payment duration in Lithuania

(2004–2014)



Sources: Intrum Justitia and Bank of Lithuania calculations.
** The share of payments made in 31 to 90 days split into two equal parts.*

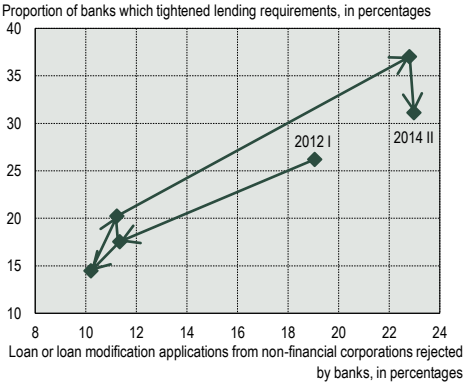
The evidence available suggests a considerable probability of abuse of payment deferrals by certain companies, which rely on their existing market power to achieve that purpose. The current legal regulation is not sufficient to remedy this shortcoming of the market. The Republic of Lithuania Law on the Prohibition of Unfair Practices of Retailers enumerates ten actions that are contrary to fair business practices. However, the scope of this piece of legislation does not cover the terms of payments between suppliers and buyers. Instead, settlement transactions between economic entities are governed by the Republic of Lithuania Law on the Prevention of Late Payment in Commercial Transactions, which stipulates that the period fixed by economic entities for payment for the goods delivered/services supplied/works executed under commercial contracts shall not exceed 60 calendar days (or 30 days where the buyer or the customer is a public entity). In addition, this legislative act allows establishing a longer payment period in commercial contracts, provided that such extension is justified by well-established business practices or by the existing circumstances. This exemption facilitates the use of market power by dominant (large) enterprises for making contracts that will bring benefits at the expense of suppliers. There is plenty of evidence corroborating the use of this exemption, such as the fact that payments made after more than three months accounted for 17 per cent of all payments in 2014 (see Chart D) (e.g. a respective share for Germany or Sweden was 5%).

This vicious practice, which has spread far and wide throughout the market, can be addressed through the tightening of existing legislative provisions. The analysis of overdue trade credits provided in this box suggests that this practice is particularly common among trade enterprises. One of the ways to prevent the abuse of market power might be to amend the Law on the Prohibition of Unfair Practices of Retailers by establishing a term of payment that would qualify as a fair practice. For example, the law could stipulate that economic entities are not allowed to fix a term that is longer than 60 days (as established in the Law on the Prevention of Late Payment in Commercial Transactions). It should also establish a mechanism for compensation of damages incurred due to late payment for the delivery of goods or services, which should apply irrespective of other contractual provisions. This role could be performed by late payment interest defined in the said Law, which could be calculated as a weighted average interest charged by MFIs on loans to non-financial corporations plus a dissuasive penalty. Such regulation would discourage dominant market players from financing their operations at the expense of weaker business partners.

[i] Debts to suppliers are an alternative estimate of trade credit used by non-financial corporations, which is derived by aggregating the data from the financial statements of non-financial corporations. These debts reflect a narrower scope of trade credit than the trade credit data published by the Bank of Lithuania.
[ii] This was the latest data available at the time of writing of this box as it takes much time to compile annual data for the financial statements of non-financial corporations.
[iii] Net financing occurs where a company's receivables exceed its payables (debts to suppliers), while net funding occurs where a company's payables exceed its receivables (debts to suppliers).

Chart 17. Tightening of banks' lending standards for businesses and the rejection rate for applications from non-financial corporations

(H1 2012–H2 2014)



Sources: bank lending surveys, surveys of non-financial corporations on business financing and Bank of Lithuania calculations.

Credit demand was subdued in 2014 and in the first half of 2015, as was credit supply, while the supply and demand-side indicators did not show any constraints. The commercial banks surveyed by the Bank of Lithuania have been reporting growth in demand for loans amongst non-financial corporations every half a year since 2010. Even though businesses achieved improvements in performance, the banks developed a more demanding approach towards companies in the second half of 2013, which led to an increase in the rejection rate on loan or loan modification applications from non-financial corporations (in the second half of 2014, the rejected applications accounted for approximately one-fifth of the total application number, see Chart 17). A tougher attitude towards non-financial corporations observed in the past several years may be a response to turbulences in Lithuania's export markets (for more details see "Potential Increase in Credit Risk Due to a Slump in Demand from Export Markets" in Section II of this review). Moreover, this cautious approach to credit supply is also supported by the memory of substantial losses suffered by banks from their lending activity back in 2009. As a consequence, demand is not nearly as brisk as it was before and the private sector tends to dig into its own resources or tap into non-bank alternative lending to finance much of its operations. Even so, there are an increasing number of indicators suggesting acceleration in the growth of loan demand in the near time horizon. For example, high capacity utilisation rates will spur the companies into upgrading their worn-down facilities. At the same time, an increase in the proportion of households that intend to buy consumer durables makes it more likely that they will borrow some of

the money to finance that spending. Although the banks expect the loan portfolio to grow, such forecasts should be interpreted with caution, given the experience of previous years (see Table 1).

The country's economic growth is likely to outpace the growth of loan portfolio in the year ahead, which will keep the probability of disproportionate credit growth at a low level. Bank lending surveys conducted by the Bank of Lithuania reveal the lenders' cautious approach to the loosening of lending standards. The most recent projections for GDP, investment and consumption growth suggest that the aggregate net savings of the economy will remain positive in the near term (the European Commission made similar forecasts for Lithuania in the spring of 2015), which should trigger a decrease in financial liabilities. Even so, if the trends were to reverse and the banks were to start lending too much, the Bank of Lithuania would step in to put a cap on-leverage (see Section III of this review). Moreover, improvements in the financial well-being of the banks' debtors and additional reserves built over the past several years would make them able to duly and timely fulfil their financial liabilities. On the other hand, new loans to the private sector almost always have an initial rate fixation period of up to one year. Even though this approach enables the households and non-financial corporations to borrow as cheaply as possible, it also involves the risk of a snapback in interest rates (for more details see "Prolonged low interest rate environment" in Section II of this review).

REAL ESTATE MARKET

Higher activity recorded in the real estate market in the first half of 2014 lost steam in the second half of the year (see Chart 18). The acceleration of real estate sales early in 2014 was mainly driven by households' efforts to convert cash on hand into tangible assets before the transition from the national currency to the euro as well as by the purchase of property in Lithuania by expats with remittances (see Chart 19) Moreover, the low interest rate environment, which undermined chances to generate a higher return on traditional investment instruments, prompted some households to invest their savings in real estate. In other words, the growth in property market activity was basically achieved without debt. In 2014, home transactions involving a loan accounted for slightly less than one-third of the total number of home deals, which increased by an annual 11.7 per cent to more than 42,000.

Real estate market activity weakened further in the first quarter of 2015 as households strove to get used to the new currency. The seasonally-adjusted data shows that the number of property deals fell by 9.0 per cent in the first three months of 2015 as compared to the previous quarter (or by one-fifth year-on-year). The decline in real estate market activity was mainly due to a decrease in the number of home transactions, which slumped by an annual 28.4 per cent in the abovementioned period (or by a seasonally adjusted 15.1% q-o-q). Moreover, the share of home transactions involving a loan accounted for approximately one-fourth of the total and was below the average of 2014.

Home prices in the country rose by an average of 2.7 per cent over 2014, but the directions of price changes showed wide regional variations. Home selling prices in the municipality of the city of Vilnius, which last year accounted for nearly two-thirds of the total number of home market deals, rose by an annual 7.4 per cent and the biggest gain in this region (of 12.8%) was recorded in prices for new homes (of up to 2 yrs. old). The rise in average prices was partly due to a year-on-year increase in the share of deals involving higher quality and, therefore, more expensive homes, and not due to appreciation in the value of properties. Outside the municipality of the city of Vilnius, prices for residential property, on the contrary, shrank by 1.5 per cent over 2014 and new home prices posted the biggest fall (of 8.1%). According to provisional data, home prices in the country declined by approximately 2 per cent in the first quarter of 2015, as compared to the average 2014 prices, and the largest falls were recorded in the segments that registered the biggest increases in 2014. Specifically, prices for new homes in Vilnius plunged by 11.3 per cent over the quarter while prices for older homes shrank by 1.2 per cent.

As suggested by the findings from the household and bank surveys conducted in the first quarter of 2015, prices are not expected to change at a fast pace in the future (see Chart 20). Early in 2015, 9 out of 11 of Lithuania's banks surveyed believed that home prices would remain unchanged in 2015. One bank expected those prices to grow by up to 10 per cent while the remaining two — a fall of up to 10 per cent. Even

Table 1. Actual growth of banks' loan portfolio vs forecasts

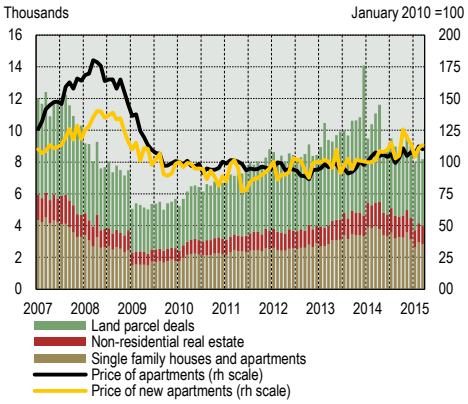
(April of respective year; annual percentage change)

Year	Actual performance	Forecasts by banks
2012	1.1	2.7
2013	–1.8	3.1
2014	–1.5	3.4
2015		3.5
2016		2.8

Sources: bank lending surveys and Bank of Lithuania calculations.

Chart 18. Real estate market deals (seasonally adjusted data) and home prices in Lithuania

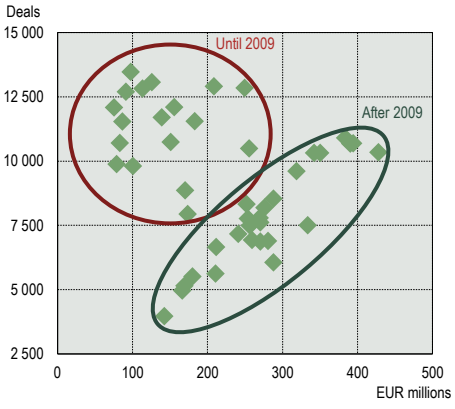
(January 2007–April 2015)



Sources: State Enterprise Centre of Registers and Bank of Lithuania calculations.

Chart 19. Remittances to Lithuania and house transactions

(Q1 2004–Q4 2014)



Sources: State Enterprise Centre of Registers and Bank of Lithuania.

though households typically tend to believe that home prices will go up, early in 2015, the proportion of those expecting at least a marginal gain in home prices fell by 10.4 p. p. on a year-on-year basis to 43.4 per cent. A slightly smaller proportion (39.4%) thought that home prices would not change in 2015. The popularity of online search keywords, which may signal interest in house purchase, also shows that the online search activity pertaining to homes has subsided after the spike (see Chart 21).

Construction companies managed to meet growing demand at a faster pace thanks to changes in building permit procedures, which have been shortened by nearly two months over the past seven years. Moreover, in 2014, real estate developers still had a substantial backlog of "ready-to-go" projects, which were put on hold due to the financial crisis that erupted in the second half of 2008. Therefore, an uptick in demand might have prompted them to embark on these developments. As a result of this mix of factors, the inventory of unsold apartments in new apartment buildings in the capital city, as reported by property market players, grew to 4,380 homes at the end of 2014 (and decreased by 100 units during the first quarter of 2015) and was the largest in the history of this data series (from 2011).

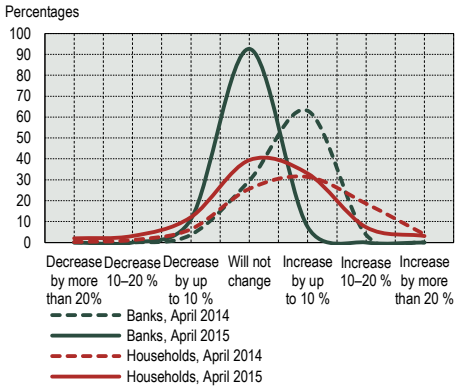
This strong response of the construction sector to the rebound of demand for homes recorded early in 2014 was reflected in an increase in property investment. Last year, residential construction investment, expressed as a share of GDP, exceeded its 1995 to 2014 average (2.2%) by an average of 0.3 p. p. Excessive investment in home construction is usually a result of too-optimistic expectation on the development of the real estate market. Early in 2015, there were no signs of irrational expectations related to housing demand or any other signs of risk. Hence higher-than-usual investment in residential construction is more likely to pave the way for a decline in home prices, instead of an inadequate rise. In 2014, non-residential construction investment followed a balanced development path and, expressed as a share of GDP, was, on average, 0.8 p. p. below its 1995 to 2014 average level.

In 2014, the number of commercial[9] property deals rose by one-fourth year-on-year amid growth in economic activity and expectations of an increase in prices after the national currency changeover (see Chart 22). More than 1,000 buildings and premises changed owners in this market segment in 2014, of which nearly three-fourths were administrative, retail, catering, service and hotel properties and the rest were manufacturing, industrial and warehousing facilities. Activity in the non-residential property segment cooled down in the first quarter of 2015 (fell by slightly more than one-fourth quarter-on-quarter), approaching the average level of 2013. This decrease implies that, firstly, this segment of the market has gone back to its usual level of activity and, secondly, the boom in commercial property sales in 2014 was fuelled by expectations of an increase in value of such properties after the switchover to the euro. This strong market activity had a limited effect on selling prices. In particular, the prices paid in office transactions rose by an average of 9.2 per cent in 2014 versus 2013. In the first quarter of 2015, however, those prices fell by 13.1 per cent year-on-year. On the other hand, the data collected from market participants shows that office rental prices grew by slightly more than one-tenth over 2014 and by a further 1.3 per cent over the first quarter of 2015. Hence the office price-to-rent ratio, which may be a warning indicator for price imbalances (see Box 2), remained unchanged and was roughly 5 per cent below its 2005–2015 average at the end of the first quarter of 2015.

The coming into force of regulatory amendments restricting trade in land parcels led to an annual decrease (of 22%) in such deals in 2014. Land prices, however, showed only marginal changes. Inadequate growth of prices for land parcels often indicates or triggers a future imbalance in the property market.[10] Hence moderate changes in prices in this market segment complement the information showing that the real estate sector should not initiate any risks to the financial system in the near future. In 2014, the average price of land parcels suitable for residential development rose by an annual 4 per cent while the average price of farmland fell by an annual 1.9 per cent (quarterly changes in prices for land parcels were insubstantial in the first quarter of 2015).

Chart 20. House price expectations by banks and households for the next 12 months

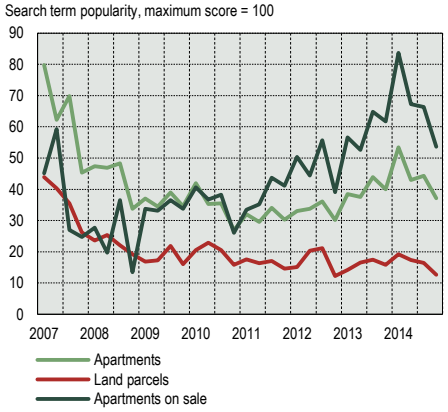
(Q1 2014–Q1 2015)



Sources: bank lending surveys, surveys of household financial behaviour and Bank of Lithuania calculations.

Chart 21. Popularity of queries in Google's search engine

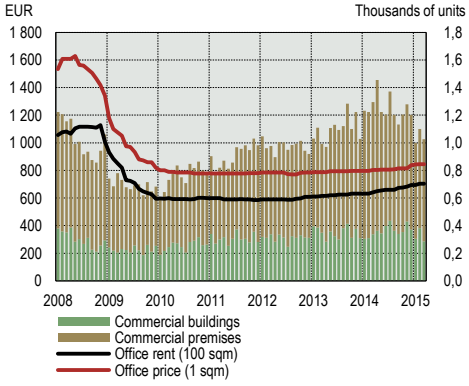
(Q1 2007–Q1 2015)



Sources: Google Trends and Bank of Lithuania calculations.

Chart 22. Commercial real estate market transactions and prices

(January 2008–March 2015)



Sources: UAB "Ober-Haus" real estate, State Enterprise Centre of Registers and Bank of Lithuania calculations.

[9] Commercial real estate is taken to include administrative, retail, catering, service and hotel properties as well as manufacturing, industrial and warehouse buildings and premises.

[10] See Davis, M. A., van Nieuwerburgh, S. (2014). "Housing, Finance and the Macroeconomy". NBER Working Paper, No 20287.

The build-up of systemic risk in the real estate market in 2015 is hardly probable. This conclusion is corroborated by supply exceeding demand, by the statistics of property investment and unsold home inventory as well as by a moderate decline in home prices in the first quarter of 2015. The downward trend in sales in the primary housing market is clearly demonstrated by the rollout of promotional campaigns targeting property buyers.[11] Finally, any disproportionate developments in home prices due to credit growth will be curtailed by the Responsible Lending Regulations, which, starting from 1 November 2015, will also take account of the ultra-low interest rates of recent years.

[11] For example, an offer — the first ever in Lithuania's market — to buy a home under hire purchase made in the first half of 2015.

Box 2. Analysis of the relationship between housing prices in the Baltic countries and their long-term equilibrium values

The evolution of the real estate market is closely related to the stability of the financial sector, which makes the monitoring of this market and the assessment of its potential imbalances an integral part of macro-prudential analysis. Residential property often forms the largest component of household wealth: in 2013, the value of privately-owned residential stock amounted to EUR 48.8 billion at current prices and exceeded the total value of household financial assets of that period by 60 per cent. Due to this reason, fluctuations In housing value guide the households into feeling more — or less — affluent and affect the entire economy's activity through the effects made on household consumption decisions. Moreover, more often than not, the home being purchased is used as collateral (in the first quarter of 2015, housing loans, including loans for construction and real estate activities, accounted for 35.2% of MFI assets) to cover the household's liabilities to the bank in case of the debtor's insolvency. A fall in home value, for example, due to an economic shock or adjustment of imbalances, may render collateral posted by insolvent customers insufficient to cover their liabilities. Such a sequence of events would trigger credit losses for the banking system and difficulties for households as they would not be fully relieved of their debt obligations even after the sale of collateral.

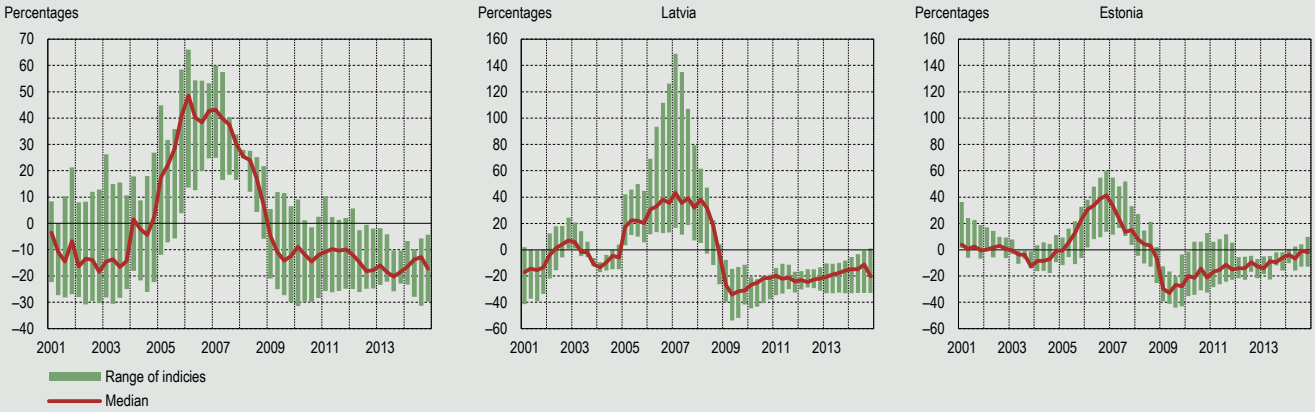
The typical approaches to the analysis of real estate prices often fail to give a sufficiently unbiased and precise answer to the question about the sustainability of home values. Various statistical tools, when used individually, give rise to substantial uncertainty. For example, the comparison of the home price-to-rent ratio with its historical average is often criticised because of the usual use of two indexes of different structures for the calculation of the ratio. Rent indexes and home price indexes are based on different sets of properties hence the resulting ratio is not necessarily justified in economic terms. Moreover, the samples used to estimate the indexes for each specific period also contain different properties, which means that they measure the average value of transactions carried out within a certain period of time, instead of developments in the value of identical properties. Due to these reasons, the analysis of real estate values cannot leave out qualitative information. In fact, expert evaluation is the main approach to such an analysis.

The analysis of estimates, which are derived by way of different approaches and are considered as an aggregate, can help reduce the uncertainty about the methods used to calculate home prices and about the sustainability of prices established by such methods.[i] The uncertainty of such estimates is mostly related to the probability that the assessments of conformity of home prices to long-term equilibrium values may produce different results if other methods are applied. The aggregate analysis of home prices and income, the home price-to-rent ratio, the deviation of home prices from the long-term trend and the results of econometric error correction model shows immediately whether or not such indexes measure the developments in prices in an identical way. Such an analysis would reduce the uncertainty substantially since the assessment would capture information provided by all indexes, instead of just one.

An integrated analysis covering the home price-to-rent ratio, the home-price-to-income ratio, the deviation of home prices from the long-term trend and the results of panel error correction model helps ensure a continuous assessment of the sustainability of home market developments in the Baltic countries. Such a technique helps identify precisely the imbalances that built up in the home markets of the Baltic countries before the economic downturn of 2009. This method shows that residential property prices in all the three Baltic countries of Lithuania, Latvia and Estonia started to diverge from their long-term equilibrium values (signalling an overvaluation of prices) as far back as around 2005 and diverged at a rather rapid pace (see Chart A). Despite differences in the ranges of some ratios in the Baltic countries, the median values show that home prices in all the three countries overshoot their long-term equilibrium values by up to 50 per cent between 2006 and 2008.

Chart A. Deviations of housing prices deviations from long term trends in Baltic states

(Q1 200–Q4 2014)



Source: relevant countries Statistics and central banks, "Latio", UAB "Ober-Haus" real estate and Bank of Lithuania calculations.

The collapse of property bubbles in the Baltic countries was followed by a significant price correction, which pushed the prices below their long-term equilibrium values. Price corrections in the Baltic countries followed uneven paths. In particular, home prices in Latvia and Estonia plunged by up to one-third below their respective long-term equilibrium values. However, a slight acceleration in the growth of such prices, which followed the price correction and brought the prices broadly in line with their long-term equilibrium values in the second half of 2014, was only recorded in Estonia. Following 2009, home prices in Lithuania exhibited the smallest divergence from their long-term equilibrium (of approx. 13%). However, they remained virtually unchanged after the correction hence the ratio of prices to equilibrium values was broadly stable until the end of 2014.

The actual level of prices below or above their long-term equilibrium values does not herald their fall or rise. Firstly, the estimates of long-term equilibrium values of home prices in the Baltic countries are somewhat tilted towards the upside due to a strong and rather long property boom. This tilt could be rendered insignificant by a longer data series than that compiled from the data of the Baltic real estate market. Secondly, in addition to home price developments, the reasons that may bring home prices close to their equilibrium values or

move them away from such values also include changes in factors affecting the equilibrium price, such as household disposable income, interest rates on house loans and construction costs. Changes in such factors may also be unsustainable hence their return to the equilibrium values would also trigger a correction in the long-term equilibrium value of residential property (e.g. a decrease in household disposable income would bring down the equilibrium value of home prices).

[i] Kulikauskas, D. (2015). "Fundamental Housing Prices in the Baltic States: Empirical Approach" (to be published).

INSURANCE MARKET AND PENSION FUNDS

The Lithuanian life assurance market enjoyed a rapid pace of expansion. Meanwhile, the growth in the value of premiums written in the non-life insurance segment was constrained by strong competition. In 2014, the Lithuanian insurance market, which has been expanding since 2010, continued on the track of growth, which followed a sustainable trajectory thanks to robust solvency ratios (see Chart 23). However, the expansion of the insurance market as a whole was not homogeneous in 2014. As the continued low interest rate environment encouraged households to search for yield through the products offered by life assurance undertakings, this segment recorded an impressive rate of growth in the amount of premiums written (18.6%). This increased risk appetite among insurance policy holders led to a 19.2 per cent rise in the unit-linked life insurance portfolio. On the other hand, the annual growth of premiums written in the non-life insurance segment plummeted to mere 1 per cent in 2014 against the backdrop of increased competition. Moreover, the sector's players recorded a slight increase in loss ratio[12] (by 2.2 p.p. to 59.7%).

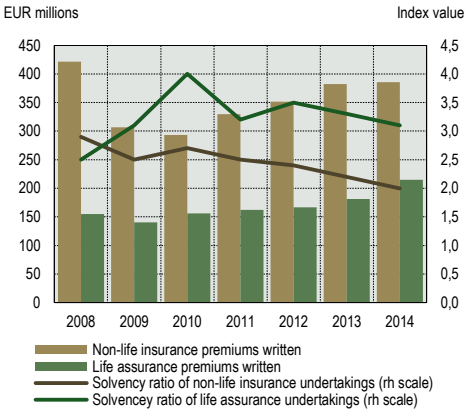
As implied by the successful outcome of stress tests and high solvency ratios computed under the new requirements of the Solvency II Directive, the insurance undertakings active in Lithuania have a low risk of insolvency. The tests last year run on the European insurance undertakings by the European Insurance and Occupational Pensions Authority (EIOPA) have shown that the SCR (solvency capital requirement) ratio of all insurers registered in Lithuania would exceed the regulatory threshold of 100 per cent even under the most adverse scenario. The sustainable state of the Lithuanian insurance sector was also evidenced by full compliance by all Lithuanian-owned insurance undertakings with the capital requirements calculated in accordance with the Solvency II Directive, which will come into force in Lithuania in 2016. In contrast to the existing Solvency I regime, the Solvency II Directive establishes capital requirements to cover all of the risks, to which insurance undertakings are exposed to, and not just the insurance risk. The new regulations, once they go into effect, should make a positive contribution to stability in the Lithuanian insurance market as its players engaged in riskier activities will have to hold more capital and will therefore be better placed to withstand stocks. Stability in the Lithuanian non-life insurance segment is also supported by the policy of high reinsurer diversification pursued by the insurance undertakings active in this market segment. A wider pool of reinsurers selected (see Chart 24) reduces the probability of non-reimbursement of losses from a large-scale disaster to the insurance undertakings active in Lithuania.

Studies conducted by the Bank of Lithuania have exposed a lack of transparency in the fast-growing segment of unit-linked life assurance. The undertakings offering unit-linked life assurance products often fail to provide the required information to their policyholders with a sufficient level of detail or avoid assessing their risk tolerance level, which may expose policyholders to excessive risks. According to a study[13] carried out by the Bank of Lithuania, just one of every two representatives of insurance undertakings selling unit-linked life assurance products bothers to inquire about the policyholders' level of risk tolerance or financial knowledge. The study has also shown that the insurers are even less inclined to disclose information about their behaviour in the event of the policyholder's breach of insurance contract or about the dispute settlement procedure. Moreover, customers are rarely notified about the charges levied by the investment managers chosen by the insurers, even though such fees may have a substantial impact on the amount of customers' capital savings. According to a study of the

[12] The loss ratio for non-life assurance undertakings indicates which share of premiums written is intended to cover insurance claim costs.
[13] Report on the assessment of the behavior in the provision of life assurance services to customers by invoking third parties: http://www.lb.lt/gyvybes_draudimo_imoniu_elgsenos_teikiant_klientams_gyvybes_draudimo_paslaugas_vertinimo_pasitelkus_treciasias_salis_ataskaita.

Chart 23. Premiums and solvency ratios of (non)life insurance undertakings

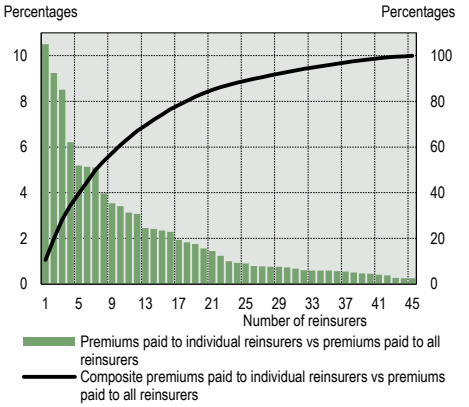
(January 2008–December 2014)



Source: Bank of Lithuania calculations.

Chart 24. Distribution of Lithuania's non-life insurers by choice of reinsurers, measured by reinsurance premiums written

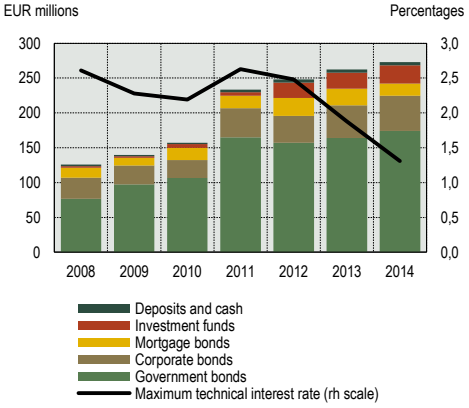
(31 December 2013–1 May 2015)



Source: Bank of Lithuania.

Chart 25. Assets of life assurance undertakings whose investment risk is borne by insurer

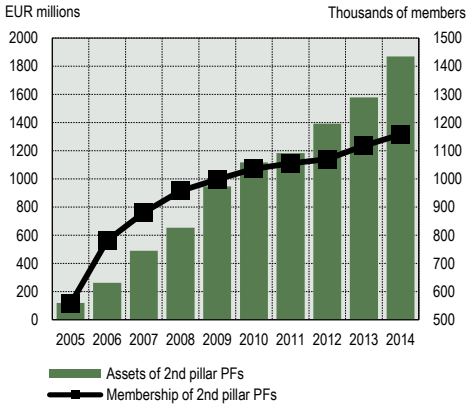
(2008–2014)



Source: Bank of Lithuania.

Chart 26. Assets and membership of 2nd pillar pension funds

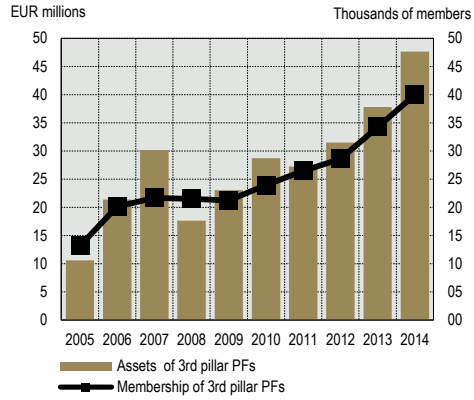
(2005–2014)



Source: Bank of Lithuania.

Chart 27. Assets and membership of 3rd pillar pension funds

(2005–2014)



Source: Bank of Lithuania.

impact of administrative fees on investment capital[14], which was carried out in March 2015, in many cases (including long-term saving schemes) the return on funds, which are invested periodically when buying a unit-linked life assurance product, is negative or is no more than the average long-term inflation rate due to the fees charged by the insurers and asset managers (regardless of the tax breaks applied by the state). As a result, the profitability of unit-linked investment often fails to meet consumer expectations. The Bank of Lithuania plans to introduce regulatory amendments in 2015 in a bid to bring more transparency to this insurance segment and to safeguard consumers.

With the yields on safe investment falling, some of the traditional life assurance undertakings feel the urge to take more risks. The life assurance undertakings that provide traditional life assurance products, which guarantee the agreed return to policy holders, have to deal with the risk of a too low return on investment. As the yield on safe securities continued its rapid descent in 2014 (for more details see "Prolonged low interest rate environment" in Section II of this review), those life assurance undertakings were forced to invest in lower-rated or longer-term bonds to satisfy their appetite for yield. The Lithuanian sellers of traditional life assurance often use investment in short-term debt securities to cover long-term liabilities. Therefore, they are exposed to high reinvestment risks and have a higher capital requirement, which grew further in 2014 amid a decrease in the maximum technical interest rate (see Chart 25). Nevertheless, traditional life assurance accounts for approximately one-fifth of the total amount of life assurance premiums written hence the insurance sector would not suffer a major systemic effect if some of those insurance contracts were to turn out to be loss-making.

The assets of the 2nd and the 3rd pillar pension funds grew at a rapid pace in 2014, as did the number of their members, against the backdrop of the country's economic growth and the rise in bond prices. In 2014, membership of the 2nd pillar pension funds increased by 3.5 per cent (see Chart 26 and new members tended to choose riskier funds as they sought better returns in the environment of low interest rates. Membership in the voluntary 3rd pillar grew at an even faster pace (by an annual 16.6% in 2014) (see Chart 27) and is expected to continue its rapid increase amid growth in household income, a decline in the interest rates offered by credit institutions and improvements in financial knowledge at the household level. In 2014, the assets of the pension funds active in Lithuania recorded impressive increases: of 18.5 per cent in the 2nd pillar and of 25.9 per cent in the 3rd pillar, supported by growth in contributions from members and a surge in bond prices in global markets (unit values of the 2nd and the 3rd pension funds increased by 7.8% and 7.3%, respectively, on average last year).

The growth in popularity of pension funds heightens concerns about the protection of entitlements of their members in the event of insolvency of annuity sellers. Those members of the 2nd pillar pension funds who want to use their savings are obliged[15] to purchase a pension annuity from a life insurance undertaking providing such an insurance service. If that undertaking goes bankrupt and the bankruptcy process takes longer than expected, annuity holders may not receive their payouts due for some time. A pension is usually the only source of income for retirees hence the loss of annuity benefits would substantially undermine their financial security. Although the compulsory pension annuity has thus far been purchased by a few members of the 2nd pillar pension funds (241 members), the annuities, which now comprise a small portion of pensions, will gain in significance in the future alongside growth in retiree numbers. One of the ways to ensure at least partial payment of pensions in the event of an annuity seller's bankruptcy could be to establish an annuity guarantee fund. Although such a scheme might lift the prices for annuities, it would safeguard pension fund members against the loss of pension benefits.

FINACIAL MARKET INFRASTRUCTURE

Prior to the changeover of the national currency to the euro, the existing financial market infrastructure in Lithuania was adapted for transactions in the single Euro-

[14] Report on the influence of administrative fees on financial capital: http://www.lb.lt/administraciniu_mokesciu_itaka_finansiniam_kapitalui

[15] The purchase of a pension annuity is compulsory where the basic pension annuity calculated for a pension fund member is equal to at least 50 per cent of the basic pension in the state social insurance scheme (i.e. EUR 52.5, given that the basic pension currently amounts to EUR 105).

pean currency. Banks in Lithuania have had access to TARGET2 — the Eurosystem's real-time payment system for large-value interbank payments — since as early as 2007. Following the adoption of the euro, the national component of this system, i.e. TARGET2-LIETUVOS BANKAS, has taken the role of the major payment system. Its equivalent for litas settlements — the real-time payment system LITAS-RLS — ceased operations as of 1 January 2015 and the balances on the accounts of its participants were converted from litas into euros and transferred to the payment system TARGET2-LIETUVOS BANKAS.

The retail payment system LITAS-MMS, which handles most of the settlements between the economic entities with accounts in different banks, has undergone the biggest number of changes resulting from the national currency changeover, including the broadening of the range of services offered by this system inform the beginning of 2015. In particular, the number of clearings has been increased from four to nine making the clearing hourly and the system has been equipped with an option of fast payments.[16] Infrastructure used for the settlement of euro securities transactions was developed and put into use in 2011, i.e. well before the national currency changeover. Important changes also occurred in the system of securities accounting, which includes the Central Securities Depository of Lithuania and account managers (banks and financial brokerage firms) as participants. The accounting changes required to replace the currency of debt securities, originally issued in the litas, by the euro were implemented in coordination between the Central Securities Depository of Lithuania and account managers.

Following the changeover to the single currency, the operation of the financial market infrastructure, as adapted for euro settlements, has been smooth and sound. The process of adapting the payment systems and the securities settlement system to operations in euro went smoothly (with no incidents recorded) and the performance of the resultant systems in Lithuania has been free of any serious incidents (that may disrupt their functioning) ever since. These results have been achieved through efforts to ensure the preparedness of all market players concerned and through advance testing of the systems involved.

In the short term, the biggest challenge for the functioning of the financial market infrastructure will be Lithuania's migration to the Single Euro Payment Area as it will be necessary to ensure smooth settlement between banks using different payment channels. In the Single Euro Payment Area (SEPA), payment service providers are free to choose one of two channels for making payments in euros — a payment system in euro area or a correspondent bank. The participants of LITAS-MMS, the Lithuanian payment system, have split into two groups. Starting from 2016, *AB SEB Bankas*, *Swedbank, AB* and *AB DNB Bankas* as well as the branches of foreign banks active in Lithuania will migrate — through parent banks and headquarters — their euro payments to STEP2, a payment system run by *EBA Clearing*. Other banks and payment service providers other than banks will use a SEPA-compliant payment system being developed by the Bank of Lithuania. This will change the process of payments between the participants which have opted for different payment systems (due to the emergence of additional points of payment processing and transfer). Smooth migration from a single payment system to several settlement channels requires coordination of all efforts made by payment system participants and the Bank of Lithuania. To achieve such coordination, the Bank of Lithuania and the participants of payment systems intend to work out a testing and migration plan, which all of the parties concerned will voluntarily commit themselves to adhere to.

Changes in payment execution channels will necessitate increased focus on systemically important European payment systems, in particular the retail payment system, which will be utilised by the country's top banks. As part of efforts to implement the Principles for Financial Market Infrastructures[17] published by the Bank for International Settlements (BIS), in 2014, the ECB adopted Regulation No 795/2014,[18] which established the criteria for the identification of payment systems as systemically important, as well as the requirements applied to such systems. The Bank of Lithuania will participate in oversight of systemically important payment systems (SIPS) as part of the Eurosystem. The systems falling under the definition of SIPS include STEP2, the pan-

[16] Fast payments mean near real-time payments.
[17] Principles for Financial Market Infrastructures, April 2012, BIS-IOSCO.
[18] Regulation of the European Central Bank (EU) No 795/2014 of 3 July 2014 on oversight requirements for systemically important payment systems (ECB/2014/28).

European retail payments system which will be used by some of the banks operating in Lithuania.

The banks operating in Lithuania will settle payments in the STEP2 system through their parent institutions hence the smooth functioning of internal systems of these banking groups will be of paramount importance. Lithuania's banks will access STEP2 as indirect participants. This payment system has in place the arrangements for tiered, i.e. direct and indirect, participation. In view of the specific features of such participation, the Eurosystem has established the requirements for tiered participation arrangements of payment systems. The requirements deal with direct participants, which are used by important indirect participants to settle their payments. The assessment whether the participants are important or not is based on the volumes and values of their payments in proportion to the total volumes and values of payments settled through the system by a respective direct participant. The Lithuanian banks will not pose any material risks in terms of these parameters hence the requirements on the oversight of the STEP2 payment system may not extend to the direct participants, which will be used to settle the major part of the payments originating from the Lithuanian economic entities.

A new regulatory framework for securities settlement in the EU[19] entails changes to the operating environment of the central securities depositories (CSDs), which lead to strategic shifts in the operations of these institutions in the Baltic countries. The CSD Regulation has introduced a uniform, EU-wide regulatory regime for these institutions. Moreover, it has established a possibility to choose any CSD authorised in the Union, and not necessarily the CSD of the home Member State, for recording a securities issue. In addition, CSDs have been given freedom to provide services in other Member States, including through setting up a branch. Although these changes to the legal regulatory landscape enhance competition, they put in place, simultaneously, a set of new requirements for CSDs activities and management, which are broader in scope and more stringent than the previous rules and include, for example, the requirements to have independent members sitting on the board, to implement settlement discipline controls and to make more disclosures. These requirements may lead to an increase in CSD operating costs, which is usually more painful for smaller institutions, such as the CSDs established in the Baltic countries. In view of the new conditions established in the abovementioned regulation, the *Nasdaq* Group, which owns the CSDs of all three Baltic countries, has decided to reorganise them into a single CSD with headquarters in Latvia and branches in Lithuania and Estonia. The new CSD should start activities early in 2017.

Changes in the securities settlement infrastructure in the Baltic countries will be accompanied by changes in its supervision. Pursuant to the new CSD Regulation, the primary supervisory responsibility is delegated to a competent authority charged with the supervision of financial market participants in the CSD home country. However, the supervisory process shall also involve other relevant authorities, including the central banks responsible for the oversight of securities settlement systems as well as the competent authorities in the countries where the activities of CSDs are of importance for the functioning of the securities market. The activities of the new CSD will be of substantial importance for all three Baltic countries, which means that its supervision will involve the authorities from Lithuania and Latvia as well as Estonia. In accordance with the CSD Regulation, these authorities will have to establish cooperation arrangements for the supervision of the new CSD, which, among other things, should define adequate and proportionate roles of supervisory authorities from all three countries in the supervisory process.

[19] Regulation (EU) No 909/2014 of the European Parliament and of the Council of 23 July 2014 on improving securities settlement in the European Union and on central securities depositories and amending Directives 98/26/EC and 2014/65/EU and Regulation (EU) No 236/2012.

II. RISKS TO THE FINANCIAL SYSTEM

This section addresses the most relevant of the existing risks for the Lithuanian financial system and its stability as well as their impact channels and implications, if these risks were to materialise (see Table 2). The main sources of losses to the Lithuanian financial system, which would undermine its stability, are twofold. First, it is a worse-than-expected Lithuanian economic development due to weakening external demand, which may trigger an increase in credit risk. The second source relates to adverse changes in financial markets that might surface in a continued ultra-low interest rate environment or due to a snapback in the risk premia, which would entail revaluation of financial assets to the detriment of financial system participants. The Lithuanian financial system might also feel repercussions from potential adverse developments in Northern Europe due to close ties between banks in Lithuania and their parent institutions headquartered in the Nordic counties. The scenarios of the risks discussed which, if happened, would trigger losses for banks, have a low probability of occurrence and are not included among the developments projected by the Bank of Lithuania. In addition, the Lithuanian financial system might also be adversely affected by challenges stemming from the debts of municipal authorities or the development of the credit union sector. However, the effect of these factors, albeit substantial, would not be systemic.

Table 2. Main risks and challenges to the Lithuanian financial system

Risks	2014	2015
1. Potential increase in credit risk due to a slump in demand from export markets*	⇧ / ⇨	↗
2. Prolonged low interest rate environment	↗	↗
3. Risks stemming from the activities of parent banks	↗	⇨
4. Snapback in risk premia	⇧	⇨
Challenges	**2014**	**2015**
1. Debts of municipal authorities	⇨	↘
2. Unbalanced development of credit unions	⇨	↗

High systemic risk		Elevated probability of risk occurrence ⇧
		Slightly elevated probability of risk occurrence ↗
Medium systemic risk		Unchanged probability of risk occurrence ⇨
		Slightly reduced probability of risk occurrence ↘
Low systemic risk		Reduced probability of risk occurrence ⇩

Note: the existing level of risks has been established based on expert evaluation, taking into account the probability of the risks occurring and their potential systemic impact. The probability of risk occurrence captures changes that have taken place since the publication of the Financial Stability Review 2014.
** In 2014, this risk was split in half between eastward export (upper arrow) and westward exports (lower arrow); in 2015, this risk has been assessed as a whole, given its common impact channel.*

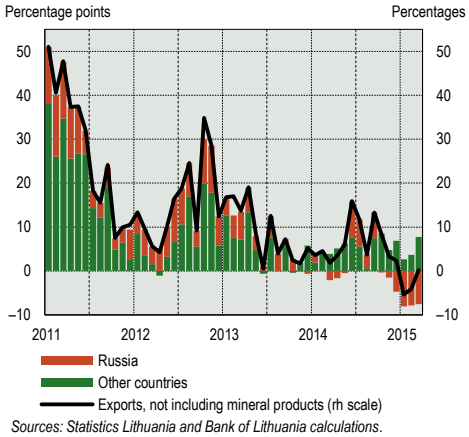
CREDIT RISK DUE TO A SLUMP IN DEMAND FROM EXPORT MARKETS

The economic development of Lithuania's two biggest export partners started to diverge in 2014 and is projected to follow opposite paths in the short term. Last year's Financial Stability Review identified simultaneous slowdown in economic growth in Lithuania's key export markets as one of the factors exacerbating the risk of Lithuania's export decline. Although the Russian economy is facing difficulties and, as indicated by recent forecasts, will suffer a downturn this year and next, the economies of the EU and the euro area are growing and their growth is forecasted to accelerate further in the future. New possibilities for exporters to offset losses sustained in Eastern markets (see Chart 28) with gains in sales in other markets (basically, in the West) reduce the scale of a potential increase in credit risk, which may be triggered by a decline in exports.

Although the impeded access to eastern export markets leads to increased uncertainty with respect to the outlook for companies engaged in certain types of

Chart 28. Annual changes in Lithuania's merchandise exports, not including mineral products

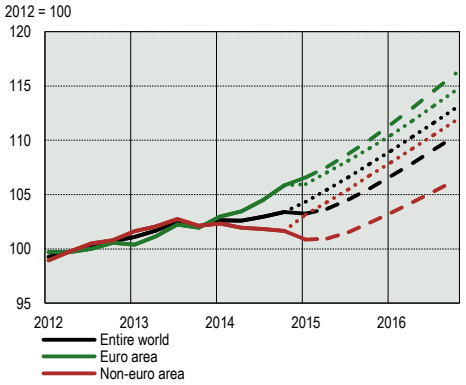
(January 2011–March 2015)



Sources: Statistics Lithuania and Bank of Lithuania calculations.

Chart 29. Foreign demand index for Lithuania and its forecasts

(Q1 2012–Q4 2016)



Sources: ECB and Bank of Lithuania calculations.
Note: the October 2014 data is represented by the dotted line and the February 2015 data – by the dashed line.

Chart 30. Russia's official reserve assets and crude oil price in the market

(January 2008–April 2015)

Source: Bloomberg.

Chart 31. Russian rouble exchange rate and cost of insurance against Russia's default

(1 January 2010–30 April 2015)

Sources: Thomson Reuters, ECB and Bank of Lithuania calculations.

economic activities, this has not yet affected the performance of these undertakings and has not turned into credit losses. Russia's import restrictions were introduced in August 2014. However, the Lithuanian non-financial corporations still stood unscathed at the end of 2014. In particular, the food industry companies reported stable sales revenues for the fourth quarter whereas the land transport companies even recorded an increase in turnover. On the other hand, the latest data suggests that the financial performance of the companies with active operations in export markets still runs the risk of deterioration. In March 2015, exports of goods of Lithuanian origin to the Russian Federation slumped by 60.2 per cent on a year-ago basis and the exports of farm and food products alone decreased by EUR 53.7 million (or 20.7%) year-on-year. In April 2015, the share of industrial companies describing export demand as too low increased by an annual 4 p.p. to 36 per cent. Moreover, those companies reported a decrease in production capacity utilisation rate, which shrank by an annual 1 p.p. in April 2015, to 74 per cent.

Lithuania's exports started to decrease in the period under review. In particular, the exports of goods and services shrank by 0.6 per cent in 2014 and their outlook turned gloomier (see Chart 29). Trade sanctions against Russia stay in place as the conflict in Ukraine remains far from resolved and exports to the Russian market are likely to continue their decline in 2015. The situation is further aggravated by the worsening state of the Russian economy and the effects of that deterioration on the economies to which Russia is an important foreign trade partner. For example, the growth of Estonia's and Latvia's economies has slowed down due to a decline in trade with Russia, which led to a simultaneous decrease in demand for imports from Lithuania in these countries (in 2014, Lithuania's exports to these markets fell by 13.8%). The banking sector has responded to these changes in the Lithuanian export markets with a decrease in competition for loans to transport and accommodation businesses and with the most significant restrictions on lending to these types of activities.[20] The exporters' failure to find a replacement for the revenues lost due to a fall in demand in Russia would augment their credit risk and bring in losses for banks.

If the Russian economy were to experience a downturn in 2015 and 2016, exports to that country would continue to decrease, which would make it more difficult for exporters to keep their financial health strong. In its forecasts published in April 2015, the IMF predicted that the Russian GDP would contract by 3.8 per cent in 2015.[21] In 2016, the Russian economy is expected to continue its decline, which will slow down to 1.1 per cent (in January 2015, the IMF forecast a fall of 1.0%). In the short term, faster recovery of the Russian economy will be impeded both by foreign trade restrictions imposed against that country and by relatively low prices of crude oil.[22] Moreover, the continued rise in uncertainty about the economic situation in Russia fuels capital flight from that country, which sends the rouble tumbling. As a result, the Russian central bank is forced to tap into its international reserves to maintain the value of the national currency[23] (see Chart 30). This enhances the country's default risk, which is reflected in downward revisions of credit ratings issued by international rating agencies and in the values of credit default swaps (see Chart 31). Hence Russia will encounter difficulties in refinancing its existing external debt (which accounted for 35.8 per cent of the country's GDP at the end of 2014) and the public sector may have to cut down on its spending and will therefore not contribute to the economic growth (in 2015 and 2016, the public sector will have to redeem approximately one-tenth of its external debt).

Meanwhile, the EU economy is recovering and growth forecasts for some of its member states, which play an important role for Lithuania, have recently been revised upwards hence the exporters may offset some of the revenues lost in Russia with the gains in sales revenues in the EU. The European Commission, in its 2015 Spring Forecast, upgraded its 2015 economic growth forecast for the EU to 1.8 per cent, from 1.5 per cent projected in the autumn of 2014. Economic growth fore-

[20] Bank lending survey No 2, April 2015.
[22] As compared to the forecasts published in January 2015, this growth forecast has been revised down by 0.8 p. p. Some other international institutions (e.g. the European Bank for Reconstruction and Development, Bloomberg and Reuters) anticipate an economic downturn of between 3.6 and 5.0 per cent in Russia in 2015.
[23] The marketing of crude oil is the main source of Russia's budget revenue. Based on the expenditure schedule in the beginning of 2015, the budget needs the oil price of around USD 100 per barrel to achieve a balance.
[23] In March 2015, Russia's international reserves contracted by more than one-fourth year-on-year to USD 356 billion.

casts for Lithuania's important trading partners, i.e. Germany, Poland and Estonia, have also been revised up to 1.9 per cent, 3.3 per cent and 2.3 per cent, respectively (from 1.1 per cent, 2.8 per cent and 2.0 per cent, respectively, projected in the autumn of 2014). Moreover, the indicators reflecting future expectations of the Union's companies and households have been improving of lately, suggesting a higher probability of stronger consumption and investment in the future.

Even if the financial health of exporters takes a turn for the worse, the banking sector is resilient enough to withstand potential credit losses. By the end of 2014, the capital adequacy ratio of the banking sector increased to 21.3 per cent (see "" in Section I of this review). The companies that mainly export to Russia account for approximately 5 per cent of the total banking loan portfolio and, in addition, they compete successfully in other foreign markets,[24] which makes it unlikely that a decrease in exports would produce a substantial effect on the stability of banks' activities, i.e. on their ability to take on losses, in the nearest future.

PROLONGED LOW INTEREST RATE ENVIRONMENT

A prolonged low interest rate environment fuels investors' risk appetite, lulls unprofessional market players into believing that this environment is a new normal and augments the incentives to invest in real estate. The prevalence of low interest rates undermines the capacity of households to achieve the desired level of savings for the future. Market participants — both professional and non-professional — become more inclined to invest their money holdings in riskier financial assets instead of keeping them in bank accounts or in saving bonds as they keep searching for yield. This sends the prices for equities or bonds soaring to the levels that often do not reflect their underlying risk and augments the vulnerability of investors to fluctuations of such prices. This is coupled with a growing risk of unsustainable property price increases in the mid- or long-term as investors may come to believe that the acquisition of property is a viable alternative to financial investment amid lack of profitable financial instruments (for more details see "Real estate market" in Section I of this review).[25] Moreover, such an environment may trigger changes in households' expectations about the future as the households opting for variable interest in their borrowing decisions may unreasonably overlook a probability that interest rates will start to rise with changes in economic indicators. As an example, the average interest rate on new loans for house purchase (in euros) was 1.9 per cent in March 2015. However, it is likely to approach the long-term average rate, which is twice as high, with an increase in inflation.

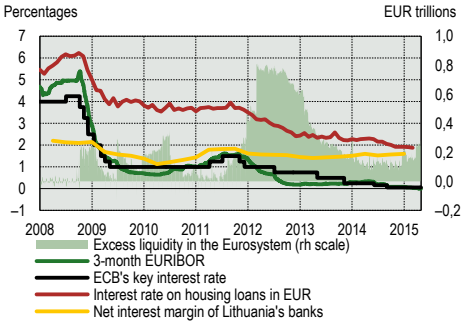
As the economic recovery in the euro area is still in its nascent stages and the price level continues to fall, the ECB will keep its accommodative monetary policy in place, which underpins expectations that interest rates will stay low even longer. The EURIBOR rates for various maturities have fallen substantially since early 2014 (the 3-month EURIBOR even turned negative late in April 2015), as have the EURIBOR futures quotes, which reflected expectations of a continued decrease in interest rates in the euro area (see Charts 32 and 33).

For example, the 3-month EURIBOR rate was expected in May 2015 to stay at or below 0.5 per cent in five years' time. Moreover, long-term interest rates showed a substantial decline in 2014 as investors sought for yield. The economic growth in the euro area still remained subdued in 2014 and the price level showed a too slow growth pattern (in March 2015, it even fell by 0.1% year-on-year). Therefore, the ECB cut its key interest rate to 0.05 per cent in 2014 and embarked on a EUR 1.1 trillion asset-purchase programme in March 2015.

The decreasing credit risk of loan portfolio and the ability of the banking sector to continue generating positive net interest income mitigate the risk posed by the prolonged environment of low interest rates. The continued growth of Lithuania's economy has brought along improvements in the financial health of obligors of the Lithuanian banks. In the course of 2014, the unemployment rate in Lithuania shrank by

Chart 32. Interest rates and excess liquidity in the Eurosystem

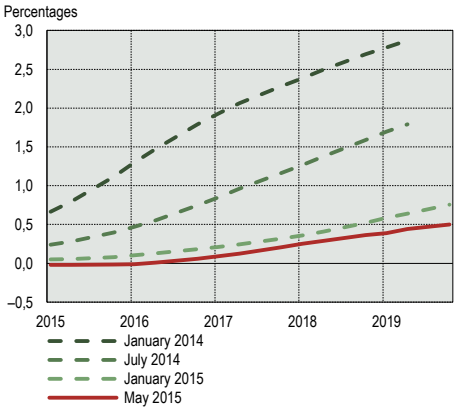
(1 January 2008–1 May 2015)



Sources: Bloomberg, ECB and Bank of Lithuania.
Note: excess liquidity in the euro area is calculated as the amount of reserves held by central banks in the Eurosystem in excess of the aggregate needs of the banking sector arising from minimum reserve requirements and autonomous factors.

Chart 33. 3-month EURIBOR futures

(January 2014–May 2015)



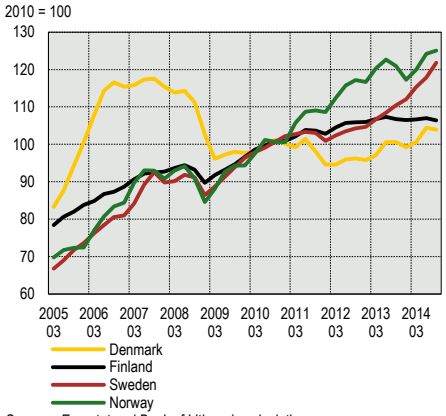
Sources: Bloomberg and Bank of Lithuania calculations.

[24] The search for new markets is also facilitated by measures taken by authorities, such as the provision of support to companies in search of new markets (e.g. reimbursement of costs of participation in international exhibitions) or adoption of amendments to meat processing legislation to give legal effect to ritual animal slaughter.

[25] In January 2015, even the average interest rate on new longest fixed-term deposits (over 2 yrs.) was as low as 1.6 per cent whereas the annual (rental) yield of a standard new 60 square meter apartment in the capital city ranged between 4 and 5 per cent.

Chart 34. Housing prices in Nordic countries

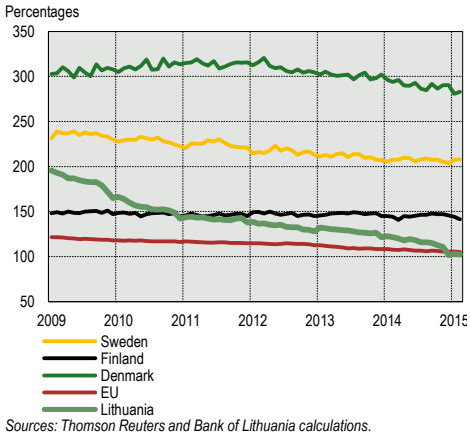
(Q1 2005–Q4 2014)



Sources: Eurostat and Bank of Lithuania calculations.

Chart 35. MFI loan-to deposit (excl. financial institutions) ratio

(January 2009–February 2015)



Sources: Thomson Reuters and Bank of Lithuania calculations.

1.3 p.p. (to reach 10.1% at the end of the year), whereas real net wages increased by 5.1 per cent. The 2014 revenue of non-financial corporations was broadly unchanged from the previous year although their profit before taxation grew by 13.2 per cent. When lending to the private sector stalls, the growth of revenue reduces the sector's level of leverage and enhances its capacity to withstand a sudden spike in interest rates. The decrease in interest rates and the loan portfolio came along with a decrease in debt servicing burden of the non-financial sector. Moreover, the net interest margin increased slightly in the period under review as the banks were quicker to lower their interest rates for deposits, rather than their lending rates (see Chart 32). This supported the rise in the banks' net interest income (by 7.5% year-on-year) which in turn helped the banking sector remain in the black (see "" in Section I of this review).

The Bank of Lithuania has amended its Responsible Lending Regulations with the aim to make sure that households, as non-professional participants of the financial market, do not take on excessive financial liabilities and are duly safeguarded against the risks relating to potential adverse fluctuations in interest rates in the future. In line with these amendments, the calculations of the debt-service-to-income (DSTI) ratio will use the effective interest rate, which, however, shall be no less than 5 per cent.[26] A higher interest rate makes it more difficult to fulfil the DSTI ratio, which leads to incentives to extend the duration of the loan. To prevent that, the amendments have introduced the maximum maturity cap of 30 years for loans. These amendments are scheduled to come into effect on 1 November 2015 (for more details see "" in Section III of this review).

RISKS STEMMING FROM THE ACTIVITIES OF PARENT BANKS

The Lithuanian banking market is dominated by the Nordic-owned banks. Therefore, shocks to the financial system in Nordic countries would have negative repercussions for the Lithuanian financial sector. In December 2014, these banks (i.e. *AB SEB Bankas*, *AB DNB Bankas*, *Swedbank*, *AB*, *Danske Bank A/S* Lithuania branch, *Nordea Bank AB* Lithuania branch, *Pohjola Bank Plc.* Lithuania branch) accounted for 92.8 per cent of total loans issued by the domestic banking sector and for 87.7 per cent of total deposits. A part of the public does not distinguish between the Nordic-owned banks operating in Lithuania and their parent institutions, even when they perform as standalone legal entities. Moreover, the Nordic-owned banks in Lithuania tend to manage their liquidity on the intra-group scale. Therefore, if parent banks were to come under pressure, their subsidiaries would have to help maintain their liquidity levels or to replace parent funding with costlier alternatives.[27] Finally, the emergence of financial tensions in the Nordic countries would dent the appetite for risk among the parent banks and affect their strategic decision-making at the group's level, which would lead to a decrease in lending to sectors with a higher risk profile (e.g. real estate operations industry), including those in the Baltic countries.

High levels of property prices and of private sector's leverage, coupled with the banks' tendency to meet much of the funding needs with foreign currency debt, make the financial systems of the Nordic countries highly susceptible to shocks. House prices in Norway and Sweden continued their upward climb in 2014 (see Chart 34), in defiance of earlier warnings from the central banks of both countries that these prices are already disproportionately high. At the same time, the leverage level in Sweden increased by 4.6 p.p. to exceed the country's full-year GDP by two-and-a-half times. The respective rates for Norway and Finland also showed increases — of 1.8 p.p. and 4.9 p.p., respectively. These factors undermine the capacity of the Nordic economies to withstand larger shocks. For example, a slowdown in economic growth would render some of the private sector's debtors unable to meet their existing financial liabilities in time, which would trigger losses for the banking sector. This, in turn, would elevate the risk profile of the Nordic banks and would probably lift the cost of funding for their operations (the loan-to-deposit ratios of the banking sectors in those countries are relatively high, see Chart 35). The Nordic banks, with the exception of *Pohjola Bank*

[26] As regards the loans, which have a fixed interest rate for their entire term, the calculations of interest payables will continue to use the effective estimated interest rate.

[27] As of 31 December 2014, funding received from parent institutions accounted for 21.0 per cent of their subsidiaries' liabilities.

Plc. Lithuania branch, tend to take opportunities to raise money through the financial markets. In particular, such funding accounted for 44.1 per cent of their liabilities at the end of 2014. Moreover, foreign currency funding, mostly in US dollars, comprised about a half of total non-deposit funding at the end of that year. These banks are likely to pass an increase in borrowing costs on to their debtors, including the subsidiary banks operating in Lithuania.

Macro-prudential policy instruments, which are applied by the Nordic financial market regulators or are still in the pipeline, mitigate the risk of financial imbalances in these countries. Although these authorities believe that the measures in force are still insufficient to eliminate financial imbalances, these instruments do reduce the scale of this risk. The year 2014 saw the tightening of capital requirements for the Swedish banks. In particular, the regulatory authority established a systemic risk buffer of 3 per cent for the four largest banks (will come into effect in 2015) and a 25-per cent mortgage risk-weight floor for the banks that use the internal ratings-based approach to measure their credit risk. Moreover, a countercyclical capital buffer of 1 per cent will come into effect in September 2015. As regards the Norwegian banks, a countercyclical capital buffer of 1 per cent was established late in 2013 and will be effective from July 2015. In Denmark, the regulator intends to introduce the requirements (will come into force in 2019) for a systemic risk buffer, which will range from 1 to 3 per cent in individual banks. These measures should make the Nordic banks more resilient against potential losses. At the same time, however, they may also act as a brake on credit growth.

The growth of the Nordic economies, low unemployment rates and high household income make the financial sectors in those countries more resilient against economic shocks. In 2014, all of the Nordic countries except Finland outpaced the euro area economy in terms of real GDP growth and the unemployment rates in Sweden, Finland and Denmark were all below the EU average.[28] Moreover, the disposable income per capita in the Nordic countries was among the highest in the EU (e.g. in Sweden, three times the EU average). The figures published by the IMF in its April 2015 report also suggest a relatively fast paced economic growth and rather rapid falls in unemployment rates in these countries.

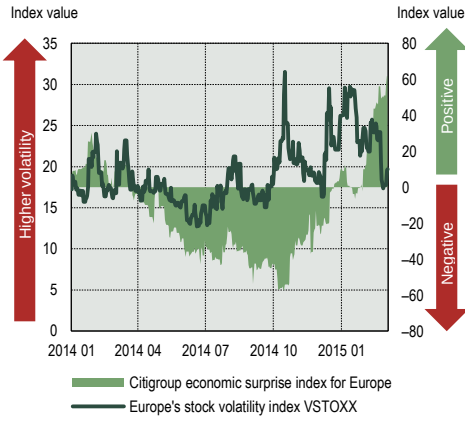
The Lithuanian banks have been reducing their dependence on external funding of lately hence the scale of the risk stemming from the activities of parent banks can be considered as lower. The loan-to-deposit ratio of the banks operating in Lithuania fell by 16.6 p.p. on a year-on-year basis, to 90.6 per cent at the end of 2014 (as opposed to 176.0% at the end of 2008). Stripping of the effect of an influx of deposits, which was observed before the introduction of the euro and had a substantial impact on this ratio, the correlation between loans and deposits would be approximately 100 per cent, which means that the banks in Lithuania fund themselves almost entirely in the domestic market and are less dependent on liquidity provided by their parent institutions (however, some of the banks still remain highly dependent on external sources of funding). Moreover, the banks operating in Lithuania have substantial holdings of assets that are eligible as collateral in the Eurosystem, which offers them additional chances to reduce the liquidity risk (for more details see “” in Section I of this review).

SNAPBACK IN RISK PREMIA

As yields on safe financial assets in the global markets remain low, investors are forced to take on bigger financial risks. This means that the problems that might be triggered by a snapback in the risk premia are still just as relevant as before. Unfazed by the weak growth of nominal GDP in the EU, the military standoff between Russia and Ukraine and the political uncertainty triggered by fears of a potential default by the Greek government on its debt obligations, investors kept searching for yield in almost every corner of the global financial markets in 2014 and in early 2015 amid increases in the value of assets and the continued historically low risk costs. Sudden spikes in volatility (albeit short-lived) observed in one or another market in that period

Chart 36. Economic surprises and stock volatility in Europe

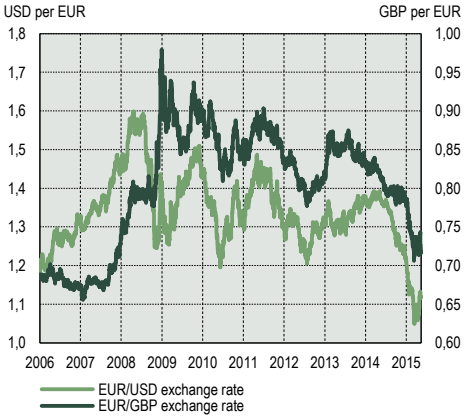
(1 January 2014–1 May 2014)



Sources: Bloomberg and Bank of Lithuania calculations.

Chart 37. EUR/USD and EUR/GBP exchange rates

(1 January 2006–1 May 2015)

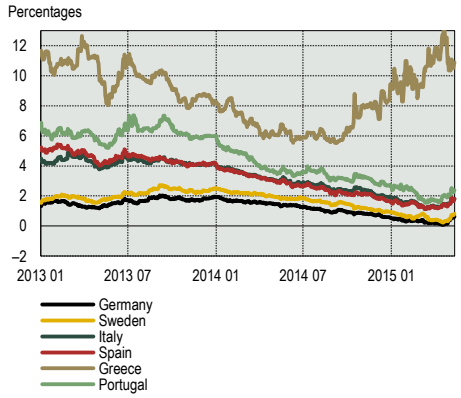


Sources: ECB *and Bank of Lithuania calculations.*

[28] According to the Eurostat data, the unemployment rates in Sweden, Finland and Denmark were 8.4 per cent, 8.8 per cent and 6.4 per cent, respectively, at the end of 2014. The average unemployment rate in the EU was 10 per cent.

Chart 38. Annual yields on Europe's 10-yr government bonds

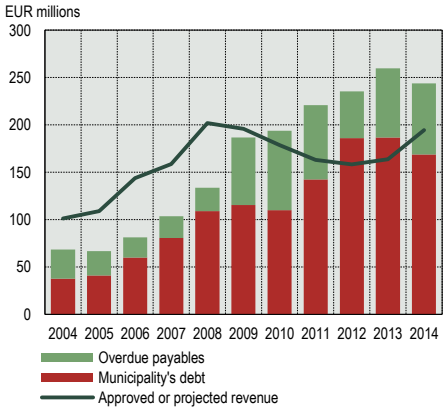
(1 January 2013–15 May 2015)



Source: Bloomberg.

Chart 39. Liabilities and revenue of Vilnius municipality

(2004–2014)



Sources: Ministry of Finance and Bank of Lithuania calculations.

(see Chart 36) suggested low liquidity of the secondary market.[29] This means that a larger shock may trigger a rapid change in risk premia. The run-up in sovereign bond yields seen in late April and early May 2015 (e.g. the yield on 10-year German bund climbed by 0.5 p.p.) reflected investor concerns about the potential overpricing of financial assets and the sensitivity of their response to unexpected economic news.

Changes in market participants' expectations continue to be seen as the most likely catalyst of a sudden and chaotic return of risk premia to their historical average levels, due to changes in monetary policy. Given the universal hunt for yield in the markets, investors increasingly tend to base their decisions on beliefs about the behaviour of other investors instead of fundamental factors (they expect an increase in value induced by the herd behaviour). Moreover, the growth of financial asset prices in 2014 and in early 2015 was supported by the accommodative monetary policy stances and extremely low volatility in the markets. The normalisation of monetary policy in the United States, as opposed to Europe where it is set to stay ultra-loose for some time (see "Financial Markets and the Economy" in Section I of this review), points to the likelihood of increased volatility, at least in the currency market, in the near future (see Chart 37). Changes in expectations may be triggered by changes in attitudes towards the conflict in Ukraine, a weaker than expected economic growth or a failure to find a solution to the Greek public debt crisis. In consequence, investors would demand higher returns for risk and those who are less tolerant of risk would unwind their existing positions. A large influx of sellers in low-liquidity markets would induce a spike in risk premia and a fall in the value of financial assets. An increase in volatility observed in the market for sovereign bonds late in April and early in May 2015 suggests that the adjustment in risk premia may also be triggered by generally good news, if it is unexpected (such as faster-than-expected economic growth or inflation indicators closer to the target pursued by the monetary policy).

In 2014, some of Lithuania's financial institutions saw an increase in the proportion of assets sensitive to market fluctuations, which made them more vulnerable to a sudden reversal of risk premia. However, the sector as a whole remained sufficiently resilient, mainly due to a decrease in the proportion of marked-to-market assets (debt securities) of the Lithuanian banks to 8.6 per cent at the end of 2014, from 10.2 per cent the year before. The same time period saw an increase in the sensitivity of credit unions to a snapback in risk premia as their holdings of debt securities, as a proportion of total assets, rose by 5.7 p.p. over the year to 35.8 per cent (for more details see "Unbalanced development of credit unions' sector" in this Section). Although the hunger for yield has recently been pushing up the prices for investment instruments traded on financial markets and allowing their holders to harvest profit, an adjustment of risk premia would trigger losses for these financial assets. As regards other participants of the financial market, the share of such assets showed moderate increases, yet remained high. At the end of 2014, debt securities and corporate stocks accounted for 92.2 per cent of the total assets of the Lithuanian pension funds. The respective shares for investment funds and insurance undertakings[12] were 87.2 per cent and 80.0 per cent, respectively. Although the assets susceptible to market fluctuations are mainly held by all these institutions until maturity, those funds would also sustain losses if they needed to divest the assets on a short notice in a contingency event (e.g. risks to insurers without reinsurance coverage, which would emerge in a catastrophic insured event).

Correlations between values of investment instruments weakened substantially in 2014 and early 2015 (see Chart 38), reflecting investors' response to political uncertainty in the euro area triggered by concerns about the sustainability of the Greek public debt. Back in 2011, as the correlation between sovereign securities of southern euro area's countries was high, negative news in one country would translate into higher pricing of risk in others. Meanwhile, despite the situation in Greece, the yields of government securities of other euro area countries remained unchanged late in 2014 and early in 2015. In the same vein, spikes in volatility of oil and currency markets recorded

[29] Although the volume of assets traded in the markets was not substantial (when measured historically), the value of financial assets exhibited strong fluctuations. For example, volatility in the European stock markets (EURO STOXX 600) soared by 30.3 per cent in October 2014, as compared to previous months, whereas the trading turnover increased by mere 13.2 per cent, as compared to the average level of the past seven years. This implies that sellers have to offer a substantial discount in order to find buyers when they need to sell their financial asset holdings on a short notice.

[30] The latest statistical data available for insurance undertakings refers to the third quarter of 2014.

in the second half of 2014 did not trigger any risk re-pricing in other segments of financial markets.

The depreciation or appreciation of securities would not have caused any serious problems to the main participants of the Lithuanian financial market, i.e. commercial banks, in 2015, given their high capital adequacy ratios. As shown by the estimates based on the assumption that the banks' holdings of securities, as of late 2014, were entirely made up of the papers issued by the Lithuanian government and matched the average maturity of such securities put on the market, an increase in yield by 1 p.p. would have brought EUR 55 million in losses for the banking sector and would have driven the average capital adequacy ratio down to 20.8 per cent, from 21.3 per cent. The capacity of other financial sector's participants (with the exception of credit unions) to withstand fluctuations in the value of securities is also strong, among other things, due to the fact that their liabilities to customers are usually tied to fluctuations in the values of financial assets, which means that a fall in prices would trigger losses to an institution's (e.g. investment funds') customers, and not to the institution itself.

A sudden change in risk premia depends on external factors, which are essentially beyond control, which means that this risk should be addressed through measures to reduce the risk sensitivity of the Lithuanian financial institutions. In the light of that, the Bank of Lithuania has drafted the rules on investment in government securities for credit unions (which are the most sensitive to the risk-premia risks among the domestic financial institutions), which put a cap on their investment in exposures sensitive to market fluctuations (see "Reform of the Credit Union Sector" in Section III of this review). In addition to such specific measures, it is also vital to continue warning market players about the threats posed by excessive risk taking in the financial markets.

CHALLANGES TO THE FINANCIAL SYSTEM

Debts of municipal authorities

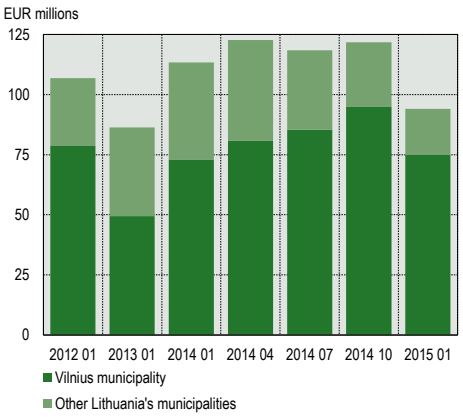
After a long period of growth, the financial liabilities of the country's municipalities shrank by 3 per cent in 2014. The debt of the city of Vilnius, which has been the biggest concern in recent years, decreased as well last year (see Chart 39). Total liabilities of the capital city, including overdue payables, fell by an annual 6.1 per cent to EUR 243.7 million at the end of the fourth quarter of 2014. As a result, the debt-to-income ratio of the country's capital shrank by 33.4 p.p. on a year-on-year basis to 125.4 per cent, which was 9.6 p.p. below the debt ceiling set for the municipality. However, this was mainly due to an increase in municipal budget revenue required to implement the functions transferred by the central government, and not due to substantial improvements in spending management.

Despite improvements in financial health, the liabilities of the country's municipalities remained unsustainable in terms of structure. For example, the municipality of the capital city was forced to withhold more payables as it was refused financing from banks. In particular, such amounts overdue rose by an annual 2.5 per cent to reach EUR 74.8 million in the final quarter of 2014[31] (see Chart 40). The ratio between overdue payables and annual income of the municipality of Vilnius was 38.5 per cent in the same time period, as opposed to the average ratio of 2.4 per cent for all other municipalities. This year, competent authorities have embarked on the drafting of amendments to the municipal borrowing regulations, as a result of which municipal liabilities would be taken to include more of other than bank borrowings, which would improve the precision of the statistics on compliance with debt caps. The amendments will also set forth borrowing limitations for cases where a municipality defaults on loans obtained from the central government or on behalf of the state, or fails to adopt its budget. This measure may help improve the fiscal discipline of the country's municipalities.

[31] Moreover, the municipality of Vilnius will have to refinance loans worth EUR 33 million (and to pay EUR 9.6 million in interest) in 2015 hence it is likely to delay even more payments or to borrow at a higher rate.

Chart 40. Overdue payables of Lithuania's municipalities

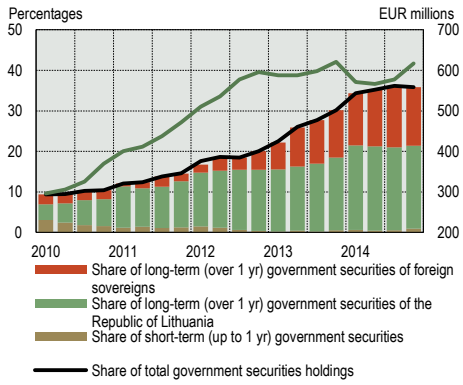
(2011–2013; Q1–4 2014)



Sources: Ministry of Finance and Bank of Lithuania calculations.

Chart 41. Developments in credit unions' investment in government securities

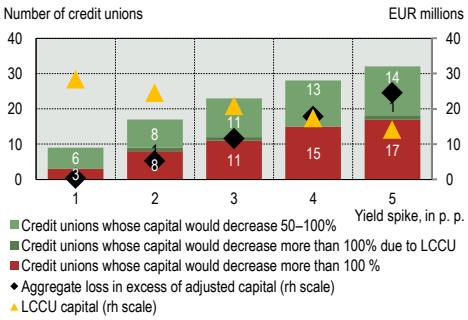
(Q1 2010–Q4 2014)



Source: Bank of Lithuania calculations.
Note: the maturity of government securities as shown in the chart represents residual maturity at the time of purchase.

Chart 42. Credit unions' resilience to yield spikes

(Q4 2014)



Sources: Bloomberg and Bank of Lithuania calculations.
Note: 1) based on the assumption that each union has used the leverage principle in its investment in existing euro-denominated government securities of the Republic of Lithuania of five different maturities – in accordance with the nominal values falling into maturity brackets defined in the liquidity report; 2) the test takes into account the tradable government securities portfolio of the LCCU and assumes that its credit union members will have to make additional pro rata capital contributions to the LCCU to cover a decrease in the value of such portfolio.

Unbalanced development of credit unions' sector

Although the pace of asset growth in the credit unions' sector was not excessively fast in 2014, the sector's sensitivity to market risk continued to increase. Last year, the assets of credit unions showed a moderate increase (of 0.6%), which was well below the 3.8 per cent annual growth in nominal GDP. At the same time, the loan portfolio of credit unions contracted by 11.4 per cent whereas the loans granted to associated members fell by one-fourth (the growth of such loans was the main cause of imbalances recorded between 2010 and 2013). On the other hand, an 18 per cent annual increase in investment in government securities virtually offset that decline in the credit unions' loan portfolio. Credit unions' investment in government securities has been growing steadily since 2008. In 2014, as this investment kept growing, its ratio to total assets increased by 5.7 p.p. over the year to 35.8 per cent (see Chart 41). Most of the government securities acquired in 2014 had a maturity of more than 1 year, which suggests that the tendency of credit unions to invest in securities for the purposes of higher yield, and not liquidity management, remained unchanged last year.

Last year, the credit unions operating outside the Lithuanian Central Credit Union (LCCU) fell under the highest risk of a snapback in risk premia as a result of imbalances in the structure of their assets. In 2014, investment in government securities by non-LCCU members soared by one-third (as opposed to the annual increase of 3 per cent recorded by LCCU members) and accounted, on average, for 78.1 per cent of their assets. In the period under review, securities holdings comprised more than one-half of total assets in as many as nine out of 12 credit unions that are not members of the LCCU, which makes it fair to describe investment in financial instruments as their core activity.

The stress tests conducted by the Bank of Lithuania have shown that even a minor spike in bond yields would be enough to trigger — for certain non-LCCU members — a drop in assets by the amount exceeding their capital (see Chart 42). The stress tests were based on the assumption that the investment portfolio of credit unions is entirely made up of euro-denominated government bonds of the Republic of Lithuania,[32] which match the actual government securities portfolio of credit unions in terms of maturities. The exercise also involved the testing of LCCU sensitivity to yield changes, as a result of which its members would have to make pro rata payments to offset a potential loss of capital. If the yields on bonds of all maturities were to increase by 3 p.p. (and were to return back to the level of 2007), eleven credit unions would see the value of their debt securities holdings fall by more than the amount of their capital. A yet another credit union would potentially suffer a similar fall due to an additional contribution of capital to the LCCU. The total loss of these 12 credit unions, which will remain uncovered due to the insufficiency of their existing capital, would amount to EUR 23.5 million. These credit unions have been entrusted with EUR 297.5 million in deposits. Their failure to return this money would necessitate the need to tap into the resources of *VĮ Indėlių ir investicijų draudimas*.

As part of efforts to contain the vulnerability of the credit union sector to market risk, the Bank of Lithuania has drafted regulations on credit union investment in non-equity securities. The ultimate objective of credit unions is to serve the borrowing needs of their members hence investment in non-equity securities can only be made for liquidity management purposes. Accordingly, the regulations drafted by the Bank of Lithuania establish the requirements for the credit unions to follow when investing their spare cash as well as building their securities portfolio and assessing its risks. For example, the regulations stipulate that the activity of investment in securities shall be defined in the operating strategy of a credit union; that such investment cannot exceed 35 per cent of a union's balance sheet assets and that investment in lower-rated securities shall be diversified and shall not exceed 30 per cent of a union's overall securities portfolio. Early in 2015, draft regulations were made available to market participants and they are expected to be adopted, by way of a resolution of the Board of the Bank of Lithuania, later this year.

[32] Actual portfolios of credit unions are likely to include the securities that have a higher level of risk than the government securities of the Republic of Lithuania hence the real effect of a yield spike on the credit unions would be somewhat more substantial.

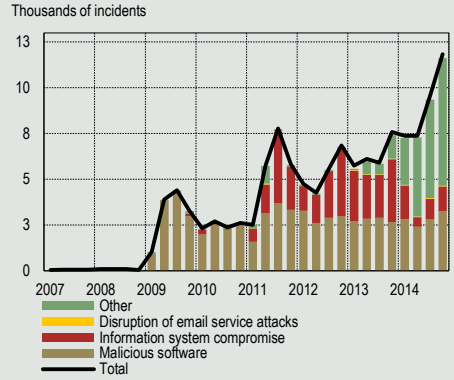
Box 3. Ensuring cybersecurity

Cybercrimes are criminal activities of various kinds, when computers and information systems are used as a means of performing a crime or as crime targets. As the state and public life moves to the cyberspace, the latter has become an attractive target for crooks and criminal groups. Using software flaws and the inattentiveness and negligence of people, criminals may fully disrupt the provision of public services, infringe upon critical domestic infrastructure or massively leak personal data. Thus, they may significantly harm national security, the domestic economy, state and public interests.

Ensuring cyberspace security is a new challenge for the public, new solutions are needed. Owing to the specific nature of this area, challenges arise with regard to establishing responsibility limits of the public sector and the private sector, which often manages critical infrastructure, funding of security measures, application of criminal law and cross-border cooperation. National and cross-border cybersecurity strategies and measures for their implementation help solve these problems in a systematic manner. In 2011, the Government of the Republic of Lithuania adopted the Electronic Information Security (Cybersecurity) Improvement Programme for 2011–2019. It identified the main cyberspace security gaps — the absence of regulation and coordination and the lack of qualified experts — and formulated the objectives and tasks to be achieved to ensure security of Lithuania's residents, the public sector and the private sector in the cyberspace. The Cybersecurity Law of the Republic of Lithuania that came into effect on 1 January 2015 laid the legal base for ensuring coordinated protection of Lithuania's cyberspace. The law sets out responsibilities and duties of the institutions that form and implement the cybersecurity policy, critical information infrastructure operators and other entities, defines ways of cooperation between the public sector and the private sector and establishes provisions for security incident notification and management. The timely implementation of these provisions is important, as the number of incidents related to electronic communications is rapidly increasing in Lithuania (see Chart A).

Chart A. Incidents related to electronic communications recorded in Lithuania

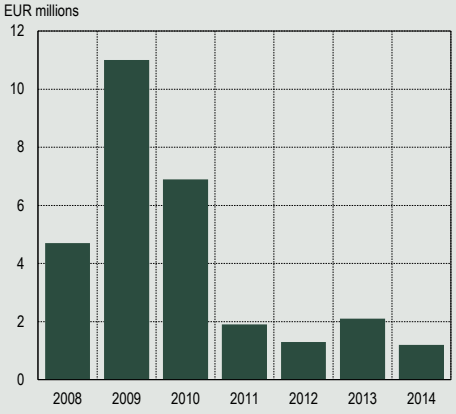
(Q1 2007–Q4 2014)



Sources: National Computer Emergency Response Team of the Communications Regulatory Authority of the Republic of Lithuania (CERT-LT) and Bank of Lithuania calculations.

Chart B. Bank of Lithuania statistics of yearly operational risk losses

(2008–2014)



Source: Bank of Lithuania.

Lithuania's banking sector incurs significant operational risk-related losses. These losses comprised EUR 1.2 million in 2014 (see Chart B). In several recent years, security systems installed and security increase projects implemented by banks allowed to reduce operational risk losses. On the other hand, no reporting standards are available for these losses; therefore, there is a risk that part of banks do not disclose them properly and do not inform responsible authorities about them, in order to avoid damaging their reputation. However, operational risk losses incurred by banks may be higher than those shown by statistics. They may be divided into those arising internally (for example, due to improperly organised processes within the institution) and those arising externally (for example, due to criminal activities). Both commercial banks and the Bank of Lithuania implemented many initiatives to reduce the first type of operational risk (for example, the Requirements for the Security of Online Payments prepared by the Bank of Lithuania, which will enter into effect on 1 November 2015), whereas the sources of the second type of operational risk remain a significant challenge; therefore, additional solutions and investments in bank information systems will be needed in the future. Cybercrimes are attributed to the latter type of operational risk. Losses incurred by banks (due to man-in-the-middle attacks) comprised EUR 60 thousand in 2014. Moreover, cybercriminals prepared transfers to other accounts for the amount of around EUR 100 thousand (data theft or phishing attacks) in 2014; however, these operations were blocked and banks did not incur losses because of them. Thus, Lithuania's banking sector is currently relatively resilient to cybercrimes; however, if sufficient attention is not paid to them, significant losses may be incurred, as shown by international practice.

The state's efforts to protect the cyberspace would be ineffective without cross-border cooperation. In 2013, the European Commission published the Cybersecurity Strategy of the European Union, dedicated to increasing information system resilience to cybercrimes, improving the EU cross-border cybersecurity policy and strengthening cybersecurity. Together with this strategy, the European Commission proposed an EU Directive on Network and Information Security. It is expected that this Directive will be adopted in 2015 and will obligate critical infrastructure operators to inform about major security incidents and help Member States and the European Commission to exchange information on security risks. As an EU response to cybernetic risks, competence centres, operating in various areas, were also established. They provide help and recommendations to the European institutions and Member States. These are the European Network and Information Security Agency (ENISA) and the European Cybercrime Centre (EC3). ENISA analyses the emerging threats, consults responsible authorities, strengthens cooperation between the private sector and the public sector, organises information campaigns, helps national police forces in performing their operations, when cybercrime suspects are located in different places of the world. EC3 concentrates on the illegal activity of organised crime groups and those crimes that endanger the EU infrastructure and information systems.

The Bank of Lithuania will pay more attention to the management of cyber threats. The Bank of Lithuania, same as other institutions, is a target of cyber-attacks, as it conducts the supervision of the financial system and its infrastructure, holds confidential Eurosystem information, provides public services important to residents and holds personal data (for example, in the Loan Risk Database). The Bank of

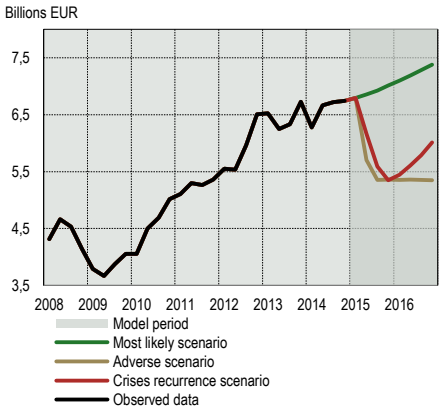
Lithuania experiences irregular cyber-attacks and constantly strengthens its information security tools to be fully ready for challenges of this type. In addition, measures that increase security are already implemented on the initiative of the Bank of Lithuania. For example, commercial banks are gradually moving from the usual code cards, which are used for connecting to online banking systems, to code generators. The Bank of Lithuania plans to pay even more attention to the management of cyber threats in the payment and securities settlement systems operated by it in the future. It also plans to strengthen cooperation with the institutions that form and implement Lithuania's cybersecurity policy to increase financial system resilience to cybercrimes.

STRESS TESTING

The Bank of Lithuania regularly conducts stress tests of the banking system in order to assess quantitatively the resilience of banks to identified risks. Bank solvency is tested by assessing the impact of changes in the macroeconomic environment on bank credit losses and profitability. The testing period covers two years, i.e. the main bank profit (loss) and balance sheet items are modelled for the period from Q1 2015 to the end of 2016. Banking sector resilience to all identified risks is assessed by creating two different macroeconomic scenarios: the adverse scenario (a protracted period of declined foreign demand) and the crisis recurrence scenario (development of the main macroeconomic indicators follows the key trends observed during the crisis in 2008 to 2009). Bank liquidity was assessed by applying one-off financing shocks emerging over a short period (up to 1 month).

Chart 43. Quarterly real export with different scenarios in Lithuania

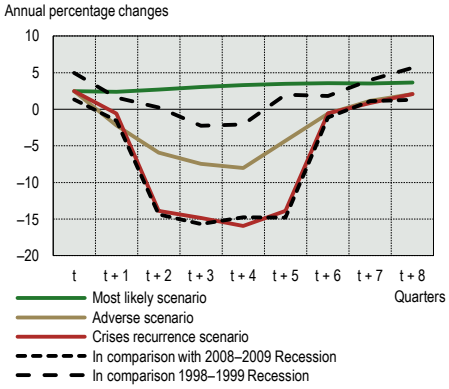
(Q1 2008–Q4 2016)



Source: Statistics Lithuania and Bank of Lithuania calculations.

Chart 44. Yearly change of real GDP with different scenarios and recession periods

(Q1 2015–Q4 2016)



Source: Statistics Lithuania and Bank of Lithuania calculations.
Note: t = 2015 Q1.

Bank Solvency Testing

The main objective of bank solvency testing is to assess changes in the capital adequacy ratio of the domestic banking system and the banks that comprise it[33] in the event of adverse economic shocks. Attention should be paid to the fact that the results of the testing are not a forecast. On the contrary, this is an analysis of unlikely events and the conclusions presented are conditional. Thus, the results obtained should be evaluated with caution, taking into account the assumptions made.[34] As usual, econometric models applied in the testing are estimated using the latest available data.[35] Another important change, compared to the stress testing performed a year ago, is the fact that this time bank interest income and interest expenditure are modelled separately. Earlier, this indicator was modelled as net interest income. Such change enables a more accurate assessment of the impact of interest rate changes on bank performance results.

The adverse scenario is used as the main scenario on which conclusions on bank resilience are based. This scenario is based on the assumption of a sharp decline in demand in Lithuania's main export markets. The fall of foreign demand would not show any signs of recovery and its level would remain low over the testing period, therefore, Lithuania's exports would fall by around 20 per cent (see Chart 43). Lower foreign demand would induce enterprises to postpone investment plans, reduce production and suspend wage growth or dismiss a part of employees. Moreover, it is assumed that net transfers from abroad will decline. Therefore, disposable income of households and later consumption would decline. Such scenario would determine the overall slowdown of economic growth (the most severe recession would be observed in Q1 2016) and the rise in the unemployment rate in the period of 2015 to 2016 (see Chart 44). Owing to the deterioration of the financial situation of enterprises and households, bank loan portfolio quality would deteriorate and credit losses would grow.

The crisis recurrence scenario has been created on the basis of the development of macroeconomic indicators in the period from 2008 to 2010 (the key development trends of the indicators in that period are followed). Taking into account the current economic situation and the fact that economic development is much more stable than before the crisis, recurrence of a shock of the same size should be considered very unlikely. However, this scenario helps to compare current bank resilience with re-

[33] Solvency testing includes banks with credit risk comprising a large share of their capital structure: *AB SEB bankas, AB DNB bankas, AB Šiaulių bankas, AB Citadele bankas, Swedbank, AB,* and *UAB Medicinos bankas*. Bank data up to Q4 2014 are used for the testing.
[34] Static balance sheet assumptions used in the international practice are applied: 1) bank loan portfolio structure remains unchanged over the testing period; 2) the natural portfolio amortisation is offset by new loans granted, therefore the loan portfolio (on a gross basis) remains unchanged; 3) if profit is earned over the testing period, it is used to increase capital; 4) banks do not pay dividends and do not increase capital by any other means; 5) changes in risk-weighted assets are only determined by changes in the loan portfolio quality; 6) bank supervisory authorities and public authorities do not take actions to mitigate consequences of an economic shock; 7) potential strategic decisions taken by banks and their impact on capital adequacy ratio are not considered.
[35] For more information on stress testing methodology, see the publication in the academic journal "Monetary Studies" issued by the Bank of Lithuania online at: http://www.lb.lt/pinigu_studijos_2015_m_nr_1#page=75.

silience before the financial crisis. The baseline scenario is used to compare the results of other testing scenarios and assess bank operation sustainability in case of the most likely economic development. This scenario was prepared on the basis of official Bank of Lithuania macroeconomic projections published in March 2015.[36] The key macroeconomic indicators and their developments under all scenarios are provided in Table 3.

According to the adverse scenario, bank losses over the testing period would comprise EUR 655 million. Credit risk remains the main source of losses in Lithuania's banking sector. Under the adverse scenario, it is assumed that banks would incur credit losses due to the decline of solvency of borrowers and they would be the highest in the second half of 2015 and in the beginning of 2016. Credit losses incurred over the testing period would comprise around 27 per cent of bank equity. In the event of recurrence of the crisis, the economic recession would be deeper, therefore, credit losses would be higher under the crisis recurrence scenario — they would amount to EUR 837 million over the period of 2015 to 2016. Owing to the contraction of the loan portfolio and changes in its structure, credit losses in absolute terms would be lower than losses incurred during the crisis of 2008 to 2009 (relative losses would be similar).

Operating profit earned during the testing period (before incurring credit losses), according to the adverse scenario, would be lower by 32 per cent than the profit earned according to the baseline scenario. Operating profit of banks is one of the first sources used for offsetting part of the incurred credit losses. When modelling the operating profit (before credit losses), an assumption is made that fee and commission income declines from 2015 due to the adoption of the euro. Bank fee and commission income would be 20 to 25 per cent lower than in 2014 according to various testing scenarios. Moreover, slower economic development and the increase in the number of insolvent customers, according to the adverse scenario, would determine lower operating income than income earned according to the baseline scenario.

Stress testing results show that the banking sector has sufficient capital and is resilient to economic shocks, however, several banks should increase their capital. Banking sector resilience is mostly based on the currently high capital adequacy and capability to earn stable operating income. The weighted average capital adequacy of the banking sector comprised 21.1 per cent at the end of 2014, whereas this indicator would decline to 17.8 per cent over the testing period under the adverse scenario (see Chart 45 and Chart 46). At the end of 2016, the weighted average capital adequacy of the tested banks under the adverse scenario would be 3.9 p.p. lower than capital adequacy under the baseline scenario (see Chart 47). Although overall the banking sector is sufficiently resilient to the adverse scenario, three banks would violate the capital adequacy requirement of 10.5 per cent.[37] For the capital adequacy ratio of all banks to comply with the said requirement, these three banks should increase their regulatory capital by around EUR 17.6 million.[38] Under the crisis recurrence scenario, the weighted average capital adequacy ratio of the banking sector would decline to 16.4 per cent, whereas the overall capital shortfall would amount to EUR 29.9 million. Compared to the size of the banking sector, the capital shortfall is not significant enough to pose a risk to the sector's stability. It should be noted that banks are significantly more resilient to adverse shocks now than in 2009, not only as a result of the increased capital reserves, but also due to less sensitivity to credit risk.

Bank Liquidity Testing

The main objective of bank liquidity testing is to assess the liquidity of the domestic banking system and the banks that comprise it in the event of adverse shock to their financing. Banking sector resilience to liquidity shocks is assessed on the basis of liquidity coverage ratio (LCR).[39] The requirement applicable to this indicator means that banks should have sufficient amount of high quality liquid assets to be able

Table 3. Development of key macroeconomic indicators according to testing scenarios

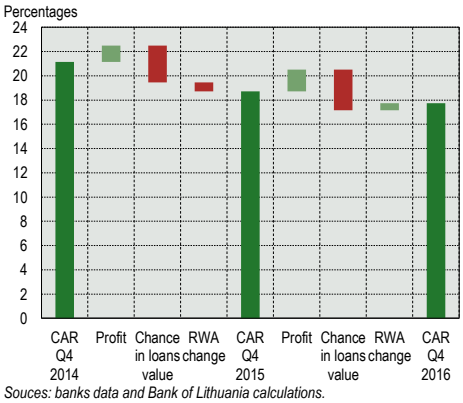
(percentages)

	Actual indicator	Most likely scenario		Adverse scenario		Crisis recurrence scenario	
	2014	2015	2016	2015	2016	2015	2016
GDP at constant prices, annual change	2,9	2,6	3,5	–3,3	–3,1	–6,8	–8,0
Goods and services export at constant prices, annual change	2,2	4,5	5,0	–12,1	–7,7	–9,5	–4,4
Private consumption expenditure at constant prices, annual change	5,3	3,4	4,0	–1,5	–3,1	–10,4	–7,6
Unemployment rate average annual, compared to total labour force	10,8	9,9	9,2	11,7	12,1	12,7	13,9
Wage compensation per employee, annual change	4,2	3,0	4,9	2,5	0,9	1,9	–4,2
Average annual inflation calculated according to HCPI	0,2	–0,3	1,6	–0,3	1,6	–0,3	1,6

Sources: Statistics Lithuania and Bank of Lithuania calculations.

Chart 45. Banks capital adequacy ratio factors according to adverse scenario

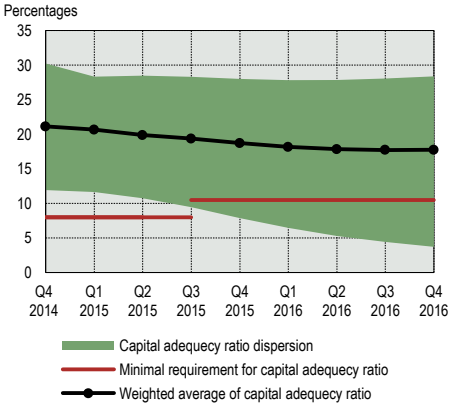
(2014–2015)



Souces: banks data and Bank of Lithuania calculations.
Notes: CAR – capital adequecy ratio; RWA – risk weighted assets.

Chart 46. Banks sector capital adequacy ratio dispersion according to adverse scenario

(Q1 2014–Q4 2016)

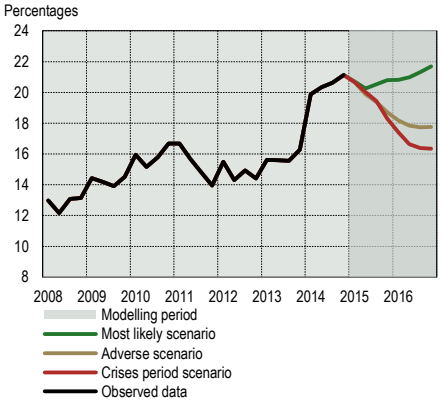


Sources: banks data and Bank of Lithuania calculations.

[36] See online at: http://www.lb.lt/makroekonomines_prognozes.
[37] The minimum 8 per cent capital adequacy requirement is supplemented with 2.5 per cent capital conservation buffer requirement, which will come into effect on 30 June 2015.
[38] It was established under the adverse scenario, that one bank would violate the minimum 8 per cent capital adequacy requirement. To comply with this requirement, the bank would have to increase its capital by around EUR 6.5 million.
[39] Consolidated preliminary data as of March 2015 of *AB SEB bankas*, *AB DNB bankas*, *AB Šiaulių bankas*, *AB Citadele bankas*, *Swedbank, AB*, *UAB Medicinos bankas* and *AB bankas FINASTA* were used for the testing and the unofficial LCR estimate was calculated on their basis.

Chart 47. Capital adequecy ratio of banking sector according to scenarios

(Q1 2008–Q4 2016)



Sources: banks data and Bank of Lithuania calculations.

Table 4. Assumptions applied when testing bank liquidity

(percentages)

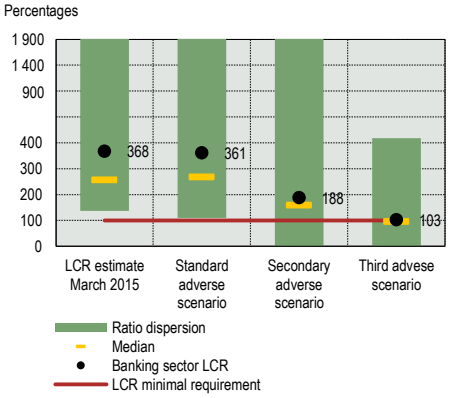
	Standard adverse scenario	Second adverse scenario	Third adverse scenario
Valuation haircut			
Cash	0	0	0
Funds held at the central bank that may be used	0	0	0
Sovereign bonds of EU countries and other (non-EU) high rating countries	5 [1]	10	15
Other high and very high liquidity and high credit quality assets	5–20	10–30	15–40
Decline of liabilities applied to assess cash outflow from the bank			
Retail deposits			
stable (insured, with very low probability of withdrawal)	5	7	10
lower stability (other insured deposits)	10	15	20
– non-insured	10–30	15–40	20–50
Whole sale deposits			
– stable (operational, insured)	5–20	5–20	5–20
– lower stability (non-operational)	20–100	20–100	20–100
Included share of expected cash inflow to the bank			
Amounts receivable from non-financial customers	5–50	5–25	5–15
Amounts receivable from financial customers	20–100	15–95	10–90

Source: Bank of Lithuania calculations.

[1] The size, by which the market value of assets is reduced, established on the basis of the ECB rules applicable to collateral from credit institutions. The market value of government securities of the Republic of Lithuania, which comprise around 93 per cent of this bank asset class, would be reduced by 0.5–7.0 per cent. The value of bonds with the remaining maturity of over 10 years would be reduced by 5 per cent and more, thus the assumptions of the adverse scenarios are quite rigorous.

Chart 48. Liquidity coverage ratio dispersion of banking sector according to liquidity testing scenarios

(March 2015)



Source: Bank of Lithuania calculations.

to cover their net cash flows in the nearest 30 days in the event of an adverse scenario.

Conclusions about the liquidity situation of banks are made on the basis of the standard adverse liquidity scenario. The liquidity situation of the domestic financial sector would first of all be affected by financial market tensions in the Nordic countries (for more detail, see "Risks Arising from the Operation of Parent Banks"). The standard adverse liquidity scenario assumes an overall deterioration of the financial market situa-situation. It covers one-off liquidity shocks, which were characteristic to the global financial crisis that started in 2007: the fall in the market value of liquid assets and the contraction of retail and wholesale deposits and other financing. It also takes into account the amounts repayable to banks in the nearest 30 days, whereas the amounts that they expect to receive in the same period are limited. The sizes of shocks under this scenario comply with the sizes set by the LCR calculation requirements,[40] but an assumption is made that the market value of sovereign bonds of the EU countries would decline by 5 per cent (when calculating the LCR, this asset class is priced at market value). The other two scenarios were created by applying the same, but larger shocks (see Table 4). These additional scenarios provide a more thorough comparison of bank liquidity in the event of a particularly strong liquidity shock.

According to the results of the standard liquidity scenario, a conclusion can be made that banks are resilient to short-term liquidity shocks. All banks would comply with the liquidity coverage requirement, even if the standard adverse scenario materialised. According to this scenario, if banks had to repay a part of customer deposits, the banking sector's liquid assets would decline by around 43 per cent. The LCR indicator of the sector would decline insignificantly — from 367.5 to 361 per cent (see Chart 48), as the impact of a decline in liquid assets would be offset by lower expected cash outflow from banks. The indicator of two banks would approach the minimum LCR limit; however, it would still exceed it by a small margin.

The banking sector has sufficient liquidity buffers to withstand even particularly strong short-term liquidity shocks; however, liquidity of banks differs. According to the second and third adverse scenarios, the banking sector's LCR indicator would still comply with the requirement and comprise 188 and 103 per cent, respectively. The results of these scenarios demonstrated that two banks are relatively less resilient to large liquidity shocks. They belong to foreign bank groups and can receive assistance from parent institutions, if they face liquidity problems (this was demonstrated during the crisis of 2008 to 2009). Moreover, if an unfavourable situation forms in the market, banks are allowed to violate the LCR requirement, but they have to present a plan on how they will reach the required level and to submit liquidity reports more often to ensure comprehensive monitoring of their liquidity situation.

[40] Capital Requirements Regulation (CRR).

III. STRENGTHENING OF THE FINANCIAL SYSTEM

MAIN CHANGES IN THE AREA OF FINANCIAL SYSTEM STRENGTHENING

Important changes to macro-prudential policy decision-making and implementation took place in Lithuania in 2014 and the first half of 2015 — the macro-prudential policy mandate was granted to the Bank of Lithuania and the Macro-Prudential Policy Strategy was adopted. Amendments to the Law of the Republic of Lithuania on the Bank of Lithuania adopted on 24 September 2014[41] gave the mandate to the Bank of Lithuania to conduct macro-prudential policy with the objective of contributing to the safeguard of stability of the financial system, including strengthening the resilience of the financial system and decreasing the build-up of systemic risks, thereby ensuring a sustainable contribution of the financial sector to economic growth. On the basis of this Law, the Bank of Lithuania adopted the Macro-Prudential Policy Strategy on 12 March 2015.[42] It establishes the ultimate and intermediate macro-prudential policy objectives and instruments for achieving these objectives. The strategy lays down the procedure for macro-prudential policy decision making and publishing as well as cooperation of the Bank of Lithuania with other institutions. Amendments to the Law on the Bank of Lithuania and the Macro-Prudential Policy Strategy establish key principles for macro-prudential policy decision making and implementation in Lithuania.

In order to ensure financial system stability, legal acts that create conditions for the application of important macro-prudential policy instruments — capital buffer requirements established by CRD IV — were adopted in the first half of 2015. The main provisions of CRD IV were transposed to Lithuania's law on 21 March 2015. They envisage the application of the new capital buffer requirements to reduce structural and cyclical risks and liquidity coverage requirements to financial institutions of Lithuania. Table 5 indicates the instruments to be implemented in 2015. Taking into account the fact that financial brokerage firms operating in Lithuania do not have significant influence on financial stability, it was decided that the countercyclical capital buffer requirement will not be applicable to them (such exemption is allowed by CRD IV). In addition, the Bank of Lithuania plans to publish the list of other systemically important institutions by the end of 2015, as well as additional capital buffers applicable to them, which these financial institutions shall have to accumulate by 1 January 2017.

In the first half of 2015, the Responsible Lending Regulations were revised and their amendments adopted to ensure responsible lending in the environment of low interest rates and protect households from over-indebtedness by taking long-term loans. The Board of the Bank of Lithuania adopted amendments to the Responsible Lending Regulations on 28 May 2015.[43] First, they established the maximum loan term that cannot exceed 30 years. Second, in addition to the current obligation to apply the DSTI limit of 40 per cent, credit institutions were also obligated to ensure that this amount does not exceed 50 per cent of sustainable household income, when the interest rate of 5 per cent is used to calculate the interest payment. Third, to ensure that amendments do not have any impact on lending volumes and to provide flexibility in the application of the Responsible Lending Regulations, the Bank of Lithuania decided to allow credit institutions to grant 5 per cent of new loans (in value terms) by applying the DSTI of up to 60 per cent over the calendar year, when such exceeding of the limit is recognised by the credit institution as reasonable and justified. The listed amendments to the Responsible Lending Regulations shall enter into effect on 1 November 2015 (for more information, see "Amendments to the Responsible Lending Regulations" in this Section of the Report).

The Bank of Lithuania also intends to analyse the application of the loan-to-value ratio requirement. The loan-to-value ratio requirement encourages households to borrow responsibly, reduces their incentives to deliberately default on their debt obligations and helps reducing bank losses in the event of borrower insolvency. The loan-to-

Table 5. Main macro-prudential policy instruments to be applied from 2015

Instrument	Date of entry into effect
Capital conservation buffer (2.5%)	30 June 2015.
Counter-cyclical capital buffer	30 June 2015
Capital buffer of other systemically important institutions	1 January 2017
DSTI indicator	1 November 2015
Maximum loan term (30 years)	1 November 2015

41 Republic of Lithuania Law Amending Article 8, 11, 27, 51, 55 and Annex 2 of the Law on the Bank of Lithuania I-678 and Supplementing the Law with Section 7 and Article 52 (18 September 2014, No XII-1097). Register of Legal Acts, 23 September 2014, No. 2014-12712.
42 Bank of Lithuania Board Resolution on Adopting the Macro-Prudential Policy Strategy (12 March 2015, No. 03-31).
43 Bank of Lithuania Board Resolution on Amending the Bank of Lithuania Board Resolution No. 03-144 of 1 September 2011 on the Responsible Lending Regulations (28 May 2015, No. 03-90).

value ratio requirement may affect the formation of systemic risk during both business cycle and credit cycle; therefore, setting a suitable LTV ratio could ensure a more sustainable contribution to the growth of the financial system (see Box 4).

Credit union sector reform continued in 2014 and in the first half of 2015 to ensure a more reliable and sustainable contribution of this sector to the economic growth of Lithuania. The Seimas of the Republic of Lithuania adopted amendments to the Law on Credit Unions on 17 July 2014[44] and obligated credit unions to strengthen their capital base and improve the management of the risks assumed. In addition, on 18 March 2015, the Budget and Finance Committee of the Seimas adopted the decision[45] on the main principles of the credit union activity concept. On the basis of these principles, legal acts for the implementation of the credit union reform will be adopted (for more information, see "Reform of the Credit Union Sector" in this Section of the Report).

The year 2015 is also important because additional instruments related to bank resolution and recovery and deposit insurance are implemented and the current instruments are amended. The Ministry of Finance of the Republic of Lithuania in cooperation with the Bank of Lithuania conducts the transposition of the Bank Recovery and Resolution Directive[46] and the Deposit Guarantee Schemes Directive[47] to the national law. The draft laws amending the Law of the Republic of Lithuania on Insurance of Deposits and Commitments to Investors[48] and the Republic of Lithuania Law on Financial Sustainability[49] are currently under preparation and in the nearest time they should be adopted at the Seimas. The Law Amending the Law on Insurance of Deposits and Commitments to Investors will establish the deposit insurance system harmonised with other EU countries: it will include exemptions, when the insurance amount may exceed EUR 100 000, establish the minimum level of the fund comprising 0.8 per cent of the amount of insured deposits to be reached by 2024, define the procedure of the fund's recovery and the risk-based calculation of contributions to the fund. The Law Amending the Law on Financial Sustainability establishes the institutional framework for the recovery, defines recovery and resolution tools and the procedure for their application. These amendments will allow reducing the negative impact on the economy, if the banking system faces solvency problems.

After transposition of the Bank Recovery and Resolution Directive to the national law, banks will be obligated to pay additional contributions to the bank resolution fund, draw up recovery plans and comply with the additional minimum requirement for own funds and eligible liabilities. It is planned to establish the national resolution fund, which will include contributions paid by banks and significant investment companies, in the second half of 2015. The resources of this fund would facilitate effective resolution of problematic financial institutions (see Box 5). In addition to these contributions, banks will be required to comply with the minimum requirement for own funds and eligible liabilities. The latter was established to ensure that an institution has sufficient reserves of own funds and eligible liabilities, which would be written off to cover losses and transformed into capital in the event of the institution's failure. The minimum requirement for own funds and eligible liabilities would help avoid using the taxpayers' funds in order to save failing banks.

44 Republic of Lithuania Law Amending Articles 2, 4, 5, 9, 10, 12, 13, 14, 15, 16, 18, 22, 23, 24, 26, 27, 28, 29, 30, 32, 33, 34, 35, 36, 37, 38, 39, 42, 45, 47, 52, 53, 58, 61, 62, 64, 65, 70 and 74 of the Law on Credit Unions No I-796, Supplementing the Law with Articles 251, 391, 481, 641 and 651 and the Law of Repealing Articles 8 and 11 (17 July 2014, No XII-1047). Register of Legal Acts, 4 September 2014, No 2014-10853.

45 Decision of the Budget and Finance Committee of the Seimas of the Republic of Lithuania on the concept of sustainable credit union activity and drawing up the draft amendments to the legal acts of the Republic of Lithuania envisaged in it (18 March 2015, No 109-S-1).

46 Directive 2014/59/EU of the European Parliament and of the Council of 15 May 2014 establishing a framework for the recovery and resolution of credit institutions and investment firms and amending Council Directive 82/891/EEC, and Directives 2001/24/EC, 2002/47/EC, 2004/25/EC, 2005/56/EC, 2007/36/EC, 2011/35/EU, 2012/30/EU and 2013/36/EU, and Regulations (EU) No. 1093/2010 and (EU) No 648/2012, of the European Parliament and of the Council. OJ L 173, p. 190-348.

47 Directive 2014/49/EU of the European Parliament and of the Council of 16 April 2014 on deposit guarantee schemes. OJ L 173, p. 149-178.

48 Republic of Lithuania Law on Insurance of Deposits and Liabilities to Investors with amendments and supplements (20 June 2002, No IX-975).

49 Republic of Lithuania Law on Financial Sustainability with amendments and supplements (22 July 2009, No XI-393).

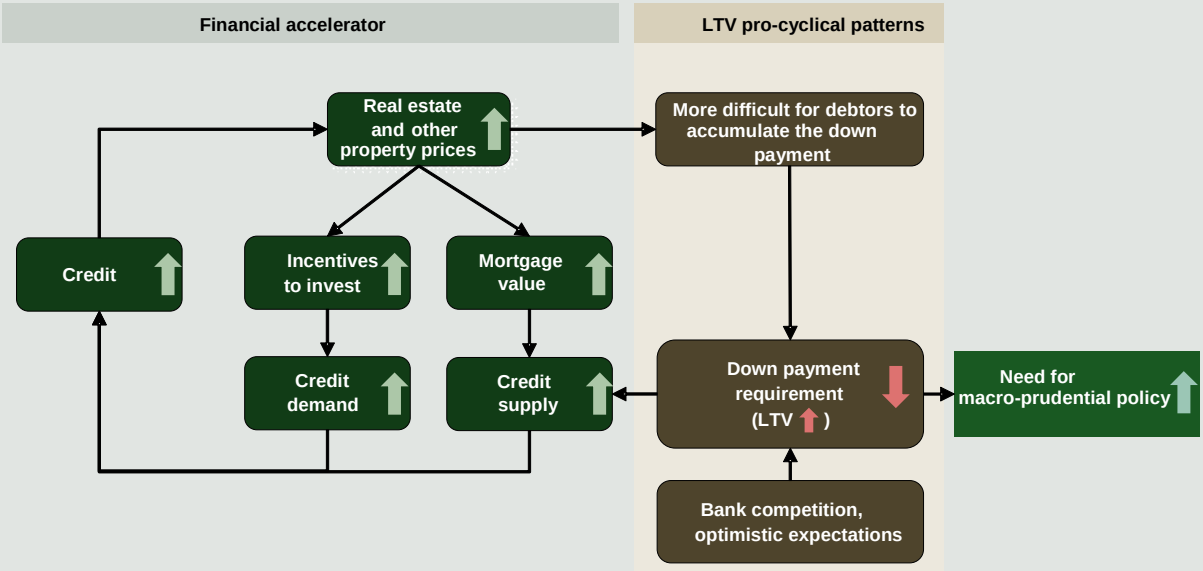
Box 4. LTV as a macro-prudential tool

Caps on the loan-to-value ratio is a widely applied macro-prudential policy tool, which is used to pursue two main objectives: to reduce credit risk assumed by banks by limiting financial leverage and to dampen excessively fast credit and asset price growth during a boom.[i] Thus, the so-called structural banking sector risks are mitigated by setting a certain ceiling of the LTV indicator, whereas counter-cyclical impact is achieved by changing the LTV ratio requirement in different financial cycle phases. This macro-prudential policy tool is most often applied to loans for house purchase; therefore, it affects the housing market accordingly. After the adoption of the Responsible Lending Regulations by the Bank of Lithuania in 2011, the maximum loan-to-value ratio applied in Lithuania is 85 per cent, i.e. it is necessary to have the down payment comprising at least 15 per cent of the housing value when borrowing for a house purchase.

Setting the cap of the LTV ratio first of all helps reducing bank losses in the event of a borrower's insolvency. At the same time, it also reduces the probability of a borrower's insolvency. The lower the cap on the LTV ratio is (the higher the down payment requirements are), the higher the probability is that mortgage value will be sufficient to cover loan obligations, even if the fall of housing prices is significant. Moreover, the debtor that makes a larger down payment assumes relatively lower housing loan obligations (his financial leverage is lower); therefore, it is more likely that he will be able to meet them even in the event of income decline, rise of interest rates or emergence of another unfavourable economic shock. In the case of limited responsibility of the debtor, the down payment also reduces incentives to deliberately default on debt obligations. Still, the positive impact of LTV cap on a borrower's solvency may be weaker, if the down payment requirement is reduced by insuring the loan or if the debtor makes partial payments of the down payment over a relatively long term to be able to purchase housing that potentially exceeds his financial capacity. Especially undesirable and threatening to the borrower's solvency are the cases, when he tries to circumvent the LTV requirement by financing it through consumer loans or other financial liabilities.

As LTV cap is first of all dedicated to the reduction of bank losses incurred when debtors become insolvent, other tools that are more appropriate to ensure the debtor's solvency, such DSTI and LTI ratios, are often combined with this macro-prudential tool. Setting a credit amount cap according to actual income of a debtor helps ensuring that debt obligations are met from income instead of mortgaged property sale. Moreover, the constant LTV requirement has lower counter-cyclical impact than constant DSTI or LTI requirements. When housing prices grow faster than the purchasing power of residents, it becomes slightly more difficult to accumulate the down payment[ii]; however, buyers whose income does not meet DSTI or LTI requirements, are forced to take smaller loans or to postpone housing purchase for unlimited time.

Chart A. Links of financial accelerator and LTV requirements



Source: Bank of Lithuania.

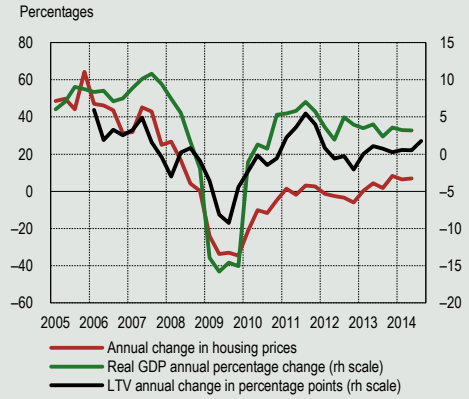
To weaken the impact of financial cycles, the possibility of a counter-cyclical change of the LTV macro-prudential requirement has been foreseen, i.e. the reduction of the maximum LTV indicator during the boom and its increase during the recession. Empirical research[iii] confirms that LTV ceiling dampens housing price growth and the increase of financial leverage of banks and has a positive impact on bank asset quality. There are also empirical data[iv] confirming that the impact of the application of LTV as a macro-prudential tool is asymmetric — stronger during the boom and weaker during the recession.

From the macro-prudential policy point of view, it is very important to establish the maximum allowed LTV ratio, since banks are inclined to loosen LTV requirements for loans during the credit and real estate boom and thus strengthen the impact of the so-called financial accelerator and financial cycles in general (see Chart A). Financial accelerator manifests itself in the pattern that real estate price grows with the increase in credit and this in its own turn further boosts credit activity (credit demand grows due to investment and speculative demand for real estate, whereas credit supply is positively affected by the increase in mortgage value). This self-supporting cycle would be weaker, if the required amount of the down payment increased at least in accordance with the rise of real estate prices, i.e. if LTV indicators were constant or declined. Still, during the housing price boom, income of residents often increases slower than housing prices; therefore, it becomes more difficult for most people to accumulate funds for the down payment. Under such circumstances, competition in the banking sector and optimism regarding further housing price growth, which is typical for the boom period, encourages banks to reduce down payment requirements, i.e. to tolerate the increase in LTV indicators. Thus, the pro-cyclical nature of LTV indicators boosts the impact of financial cycle; therefore, the LTV ratio ceiling is necessary to reduce these pro-cyclical patterns.

LTV indicators also exhibit pro-cyclical patterns in Lithuania (see Chart B). As housing prices grew rapidly during the economic and financial boom, income of residents and their capacity to pay the down payment did not increase as fast, therefore, banks loosened lending conditions and LTV indicators increased (see Chart C). The average LTV indicator of domestic banks was the highest (83%) in the first quarter of 2007, during the peak of the real estate boom. With the start of the crisis, the average indicator declined sharply from 80–82 per cent to 73–75 per cent. LTV indicators grew again from the beginning of 2010 with the recovery of the housing market, with the exception of the period from the end of 2011 to the middle of 2012, when lending conditions became tighter due to the adoption of the Responsible Lending Regulations by the Bank of Lithuania. Before the start of the crisis, the mortgage value of up to one fifth of new housing loans was lower than the loan value due to insufficient housing affordability and inappropriate risk assessment.

Chart B. Pro-cyclical patterns of LTV indicators

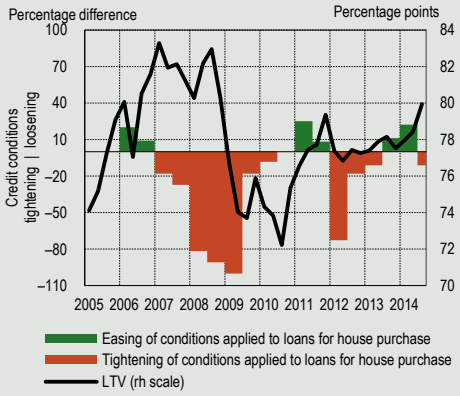
(Q1 2005–Q3 2014)



Sources: State Enterprise Centre of Registers, Statistics Lithuania, credit risk database and Bank of Lithuania calculations.

Chart C. Housing loans conditions and LTV ratio relationship

(Q1 2005–Q3 2014)



Sources: State Enterprise Centre of Registers, Statistics Lithuania, credit risk database and Bank of Lithuania calculations.

The econometric analysis performed by the Bank of Lithuania[v] confirms that in the long-term LTV indicators in Lithuania are usually related to credit and housing market indicators and the real debt burden. LTV indicator is closely related to housing price changes: if housing prices increase by 1 per cent, the change of the average LTV indicator of 0.08 per cent in the long-term can be expected. This indicator also increases with the growth of activity in the market for loans for house purchase, however, elasticity is lower (0.02%). Dependence of the LTV indicator on the real interest rate is negative, since the rising real interest rate negatively affects housing and credit market and is also related to more stringent risk assessment and tighter mortgage requirements. If the real interest rate rises by 1 p.p., the LTV indicator should decline by around 0.11 per cent in the long term.

[i] ESRB (2014). "The ESRB Handbook on Operationalizing Macro-prudential Policy in the Banking Sector".
[ii] Taking of the loan and housing purchase may be postponed for several months or not postponed, if savings are sufficient for the down payment.
[iii] Cerutti, E., Claessens, S., Laeven, L. (2015). "The Use and Effectiveness of Macroprudential Policies: New Evidence". International Monetary Fund, Working Paper, No WP/15/61.
[iv] McDonald, C. (2015). "When is Macroprudential Policy Effective". Bank for International Settlements, Working Paper, No 496.
[v] The econometric error correction model was applied to explain the change of the average LTV indicator of banks in Lithuania during the period of 2006 to 2014 (the analysis was not published).

AMENDMENTS TO RESPONSIBLE LENDING REGULATIONS

A continued low interest rate environment and liberal regulation of a maximum loan term prompted the review of the Responsible Lending regulations. The Responsible Lending Regulations were approved on 1 September 2011 with the aim to contribute to the stability of the financial system and promote responsible lending practice of credit institutions, market disciple, and operational transparency. Moreover, the Regulations aims at reducing risks of unbalanced developments of real estate prices, protecting consumers against too heavy burden of financial liabilities, and forming responsible borrowing habits. Requirements that have been set in the Regulations and are binding to credit institutions issuing loans to natural entities were formed and were to apply in economic and credit market environment that prevailed at that time. Because of changes in the market conditions and a period of protracted very low interest rates a need arises to prevent households that are non-professional financial market participants from taking excessive long-term financial liabilities and offer them suitable protection against risks associated with potential unfavourable effects from interest rate changes in the future. Moreover, the currently effective requirement for a maximum loan term, which is too liberal compared to other countries, undermines the efficiency of the adopted Responsible Lending Regulations by allowing households to take liabilities that are too extensive compared to their income.

Taking into account the current situation in the market, The Bank of Lithuania adopted the following amendments to the Responsible Lending Regulations on 28 May 2015:

1. In addition to the currently effective 40 per cent cap for debt service-to-

income ratio (DSTI), a credit institution also has to ensure that a DSTI ratio makes up no more than 50 per cent when 5 per cent interest rate is used for calculating a monthly interest payment. For loans with an interest rate fixed for the lifetime of the loan agreement, an interest rate that is relevant to the borrower shall be applied to calculate a monthly interest payment.

2. A maximum loan term shall be shortened to 30 years.

3. A larger, but only up to 60 per cent, value of a DSTI ratio can be applicable to the housing loan amount that is no higher than 5 per cent of the total value of new housing loans granted by a credit institution during the calendar year. However, such an excess has to be recognised by the credit institution as reasonable and justifiable, and in line with the objective of the Responsible Lending Regulations.

The above amendments shall come into force on 1 November 2015. The loan-to-value (LTV) ratio of 85 per cent as set in the previous Regulations shall remain unchanged.

Changes to DSTI

The assessment of loan repayment capability differs depending on level of interest rates. A requirement has been set in the Responsible Lending Regulations for a debt payments[50] to borrower's income (DSTI) ratio to not exceed 40 per cent. Changes in interest rates have direct effect on the interest amount paid by the borrower, and eventually on his DSTI. When interest rates go down, a possibility arises to borrow higher amount without violating of the DSTI requirement. Since 2011, after the adoption of the Responsible Lending Regulations, average interest rates (the fluctuating part plus margin) applied to euro housing loans decreased rapidly to 1.9 per cent in 2014 (see Chart 49). Such notable changes affected the borrowing capability of households: in 2014, due to a change in interest rates alone, with other conditions remaining unchanged, a household with a monthly income of EUR 1,000 could take a loan which was about EUR 40,000 higher compared to a loan at the end of 2011 (see Chart 50). When interest rates will climb in future, households that, in the context of low interest rates, are to be applied a DSTI that is close to 40 per cent, will likely exceed this limit and encounter difficulties in making higher monthly loan payments.

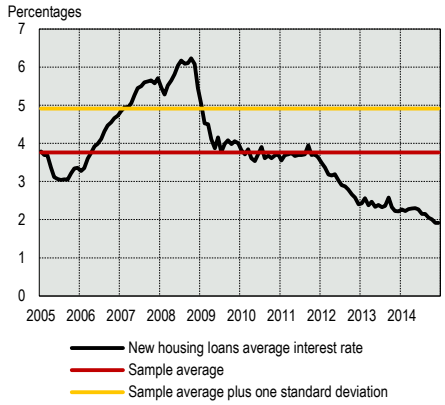
The regulation of new loan repayment capability ensures that the 50 per cent DSTI limit is never overstepped if interest rates grow to a usual level. In order to ensure that the assessment of loan repayment ability is less sensitive to interest rate fluctuations, an existing requirement regarding the 40 per cent DSTI level was supplemented with a requirement to ensure that a borrower uses no more than 50 per cent of his monthly income for loan repayment in case that interest rates rise to 5 per cent. The 5 per cent interest rate is the average of interest rates on euro housing loans over the last decade plus one standard deviation.[51] A faster growth of the Lithuanian residents' income compared to the growth in the EU old-timers allows raising the limit of additional assessment up to 50 per cent with the insolvency risk staying at a similar level. For instance, when interest rates stay at 1.9 per cent, a household will not be able to use more than 34 per cent of its income for monthly loan payments, because it will have to hold a reserve for absorbing a potential increase of its expenses prompted by the growth of interest rates. This amendment will help to safeguard households against assuming excess risk related to interest rate changes.

Limiting a maximum loan term

To reduce monthly loan payments, households often take economically irrational decisions, for example, they prefer a longer loan term to a higher DSTI. When taking a loan they often try to minimise a monthly payment by increasing the loan term. The calculations show (see Table 6) that extending the loan term from 30 to 35 years

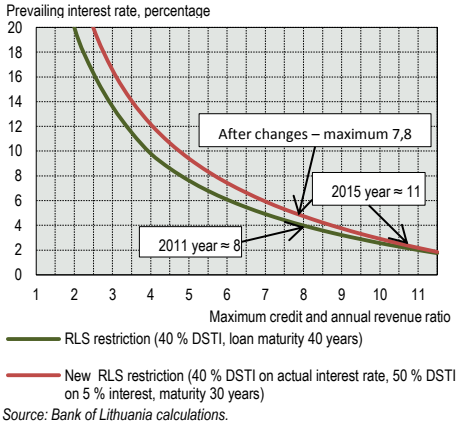
Chart 49. Housing loans average interest rates in euro

(January 2005–December 2014)



Source: Bank of Lithuania calculations.

Chart 50. Maximum debt and interest rate relationship



Source: Bank of Lithuania calculations.

[50] Credit repayment contributions are calculated by dividing the total repayment and interest payments in the amount of the credit, by all liabilities.

[51] The average of interest rates has been calculated based on data in the period from 2005 to 2014. A standard deviation relates to the dispersion of interest rate values around and very close to the mean, and is used to measure likely fluctuations of interest rates.

helps to reduce the monthly payment by 8 per cent, but increases the loan costs (the amount of interest paid) by 16 per cent. Extending the loan term from 30 to 40 years is even more unreasonable decision, as the monthly loan payments will go down by 13 per cent, while the amount of interest rates to be paid over the lifetime of the loan by the household will increase by 40 per cent. Hence, when taking long-term loans households often fail to estimate the loan costs and overestimate the saving of monthly payments. Moreover, long-term loans are most popular among young people, who could instead benefit from higher DSTI, as the probability of their income to grow in the future is the highest.

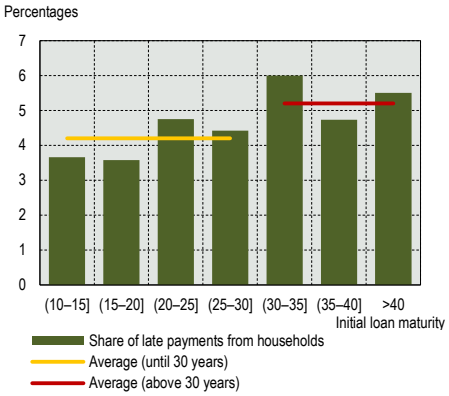
Table 6. An example of changing loan maturity costs

Extension of loan maturity	Change of payable interest rate, %	Change of loan payment, %
From 30 to 35 years	+16	–8
From 30 to 40 years	+40	–13

** Calculations applied to 87,000 EUR loan under average interest rates prevalence.*

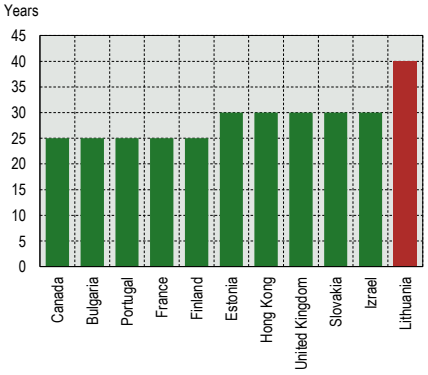
Chart 51. Share of late loan payments according to maturity groups

(2006–2013)



Source: Households financial monitoring information system and Bank of Lithuania calculations.

Chart 52. Maximum loan maturity limits in other countries



Sources: Macroprudential instruments database of Bank for international settlements and central banks data.

Households with long-term loans are more likely to encounter loan repayment difficulties. The analysis of the link between a term of the loan taken by a household and delayed monthly loan payments revealed more cases of delay among households with loans taken for longer than 30-year period than among households with shorter-term financial liabilities (see Chart 51). Such a trend confirms that by taking a long-term loan households often assume excessive financial liabilities, and therefore encounter difficulties in fulfilling them when situation changes. In Lithuania, a maximum loan term is 40 years, and it is a very liberal limit compared with the practice in other countries where loans are issued mainly for 25 to 30 years (see Chart 52). For instance, a maximum 30-year term was introduced in Estonia in December 2014, while a number of other countries apply even shorter term of 25 years.

Effects of amendments to the Responsible Lending Regulations

Amendments to the calculations of DSTI will have effect only on a small number of borrowers. Currently, there are not many households that borrow with DSTI close to 40 per cent of their income to monthly loan payments. On average, households tend to agree with a DSTI that is below 20 per cent. The housing loan data from the period of 2013 to 2014 revealed that only 1.1 per cent of debtors would not comply with the DSTI calculation requirements and loans taken by them would account only for 2.1 per cent of total loans issued during this period.

Shortening of a maximum loan term will have effect on about one tenth of the borrowers. 12.4 per cent of household loans taken in 2013 to 2014 were issued for longer than a 30-year term. These loans to households accounted for 19.4 per cent of the portfolio of loans issued during the said period.

The overall effect of amendments to the Responsible Lending Regulations to the lending volume is expected to be moderate. Calculations done based on the data about loans issued in 2013 to 2014 showed that 13.2 per cent of the loans during that period, which accounted for 20.8 per cent of the loan value, could be affected by these changes. If a loan term is shortened slightly and a monthly payment is increased (a loan term should be shortened on average by 4.9 years and the DSTI increased by 1.3 p.p.), the amount of the majority of these loans (99.2%) would not change. Upon changes to the said loan features, the loan amount would change only for 0.8 per cent of loans that account for 1.7 per cent of total value of issued loans. If those loans that are constrained by the amendments in the Responsible Lending Regulations would be reduced by the magnitude needed in order to satisfy new requirements, the loan portfolio consequently would decrease only by 0.2 per cent in 2013 to 2014. Therefore, the impact of amendments to lending volume and a possibility of households to receive a loan of the size they want are moderate.

An increase in DSTI, due to a shorter maximum loan term, has only a slight effect on household consumption. Households that, because of restrictions to the maximum loan term, will have to take shorter-term loans, will have to make higher monthly loan payments to receive the same size loan. The data on the loans issued in 2014 showed that such households would have to increase their monthly payments on average by EUR 17. Over a year, extra expenses of households for covering their increased monthly loan payments would account for about 0.003 per cent of the nominal consumption.

For the impact of the Responsible Lending Regulations on lending to be neutral and credit institutions to gain more flexibility, a possibility to issue some loans with higher DSTI has been offered. Credit institutions will have the right to issue during a calendar year up to 5 per cent of new loans (in terms of value) by applying a higher (up to 60%) DSTI, when such loans are recognised by the credit institution as reasonable and justified, and in line with the objective of the Responsible Lending Regulations. The 60 per cent limit was chosen based on the analysis of the link between

DSTI and loan payment delays in the period from 2006 to 2008. The latter showed that delays were considerably more frequent[52] in case of loans with the DSTI higher than 60 per cent, whatever the income size of a household is. Possibilities for applying a higher DSTI to credit institutions will therefore allow for a more flexible response to atypical situations and for meeting of special borrowing needs of a limited group of customers.

OTHER SYSTEMICALLY IMPORTANT INSTITUTIONS

The number of systemically important banks has grown significantly over the recent decades, but the financial crisis revealed that the bank rescue framework was inadequate. One of the most distinctive examples of this comes from Ireland, where a significant intervention of the state was required to recapitalise systemically important banks. In 2009, recapitalisation was carried out by the Irish government at Ireland's two largest banks, and in 2008 to 2010, guarantees covering liabilities to creditors of as many as six large Irish banks were issued by the government. The Irish government's debt has increased significantly because of these measures. Another distinctive example is the bankruptcy of Lehman Brothers in 2008. The collapse of the global bank had ruined confidence in financial institutions, increased caution of their clients, and reduced lending volumes all around the world.

One of the main reasons for a bankruptcy of systemically important banks relates to incentives for such financial institutions to assume excessive risks. Important financial institutions expect their national government to be forced to rescue them with taxpayers money (to carry out recapitalisation, issue guarantees to bank creditors, etc.) if they are in trouble. Such a situation reduces incentives for banks to ensure adequate risk management. In the event that the government refuses to rescue a troubled bank, a bankruptcy may have highly negative impact on the domestic financial system and entire economy. If an institution that is closely related to a number of other financial institutions goes bankrupt, many of these institutions will suffer losses or even go bankrupt too. This may lead to disruptions in the financial system, inadequate allocation of credit resources, difficulties for companies and households, and finally, to a negative impact on the growth of economy.

After the financial crisis, the regulation of systemically relevant financial institutions has seen significant changes. The capital requirement directive reform that was prepared and implemented around the globe by Basel Committee on Banking Supervision, so called Basel III[53] is one of the major changes. The reform provides for higher capital requirements (additional capital reserves) to be built up by systemically important banks both at global, regional or national level. Higher capital requirements are expected to boost the resilience of these institutions to negative shocks. At a global level, systemically important banks will be identified by the Financial Stability Board following the guidelines[54] set up by Basel Committee on Banking Supervision, and at national level, by countries themselves. In addition, banks' resolution mechanism is currently under development in order to restructure the insolvent banks effectively and at minimum costs.

To increase the resilience of systemically relevant banks to negative shocks, institutions implementing macro-prudential policy will identify systemically important financial institutions within their jurisdiction and set up additional capital requirements for them. At the EU level, additional capital requirements for systemically important financial institutions are provided in CRD IV (other measures under CRD IV have been discussed in the Financial Stability Review of 2014).[55] The aim of other systemically important institutions buffer is to increase the resilience of systemically relevant institutions to potential losses. This provision shall allow competent authorities to set up additional capital reserve for local systemically important banks that have not been recognised as important at global level. The reserve may account for up to 2 per cent of bank's risk-weighted assets and is to be introduced from 2016. The criteria for

[52] When DSTI is above 60 per cent, the frequency of delays increases from 3 to 16 p.p. in various income groups.
[53] Basel Committee on Banking Supervision 2011: Basel III: A Global Regulatory framework for More Resilient Banks and Banking Systems.
[54] Basel Committee on Banking Supervision 2011: Global Systemically Important Banks: Assessment Methodology and the Additional Loss Absorbency Requirement.
[55] Directive 2013/36/EU of the European Parliament and of the Council of 26 June 2013 on access of the activity of credit institutions and the prudential supervision of credit institutions and investment firms, amending Directive 2002/87/EU and repealing Directives 2006/48/EU and 2006/49/EU. OJ L 176, 338.

the Bank of Lithuania to identify systemically relevant institutions will be provided in the Rules for Capital Reserve Formation[56], while more detailed guidelines for identifying these institutions have been provided by the EBA[57]. In the nearest future, the Bank of Lithuania plans to start applying the principles set in the said Guidelines to Lithuania's financial system.

Systemically important institutions will be identified based on their size, importance to the financial system at domestic and EU level, cross-border activity, interconnectedness of the institution with the financial system. The Rules for Capital Reserve Formation propose at least one of the following four criteria to be used to evaluate the systemic importance of an institution: 1) size; 2) importance for the EU and Lithuanian economy; 3) complexity of cross-border activities; 4) interconnectedness of the institution or the financial group with the financial system. The latter criteria and indicators to be used to evaluate these criteria have been defined in the EBA Guidelines.

The size of the institution is the first and the most important criterion for identifying its importance to the system. The EBA has proposed to assess bank's size based on its assets. It should be noted, that the share of a bank within the financial system is important rather than the size of the institution in absolute terms. In the event when the domestic financial system is made up of a number of small institutions, the systemic importance of each of them will be small, as one troubled institution may be successfully replaced by other institutions and rescue of a single institution should not pose significant problems to the domestic deposit insurance system, resolution fund or public finances. However, if the financial system is highly concentrated and is dominated by a few large banks that hold a significant share of the financial system's assets, the problems encountered by these banks may be hardly bearable to the country.

The second criterion is used to determine the importance of an institution to the EU and Lithuanian economy. The EBA Guidelines offer the following indicators to be used as this criterion: value of domestic payment transactions, private sector deposits, and private sector loans to recipients in the EU. The valuation of the financial institution's total assets is not enough to determine adequately the financial institution's importance to the domestic economy. Its weight in the payment, loan and deposit markets is important either; understanding the associated risks allows a more precise assessment of the financial institution's importance. If a financial institution, even of a moderate size (based on its assets compared to the assets of other participants of the financial system), holds a significant share of the domestic payments market, the domestic economy may encounter a number of settlement problems in case the institution faces problems. The same applies to the loan and deposit markets. Banks may operate without attracting a significant amount of deposits (e.g. by using other sources to finance their operations, and by issuing more loans to the private sector). In such cases, banks that hold significant shares in specific markets may be systemically important even when they are not important based on other criteria. Fannie Mae and Freddie Mac and difficulties encountered by them in 2008 could be used as an example for this. Both companies were highly important in the mortgages market, which obliged the US government to interfere and rescue them in order to avoid bigger problems.[58]

The third criterion relates to the importance of cross-border activity. The EBA has proposed to use the value of over-the-counter (OTC) derivatives, cross-jurisdictional liabilities, and cross-jurisdictional claims for this criterion in its guidelines. Over past few decades, a significant number of financial institutions became global; their links to financial institutions operating in other jurisdictions grew stronger. When financial institutions have links with other countries, their problems may have a significant effect on the activities of banks in these countries and its economy. During the crisis in 2008, the largest global financial institutions were directly linked to the securities of the US subprime mortgage market, i.e. they had these papers on their balance sheets. The problems that struck the US market therefore spread to the other countries' financial and

[56] The Resolution of the Board of the Bank of Lithuania on the rules for the formation of capital reserves (9 April 2015, No. 03-51). Provisions of the CRD IV have been transposed to the above resolution.
[57] The EBA Guidelines of 16 December 2014 on the criteria to determine the conditions of application of Article 131(3) of Directive 2013/36/EU (CRD) in relation to the assessment of other systemically important institutions (O-SIIs).
[58] Scott, F., Fuster, W., Tracy, J., Vickery, J. (2015). "The Rescue of Fannie Mae and Freddie Mac", Journal of Economic Perspectives 29(2), 25–52.

economic systems. If one domestic financial institution is more related with other countries compared to other institutions, its relevance to the system may be significantly higher as problems of foreign countries may pass through to the domestic financial system.

The fourth criterion should be used to evaluate the interconnectedness of the institution or group with the financial system. As proposed in the EBA Guidelines, the fourth criterion may be intra-financial system liabilities, intra-financial system assets, and debt securities outstanding of the financial system. If the financial institution is highly connected with other financial system's institutions, "a domino effect" may build up. It occurs when difficulties encountered by one institution that fails to meet its obligations, pass through to other institutions within the same financial system. The situation with AIG insurance company may serve as an example for this. It was an exceptionally important participant in the securities market, primarily in the market of credit default swaps. The US government had to rescue AIG that found itself in a difficult situation due to the default on its liabilities and the need to avoid a domino effect in the country's financial system.[59]

By 2016, the Bank of Lithuania, as an institution responsible for the macroprudential policy, will announce Lithuania's systemically important institutions. In the third quarter of 2015, the Bank of Lithuania, based on the EBA Guidelines, is expected to present a framework document for the implementation of other systemically important institutions' buffer. The document will specify and justify indicators that are used for identification of systemically important financial institutions in the country and establishment of additional capital buffers for them. The list of systemically important institutions and the size of additional capital buffers for them are expected to be announced before 1 January 2016. The revision of the list and additional capital requirements imposed will be performed on an annual basis.

Box 5. Bank resolution fund and deposit insurance fund

Bank Resolution Fund

With the implementation of the Bank Recovery and Resolution Directive, the resolution fund will start being built up from contributions of banks and important investment firms. The main goal of the Bank Recovery and Resolution Directive is to ensure timely and effective resolution of troubled credit institutions, large investment firms and certain other financial institutions. The financial crisis of 2008 showed that a significant share of costs for maintaining stability of the troubled financial system may have to be borne by taxpayers. To minimise the use of taxpayers' money to bear these costs, the Bank Recovery and Resolution Directive provides for creating resolution fund. Banks and large investment firms shall make contributions to it, and the resources from the fund will be used for resolving troubled financial institutions.

The means from the resolution fund will help to effectively restructure troubled financial institutions at minimum public expense. In case of insolvency problems in a bank, the size of loss may depend on the time the bank assets are to be liquidated. During a financial crisis, a number of market participants may attempt selling their assets at the same time, which may lead to a significant increase in assets supply and a notable decrease in their demand. Hence, the value of an insolvent bank's assets may go down if they are offered for sale during the financial crisis, compared to a longer sale period. Therefore, during financial crisis, the means from the resolution fund, pooled from the contributions by financial institutions, could be used to finance the resolution of troubled banks.

Since operations of banks and investment firms often cross national borders, not only national resolution funds but also the Single Resolution Fund are to be established in the EU. Contributions of all countries may be needed to restructure a troubled financial institution with operations in a few Member States. In the future, national resolution funds therefore are to be gradually replaced by the Single Resolution Fund. EU Members States are obliged to start building up their national resolution funds in 2015, which in the member states participating in the banking union[i] will be pooled into the European level Single Resolution Fund over the eight-year transitional period starting in 2016. Credit institutions in the member states participating in the banking union will pay contributions to it. While contributions to a national resolution fund will be paid only by certain investment firms.

By 2024, the Single Resolution Fund will have to reach the level of 1 per cent of covered deposits in the banking union. According to the European Commission[ii] such fund should be big enough to cover losses that equal to the amount of interbank liabilities of medium-size EU banks. Disruptions in meeting liabilities of this size are likely to lead to a systemic risk. With the target level set at 1 per cent, Lithuania's commercial banks will have to pay around EUR 32 million to the Single Resolution Fund by 2024.

Regular *ex ante* contributions of market participants will be collected to build up the resolution fund, and in case of shortage of resources to proceed with the resolution process special *ex post* contributions may be collected. A regular *ex ante* contribution (paid by a financial institution in advance) to the national resolution fund will be proportionate to the ratio of all the institution's liabilities, excluding own funds and covered deposits, and liabilities, excluding own funds and covered deposits, of all institutions authorised in the

[59] McDonald, R., Paulson, A. (2015). "AIG in Hindsight", Journal of Economic Perspectives 29(2), 81–106.

same country (the size of a contribution will also depend on the risk-profile of that institution). In case that the means in the fund are not enough to cover the resolution costs, special *ex post* contributions are to be collected from institutions. They will be distributed the same way as *ex ante* contributions, and shall not exceed the sum of three annual contributions. However, if the institution's liquidity or solvency were under threat because of a contribution to be made, the resolution authority would be able to postpone it. Under exceptional cases, when there is a shortage of means, including *ex post* contributions, the fund will be allowed to borrow to bridge the gap.

Procedure is to be set for a part of contributions to the resolution fund to be made in some cases in the form of irrevocable payment commitments. Such obligations will have to be secured by low-risk assets, to which third persons will have no rights. The collateral will have to be only of specified type and accepted only under such conditions that it can be sold in a very short period of time. Irrevocable payment commitments may be requested to be fulfilled if the fund runs short of resources for carrying the resolution process.

The resolution fund can come into play only after private means are exhausted. Before the use of means from the resolution fund, losses representing no less than 8% of a bank's total liabilities will have to be covered by using a bail-in tool, i.e. writing down the liabilities or converting the debt to equity. Moreover, means provided by the fund cannot exceed 5 per cent of total liabilities of the institution under resolution.

Deposit Insurance Fund

The aim of the Directive on Deposit Guarantee Schemes is to unify major guarantee principles in the EU. This Directive set the unified deposit coverage level in the EU (EUR 100,000), harmonised the funding mechanisms of deposit guarantee schemes, introduced contributions to be calculated based on the risk-profile of a respective participant (a credit institution). In addition, the directive aims at ensuring a uniform level of protection to be provided to depositors in all Member States of the EU. For credit institutions to have proper incentives to undertake risk, less risky credit institutions will have to pay smaller contributions compared with more risky institutions. This would allow for the risk-profiles of credit institutions to be taken into account and encouraging them to choose sustainable business models.

For deposits of depositors in any EU Member State to be repaid in short period after a credit institution goes bankrupt, the Directive on Deposit Guarantee Schemes provides for the harmonisation of funding mechanisms for deposit guarantee schemes. The Directive set minimum size of *ex ante* fund and *ex post* contributions. It also laid down that *ex ante* contributions have to be collected before the bankruptcy of a credit institution occurs, while *ex post* contributions of the participants of the deposit insurance fund would be collected after the bankruptcy and when available financing resources are not enough for reimbursing depositors. This type of the structure of contributions to the fund can ensure its proper functioning at any moment. The target size of the *ex ante* deposit insurance fund was set to make up at least 0.8 per cent of covered deposits by 3 July 2024. Also, in order to ensure the restoration of the *ex ante* Deposit Insurance Fund, it is provided for that in case the deposit insurance fund has been reduced to less than two-thirds of the target level, the regular contributions shall be set at a level allowing the target level to be reached within six years. Extraordinary annual *ex post* contributions should not exceed 0.5 per cent of the covered deposits' amount.

The new Law on Amending the Law on Insurance of Deposits and Liabilities to Investors will implement provisions of the Directive on Deposit Guarantee Schemes. The preparation of the draft law is underway in the Ministry of Finance of the Republic of Lithuania, which consults with the Bank of Lithuania. Among other things, the law is expected to set the target level of the deposit insurance fund, which will be suitable for Lithuania and is not lower than the one provided for in the Directive. The approval of the Law is expected till the end of 2015, and the collection of risk-based contributions is to start in the beginning of 2016.

After the adoption of the new law, the contributions to be paid by some credit institutions are likely to go down. The size of a contribution paid by a credit institution will depend on the target level set in the new Law on Insurance of Deposits and liabilities to Investors, the period for this level to be reached, a risk profile of a credit institution, and the number of covered deposits. Based on the assessment of the Bank of Lithuania, the size of the fund should make up no less than 2 per cent of the value of covered deposits for it to be capable to pay insurance amounts on its own in case of bankruptcies of small credit institutions.

[i] Within the members of the euro area and those countries outside the euro area, which have decided to participate in the Single Supervisory Mechanism.
[ii] Commission staff working document "Impact assessment, accompanying the document Proposal for a directive of the European Parliament and of the Council establishing a framework for the recovery and resolution of credit institutions and investment firms and amending Council Directives 77/91/EEC and 82/891/EC, Directives 2001/24/EC, 2002/47/EC, 2004/25/EC, 2005/56/EC, 2007/36/EC and 2011/35/EC and Regulation (EU) No 1093/2010", SWD (2012) 166 final.

REFORM OF THE CREDIT UNION SECTOR

In 2013 to 2014, five credit unions went bankrupt in Lithuania, while some currently operating unions have encountered difficulties. Although total profit earned by the credit union sector made up EUR 1.3 million in 2014, it was not enough to cover losses incurred during the previous periods (EUR 11.4 million in 2013, even 20 credit unions reported losses). The indicators that show the loan quality deteriorated further in 2014: the specific provisions to loans ratio grew by 0.4 p.p. (up to 6.2%), and the share of non-performing loans increased by 4.2 p.p. up to 26.3 per cent of the loan portfolio (for more information see Section II of the present review). In their activities, many credit unions fail to observe the principles of cooperation: their business model is based on particularly high-risk lending, huge investments into debt securities, and attracting high interest rate deposits of their members the links between whom are very weak. The loans portfolio at the beginning of 2015 accounted for less than a half (42.7%) of total assets of credit unions, and investments into government securities (35.8% of credit unions' assets) made up one third of all investments. The current regulation of credit unions cannot ensure sustainability of this sector and create adequate incentives for meeting the major objective of their operations — providing finances to small and medium-size businesses and issuing loans to its members.

In March 2015, the Budget and Finance Committee of the Seimas approved the Con-

cept of Sustainable Operations of Credit Unions.[60] It discusses the reasons behind the need to strengthen the credit union sector, the goals and tasks of the reforming of credit unions, principles for the implementation of restructuring, and expected results of the concept implementation. The Ministry of Finance of the Republic of Lithuania and the Bank of Lithuania were commissioned to prepare by 10 June 2015 draft legislation for the implementation of the concept. Laws on Credit Unions and Central Credit Union shall have to be amended to meet the objectives set by the concept for the reforming of the credit union sector.

Important changes to the Law on Central Credit Union have to be made to strengthen the cooperation between credit unions and their integration, to ensure the self-regulation of the sector. At the beginning of 2015, there were 74 credit unions, and 63 of them were members of the LCCU. This means that a significant number of credit unions did not tend to cooperate and were working on their own. The experience of the recent years revealed that credit unions that do not cooperate with other unions go bankrupt more often (4 of 5 bankrupt credit unions were not members of the LCCU). To increase integration in the sector and create an effective self-regulation system the laws have include requirements for all credit unions to be members of credit union organisations and a permission for new central credit unions to be founded.[61] An effective self-regulating mechanism for credit unions could be created by using the good practice of other countries (Finland, Switzerland, and Netherlands). The operations of members of central credit unions would be based on common and mandatory rules for operations and risk management prepared by credit unions themselves and approved by the supreme governing body. Moreover, central credit unions will have to ensure effective control functions of its members.

In addition, an effective cross-guarantee system needs to be created to ensure operational sustainability of the credit union sector and avoid bankruptcies of credit unions. At present, the mandatory system for ensuring solvency credit unions does not exist, and in the event of any problems for credit unions, they can hardly be resolved without the help of government institutions. The major aim of the cross-guarantee system is to make mutual help among credit unions mandatory and thus protect its members and taxpayers against financial losses that may arise when any credit union encounters problems. Such system can ensure that in case of insolvency of credit unions or other cases specified in legal acts each system participant, whether a credit union or an organisation of credit unions, is financially responsible for obligations taken by all sector participants. It will help to create one more protection mechanism to be used along with the currently effective state deposit guarantee scheme.

Changes to capital regulation and accumulation are necessary for the viable evolution of the credit union sector and its resilience to unfavourable developments. The currently effective capital regulation cannot ensure a stable capital accumulation process that would allow covering losses and creating the right incentives for the management of credit unions. Eligible capital has to be paid, stable, and belong to the credit union. Shares of its members, which currently make up the lion's share in the capital of credit unions, cannot be considered sustainable capital, as they may be easily withdrawn at the moment. Accumulated earnings make up the major capital of successfully operating credit unions and cooperative banks in, for example, Netherlands, Finland or Switzerland. The obligation to use accumulated earnings for building up the major amount of capital has to be laid down in laws, while the regulation of the share capital should be changed to ensure its ability to absorb losses arising from the failure to ensure successful operations of credit unions.

[60] Decision No 109-S-1 of the Budget and Finance Committee of the Seimas of the Republic of Lithuania of 18 March 2015 on the concept of sustainable operations of credit unions and preparation of draft legislation of the Republic of Lithuania, the amendments to which are planned to be made http://www.lb.lt/n23425/tvarios_kredito_uniju_veiklos_koncepcija.pdf.

[61] The currently existing Law on Central Credit Union provides for only one central credit union to be operating in Lithuania.

STATISTICAL ANNEXES

Statistical annex 1. Key financial stability indicators

(2009–2014 m.; percentages)

Financial stability indicators	2009	2010	2011	2012	2013	2014
Capital adequacy						
Capital adequacy[1,2]	12.9	14.8	14.2	15.7	17.6	21.3
Tier 1 capital adequacy[1, 2]	9.3	10.8	12.0	14.6	17.1	20.9
Capital-to-assets ratio[1]	9.4	10.9	10.2	11.4	11.5	11.5
Asset quality						
Ratio of non-performing loans to total loans (not including inter-bank loans)[3]	19.7	20.0	16.6	13.6	11.0	6.5
o/w loans to businesses	26.7	25.8	21.1	16.9	13.4	–
o/w housing loans	5.9	8.3	8.6	8.0	7.0	–
o/w consumer loans	14.4	19.8	16.2	15.3	13.1	–
Ratio of impaired loans to total loans (not including interbank loans)[3]	15.7	16.7	14.0	11.4	8.5	7.2
o/w loans to businesses	22.0	22.5	18.6	14.9	10.7	9.3
o/w housing loans	3.9	5.7	6.0	5.6	4.9	3.9
o/w consumer loans	7.4	10.9	11.3	10.0	8.7	9.2
Ratio of non-impaired loans, more than 60 days overdue, to total loans (not including interbank loans)[3]:	3.9	3.3	2.5	2.2	2.5	1.5
o/w loans to businesses	4.7	3.3	2.4	2.0	2.8	1.3
o/w housing loans	2.0	2.6	2.6	2.4	2.0	1.7
o/w consumer loans	7.0	8.9	4.9	5.3	4.4	2.3
Ratio of loan impairment losses to total loans (not including interbank loans)[4,5]	6.7	8.0	7.0	5.6	4.2	3.1
o/w loans to businesses[5]	9.0	10.4	8.9	6.9	5.0	3.6
o/w housing loans[5]	1.8	3.0	3.3	3.1	2.6	2.0
o/w consumer loans[5]	7.6	11.7	11.4	9.8	7.9	6.0
Ratio of loan impairment losses to non-performing loans[2, 3, 4, 5]	33.9	40.2	42.2	40.8	37.9	35.6
Income and profitability						
Return on equity[1, 6]	–50.8	–3.9	15.8	7.7	8.9	8.1
Return on assets6	–3.8	–0.3	1.4	0.9	1.0	0.9
Ratio of net interest income to total income	50.6	49.0	58.7	53.7	49.9	39.8
Ratio of profit (loss) on trading and foreign exchange operations to total income	60.3	64.4	60.2	61.9	61.9	¬¬–
Ratio of staff costs to total non-interest expenses	13.5	8.1	4.0	9.1	8.8	8.0
Liquidity						
Liquidity ratio (ratio of liquid assets to current liabilities)[7]	...	43.8	44.1	41.2	41.2	43.6
Ratio of liquid assets to total assets[7]	...	23.8	23.7	25.1	27.0	31.9
Ratio of current liabilities to total liabilities[6]	...	58.5	58.8	67.7	73.1	81.6
Three-month VILIBOR and EURIBOR spread, basis points[8]	320	49	30	49	18	10
Ratio of deposits to total loans (not including interbank loans)	68.6	82.2	80.6	85.8	93.3	110.4
Ratio of short-term liabilities to banks to total liabilities to banks	...	42.3	35.4	48.9	43.8	38.9
Assets						
Ratio of loans (not including interbank loans) to assets	66.3	66.4	65.3	67.5	65.7	61.1
Ratio of loans to households to total loans (not including inter-bank loans)	44.3	43.8	44.4	44.9	44.7	47.1
Ratio of loans to non-financial corporations to total loans (not including interbank loans)	52.3	50.6	48.6	47.9	46.2	44.3
Ratio of debt securities to assets	8.2	9.1	6.6	6.9	10.2	8.6
Ratio of government debt securities to assets	5.4	6.5	4.4	4.7	6.8	6.1
Ratio of government debt securities to total debt securities	65.6	71.1	66.4	68.3	66.8	71.0

Financial stability indicators	2009	2010	2011	2012	2013	2014
Liabilities						
Ratio of liabilities to assets	94.4	92.9	91.2	90.2	89.7	89.7
Ratio of deposits to total liabilities	48.2	58.7	57.7	64.2	68.4	75.2
Ratio of resident deposits to total deposits	90.8	88.3	96.1	96.3	97.0	97.0
Ratio of household deposits to total deposits	61.3	57.6	58.5	55.9	58.9	60.2
Ratio of deposits of non-financial corporations to total deposits	27.7	29.4	33.2	34.0	33.7	30.5
Ratio of liabilities to banks to total liabilities	43.9	35.2	35.7	31.0	28.4	21.7
Ratio of liabilities to banks of the parent banking group to total liabilities to banks	...	92.9	94.9	95.5	96.6	91.5
Ratio of liabilities to banks of the parent banking group to total liabilities	...	34.8	35.3	30.4	28.1	21.0
Ratio of liabilities to banks of the parent banking group to total liabilities to non-residents	...	88.4	91.3	87.4	89.4	90.3
Assets and liabilities of non-residents						
Ratio of non-residents' liabilities to total assets	38.9	34.4	33.8	30.5	27.6	20.1
Foreign exchange rate risk						
Ratio of net open position in foreign currency to regulatory capital[1, 2]	1.01	0.54	0.62	0.29	0.44	0.54

Source: Bank of Lithuania calculations.

Notes: 1) the indicators were calculated based on consolidated supervisory financial statements of banks and cover all the banks operating in the country as well as foreign bank branches; 2) from early 2008, financial data have been compiled using EU FINREP statements. This may have an impact on the value of certain indicators, which shall be taken into account when analysing a longer time series; 3) a short-term period is a period of up to one year.

[1] Not including foreign bank branches.
[2] Based on the Rules for the Calculation of Capital Adequacy Ratio as approved by Resolution No 138 of 9 November 2006 of the Board of the Bank of Lithuania.
[3] From mid-2014, non-performing loans include the loans with regular payments overdue for more than 90 days, or it has been assessed that the debtor will most likely not comply with their credit obligations if no collateral will be realised, regardless of the number of days the past due amount has existed or is late. This new definition of non-performing loans is not comparable to the previous one.
[4] Up to 2004, special provisions covered the provisions against general portfolio risk.
[5] Special provisions cover the provisions against assets measured on consolidated and individual basis.
[6] Net profit (loss).
[7] Definitions of liquid assets and current liabilities are available in the Rules for the Calculation of Liquidity Ratio as approved by Resolution No 03-58 of the Board of the Bank of Lithuania of 25 May 2010 (the validity of Resolution No 03-340 of the Board of the Bank of Lithuania of 23 December 2015 was terminated as of 1 January 2015).
[8] End-of-period data.

Statistical annex 2. Main consolidated indicators of the banking sector's performance

(1 January 2015; EUR millions)

Balance sheet item	AB SEB Bankas	Swedbank AB	AB DNB Bankas	AB Šiaulių Bankas	AB Citadele Bankas	UAB Medicinos Bankas	AB Bankas FINASTA	Total banks (7 banks)	Total foreign bank branches (8 branches)[1,2]	Banking sector
Cash and cash balances with central banks	580,1	1 488,0	396,1	108,8	11,7	56,9	0,7	2 642,3	1 397,8	4 040,1
Cash balances with banks and other credit institutions	252,4	110,4	142,1	50,3	76,7	12,5	3,7	648,1	224,6	872,7
Loans	4 303,3	3 693,8	2 737,2	759,0	180,1	115,6	9,9	11 798,9	2 943,2	14 742,1
public authorities	132,8	516,5	312,7	105,9	0,3	0,5	–	1 068,7	70,9	1 139,6
financial institutions	2,7	6,3	0,0	3,6	0,5	3,9	–	17,0	112,9	129,9
private entities	2 192,0	1 272,3	1 084,6	546,3	66,0	96,2	7,0	5 264,4	1 260,2	6 524,6
natural persons	1 975,8	1 898,7	1 339,9	103,2	113,3	15,0	2,8	5 448,7	1 499,2	6 947,9
Debt securities	423,3	536,7	231,6	500,9	123,0	31,7	46,3	1 893,5	183,6	2 077,1
Equity securities	7,3	–	1,8	19,3	0,0	–	0,2	28,6	17,6	46,2
Other assets	1 178,9	461,4	257,3	176,6	35,8	28,1	2,1	2 140,2	211,5	2 351,7
Total assets	6 745,2	6 290,5	3 766,2	1 614,9	427,3	244,7	62,9	19 151,7	4 978,1	24 129,8
Debts to banks and other credit institutions	1 271,7	65,6	1 201,4	9,5	70,6	6,2	0,2	2 625,2	2 104,0	4 729,2
Deposits	4 469,5	5 013,4	2 101,0	1 438,9	293,4	209,4	53,2	13 578,8	2 700,7	16 279,5
public authorities	135,7	232,2	165,1	49,8	2,4	2,8	0,3	588,3	569,0	1 157,3
financial institutions	131,9	124,3	10,3	29,2	0,6	0,4	5,3	302,0	61,8	363,8
private entities	1 453,1	1 038,6	710,7	184,8	150,1	34,2	11,6	3 583,1	1 379,2	4 962,3
natural persons	2 748,8	3 618,4	1 214,9	1 175,0	140,3	172,0	36,0	9 105,4	690,7	9 796,1
Debt securities issued	21,0	35,0	0,1	–	–	–	0,1	56,2	–	56,2
Other liabilities	191,0	108,5	32,3	58,8	18,0	6,7	3,5	418,8	150,0	568,8
Total equity	792,0	1 067,8	431,5	107,8	45,3	22,5	6,0	2 472,9	23,4	2 496,3
profit (loss) of the current year	65,5	108,0	16,2	11,1	0,2	-9,8	0,2	191,4	22,1	213,5
Total liabilities and equity	6 745,2	6 290,5	3 766,2	1 614,9	427,3	244,7	62,9	19 151,7	4 978,1	24 129,8
Return on Assets (RoA), %[3]	0,97	1,84	0,45	0,70	0,07	–4,10	0,24	1,03	0,48	0,92
Return on Equity (RoE), %[4]	8,54	10,71	3,81	10,91	0,53	–50,59	3,33	8,05	–	–
Prudential Requirements										
Capital adequacy ratio[5]	20,5	29,9	16,6	12,3	15,1	12,3	15,7	21,3	–	–
Liquidity[6]	32,9	42,8	38,3	55,6	61,4	50,8	89,6	40,2	58,3	43,6
Maximum exposure to single borrower[7]	21,9	16,7	15,0	17,1	22,6	20,5	23,0	–	–	–

Source: Bank of Lithuania calculations.

[1,2] Based on the European Council Directive, foreign bank branches are not obliged to publish financial reporting data. As established by the Law on Banks, foreign bank branches must publish the annual financial and consolidated statements of their founding bank, as well as the auditor's report on these statements. Deposits held with foreign bank branches are insured pursuant to the legislation of the country, in which the branch is established.

[3] Return on Assets = (profit (loss) of the current period / average assets in the last four quarters)*100*K. Explanations: K — coefficient of a respective quarter (Q1— 4, Q2 — 2, Q3 — 4/3, Q4 — 1).

[4] Return on Equity = (profit (loss) of the current period / average equity)*100*K. Explanations: depending on the period, average equity is calculated for a quarter, half-year, nine months or a year; K — coefficient of a respective quarter (Q1 — 4, Q2 — 2, Q3 — 4/3, Q4 —1).

[5] Capital adequacy ratio is the ratio of eligible bank capital and sum of risk-weighted assets and off-balance sheet liabilities may not be lower than 8 per cent.

[6] Liquidity ratio — bank's liquid assets and current liabilities may not be lower than 30 per cent (this requirement was valid until 31 December 2014).

[7] The Large Exposures Requirement (formerly the maximum exposure requirement) — the institution's exposure to a single client or group of connected clients may not exceed 25 per cent of the institution's eligible capital or EUR 150 million, taking into account whichever amount is greater (see Article 395 of the Regulation).

Statistical annex 3. Key performance indicators of non-financial corporations

(2013–2014 m.; percentages)

Economic activity[1]	Profitability[2]		Share of profitable corporations[3]		Financial leverage[4]		Debt servicing capacity[5]		Bankruptcy frequency[6]		Structure of MFI portfolio of loans to non-financial corporations	
	2013	2014	2013	2014	2013	2014	2013	2014	2013	2014	2013	2014
Forestry and fishing	11.6	2.1	71.5	64.5	27.0	60.2	365.7	40.5	5.0	2.6	2.8	2.9
Mining and quarrying	18.0	12.1	78.0	74.4	62.8	55.7	72.1	78.2	1.1	1.2	0.5	0.5
Manufacturing	2.3	3.4	69.4	71.9	96.5	92.5	45.6	72.0	2.8	2.6	18.0	15.6
Energy supply	3.5	–10.7	51.2	53.2	52.5	76.7	68.9	0.0	1.3	1.2	7.6	9.5
Water supply	2.4	6.3	53.5	61.0	37.1	36.4	74.1	94.3	2.6	2.6	0.8	1.0
Construction	3.4	4.5	57.3	59.5	129.5	119.2	36.8	53.9	4.4	4.4	8.6	7.2
Wholesale and retail trade	3.9	3.2	69.4	69.8	137.2	125.3	64.9	55.1	2.7	2.2	19.3	20.3
Transport and logistics	5.1	5.1	67.7	65.4	66.6	62.9	83.2	80.6	3.1	3.3	5.7	5.4
Accommodation and catering	3.9	2.1	51.7	54.7	195.3	180.5	19.3	16.0	4.7	5.0	2.8	2.6
Information and communication	10.0	11.2	60.1	65.1	67.4	70.5	80.1	94.0	1.2	1.6	0.8	0.9
Real estate operations	23.0	23.4	64.6	66.5	113.6	92.2	13.5	16.7	0.7	1.4	28.3	27.7
Professional, scientific and technical activities	33.1	49.6	61.9	61.3	14.6	15.8	71.2	95.9	4.6	1.3	2.6	3.5
Education	4.0	8.1	56.3	58.9	46.6	46.1	111.5	201.6	1.0	1.9	–	–
Total[7]	4.5	4.5	64.1	65.1	72.4	69.9	48.7	52.4	2.7	2.6	44.8	44.7

Sources: Department of Enterprise Bankruptcy Management under the Ministry of Economy, Statistics Lithuania, and Bank of Lithuania calculations.

[1] Names of certain economic activities are abbreviated.
[2] Ratio of profit before taxes to income during the period.
[3] The average annual share of profitable corporations in the total number of corporations.
[4] Ratio of liabilities to equity at the end of the period.
[5] Ratio of profit before taxes. amortisation and depreciation for the period to financial debts at the end of the period.
[6] Ratio of the number of bankruptcy proceedings opened during the year to the number of corporations at the end of the period.
[7] Total MFIs loans to non-financial corporations are expressed in this table as a share of the total MFI loan portfolio.

Statistical annex 4. Lithuania's net financial assets

(net flows over 2014; EUR billions)

	Net financial assets												
	Non-financial corporations	Central bank	Other MFIs	Mutual funds	Other financial intermediaries	Insurance corporations	Pension funds	Central government	Local government	Social security funds	Households and non-profit institutions[1]	Other parties	Total
Non-financial corporations		0,69	–0,74	0,02	0,27	–0,05	–0,00	0,06	0,02	–0,01	–0,68	–0,46	–0,88
Central bank	–0,69		2,87	–	0,00	–	–	0,74	–	–	–1,13	–1,78	0,012
Other MFIs	0,74	–2,87		0,01	0,06	0,06	0,08	0,27	0,03	0,08	1,31	0,47	0,25
Mutual funds	–0,02	–	–0,01		0,00	–0,00	0,00	0,00	–	–	0,01	0,01	–0,00
Other financial intermediaries	–0,27	–0,00	–0,06	–0,00		0,00	–0,00	–0,01	0,00	–	–0,03	0,30	–0,08
Insurance corporations	0,05	–	–0,06	0,00	–0,00		–	–0,03	–	0,00	0,09	0,04	0,08
Pension funds	0,00	–	–0,08	–0,00	0,00	–		–0,06	–	–	0,15	–0,01	–0,00
Central government	–0,06	–0,74	–0,27	–0,00	0,01	0,03	0,06		–0,01	–0,25	–0,20	1,26	–0,17
Local government	–0,02	–	–0,03	–	–0,00	–	–	0,01		0,00	0,00	0,00	–0,04
Social security funds	0,01	–	–0,08	–	–	–0,00	–	0,25	–0,00		0,28	–	0,45
Households and non-profit institutions[1]	0,68	1,13	–1,31	–0,01	0,03	–0,09	–0,15	0,20	–0,00	–0,28		–0,09	0,11
Other parties	0,46	1,78	–0,47	–0,01	–0,30	–0,04	0,01	–1,26	–0,00	–	0,09		0,26
Total	0,88	–0,01	–0,25	0,00	0,08	–0,08	0,00	0,17	0,04	–0,45	–0,11	–0,26	

Balance of payments statistics

Financing need		**Financing sources**	
Goods and services export balance	0,04	Net acquisition of financial assets in Lithuania[3]	–1,03
Primary and secondary foreign income balance	0,00	Net incurrence of liabilities in Lithuania[3]	0,77
Net foreign capital transfers	0,99	Net errors and omissions	–0,78
Current and capital account balance	**1,04**	**Current account financing balance**	**–1,04**

Source: Bank of Lithuania calculations.

[1] Non-profit institutions providing services to households.
[2] Excl. monetary gold.
[3] A positive value indicates the transfer of financial funds to Lithuania (net financial assets decrease or net financial liabilities acquisition), negative — the transfer of financial funds from Lithuania (net acquisition of financial assets or net financial liabilities losses). The difference between the Lithuanian net acquisition of financial assets and Lithuania's net financial liabilities assumed, i.e. the difference between funds transferred to Lithuania and from Lithuanian shows the net flow of financial assets. For example, in 2014 in Lithuania financial funds for EUR 0.77 billion were transferred (financial liabilities increased), but at the same time financial funds transferred to and from Lithuania amounted to EUR 1.03 billion (financial assets increased). The difference between funds transferred to and from Lithuania amounted to EUR 0.26 billion, i.e. the same financial assets and financial liabilities changes were among sectors in Lithuania.

Explanation: the table was compiled from Lithuania's financial accounts. A positive number in the table indicates how much of the column's sub-sector during the period comprised of net financial assets (financial assets and financial liabilities transactions difference) transactions with the sub-sector indicated in the row, while a negative value - net financial liabilities. For example, households in 2014 created net financial asset transactions in other MFIs (basically - commercial banks and credit unions), amounting to EUR 31.1 billion. The difference between financial assets and financial liabilities transactions shows Lithuania's net acquisition of financial assets abroad and it is shown in the balance of payments statistics.

Statistical annex 5. Financial system of Lithuania [1]

(2011–2014)

	2011					2012					2013					2014				
	Number	Assets				Number	Assets				Number	Assets				Assets				
		EUR millions	Share, %	nnual Change, %	ompared		EUR millions	Share, %	nnual Change, %	ompared		EUR millions	Share, %	nnual Change, %	ompared		EUR million	Share, %	nnual Change, %	ompared
Banks[2]	**20**	**22 871**	**82.7**	**–3.4**	**73.2**	**20**	**21 507**	**80.5**[3]	**–0.7**[3]	**64.6**[3]	**15**	**22 424**	**81.4**	**4.3**	**64.2**		**24 077**	**81.1**	**7.4**	**66.3**
Banks[2]. not including foreign bank branches	8	18 403	66.5	–4.5	58.9	8	16 879	63.2[3]	–1.8[3]	50.7[3]	7	18 130	65.8	7.4	51.9	7	19 099	64.3	5.3	52.6
Foreign bank branches[2]	12	4 469	16.2	1.7	14.3	12	4 628	17.3	3.6	13.9	8	4 294	15.6	–7.2	12.3	8	4 978	16.8	15.9	13.7
Credit unions	**74**	**472**	**1.7**	**27.5**	**1.5**	**77**	**595**	**2.2**	**26.2**	**1.8**	**76**	**621**	**2.3**	**4.3**	**1.8**	**74**	**617**	**2.1**	**–0.6**	**1.7**
Lithuanian central credit union	**1**	**103**	**0.4**	**14.2**	**0.3**	**1**	**107**	**0.4**	**4.4**	**0.3**	**1**	**106**	**0.4**	**–1.0**	**0.3**	**1**	**111**	**0.4**	**4.6**	**0.3**
Leasing companies	**10**	**1 748**	**6.3**	**–8.3**	**5.6**	**10**	**1 684**	**6.3**	**–3.7**	**5.1**	**9**	**1 329**	**4.8**	**–21.1**	**3.8**	**9**	**1 333**	**4.5**	**0.3**	**3.7**
Insurance market	**11**	**802**	**2.9**	**–0.5**	**2.6**	**11**	**865**	**3.2**	**7.8**	**2.6**	**10**	**860**	**3.1**	**7.7**[4]	**2.5**	**8**	**1 023**	**3.5**	**19.0**	**2.8**
Life insurance companies	5	452	1.6	22.3	1.5	5	515	1.9	13.8	1.6	5	566	2.1	9.9	1.6	5	648	2.2	14.5	1.8
Non-life insurance companies	6	349	1.3	–19.9	1.1	6	350	1.3	0.1	1.1	5	294	1.1	3.6[4]	0.8	3	376	1.3	27.6	1.0
Capital market participants	**117**	**470**	**1.7**	**–18.6**	**1.5**	**122**	**533**	**2.0**	**13.6**	**1.6**	**110**	**598**	**2.2**	**12.1**	**1.7**	**104**	**621**	**2.1**	**3.9**	**1.7**
Financial brokerage companies	10	8	0.0	–27.3	0.0	10	7	0.0	–14.0	0.0	7	6	0.0	–14.5	0.0	8	5	0.0	–4.1	0.0
Management companies	14	22	0.1	–8.7	0.1	14	23	0.1	3.2	0.1	14	24	0.1	5.4	0.1	13	19	0.1	–21.0	0.1
Lithuania-registered collective investment undertakings	30	148	0.5	–14.8	0.5	33	186	0.7	25.2	0.6	33	243	0.9	30.7	0.7	28	261	0.9	7.4	0.7
Foreign-registered collective investment undertakings	63	291	1.1	–20.8	0.9	65	318	1.2	9.3	1.0	56	325	1.2	2.3	0.9	55	336	1.1	3.4	0.9
Pension funds	**39**	**1 209**	**4.4**	**5.6**	**3.9**	**39**	**1 424**	**5.3**	**17.8**	**4.3**	**38**	**1 615**	**5.9**	**13.4**	**4.6**	**38**	**1915**	**6.5**	**18.6**	**5.3**
2nd pillar pension funds	30	1 182	4.3	5.8	3.8	30	1 392	5.2	17.8	4.2	28	1 577	5.7	13.2	4.5	26	1868	6.3	18.5	5.1
3rd pillar pension funds	9	27	0.1	–5.3	0.1	9	31	0.1	15.7	0.1	10	38	0.1	20.0	0.1	12	48	0.2	26.1	0.1
FINANCIAL SYSTEM	**272**	**27 674**	**100.0**	**–3.1**	**88.6**	**280**	**26 715**	**100.0**	**0.9**[3]	**80.2**[3]	**259**	**27 553**	**100.0**	**3.4**[4]	**78.8**	**249**	**29 698**	**100.0**	**7.8**	**81.8**
Securities market capitalisation	**–**	***4 478***	**–**	***–17.8***	***14.3***	**–**	***4 690***	**–**	***4.7***	***14.1***	**–**	***4 972***	**–**	***6.0***	***14.2***	**–**	***5 719***	**–**	***15.0***	***15.8***
Listed shares	–	*3 139*	–	*–25.6*	*10.1*	–	*2 992*	–	*–4.7*	*9.0*	–	*2 907*	–	*–2.8*	*8.3*	–	*3 330*	–	*14.6*	*9.2*
Listed debt securities	–	*1 339*	–	*8.9*	*4.3*	–	*1 699*	–	*26.9*	*5.1*	–	*2 065*	–	*21.6*	*5.9*	–	*2 388*	–	*15.6*	*6.6*

Sources: Insurance Supervisory Commission. Securities Commission of the Republic of Lithuania. Association of Lithuanian Banks. AB NASDAQ OMX Vilnius. Statistics Lithuania. and Bank of Lithuania calculations.

[1] In the table. the totals of the columns and the percentages might not be in line with the general data.
[2] Non-balance of payments data.
[3] Not including data for *AB Ūkio Bankas*.
[4] Not including data for *ERGO Lietuva*.

GLOSSARY

Associated credit union member – credit union member is such that does not have voting right in a credit union meeting and cannot be elected to credit union management and regulatory bodies, commissions, committees and services. Associated credit union member could be subject to other restrictions.

Gross domestic product (GDP): a measure of economic activity, namely the value of an economy's total output of goods and services, less intermediate consumption, plus net taxes on products and imports, in a specified period. GDP can be broken down by output, expenditure or income components. The main expenditure aggregates that make up GDP include household final consumption, general government final consumption, gross fixed capital formation, changes in inventories, and imports and exports of goods and services (including intra-euro area trade).

EURIBOR (Euro interbank offered rate): the rate at which prime banks are willing to lend funds in euro to other prime banks in the European interbank market. The rate is calculated by the European Banking Federation, based on the interest rates published by a representative panel of the most active participants of the interbank market. EURIBOR is fixed for various maturities, from one week to 12 months.

European Systemic Risk Board (ESRB): an independent EU body responsible for macro-prudential oversight in the EU. The ESRB contributes to the prevention or mitigation of systemic risks to financial stability arising from developments within the financial system. It takes into account macroeconomic developments, so as to avoid periods of widespread financial distress.

Financial stability: the condition in which the financial system — comprising financial intermediaries, markets and market infrastructures — is capable of withstanding shocks and the unravelling of financial imbalances, thereby mitigating the likelihood of disruptions in the financial intermediation process, which are severe enough to significantly impair the allocation of savings to profitable investment opportunities.

Credit institution: (i) an undertaking whose business is to receive deposits or other repayable funds from the public and to grant credits for its own account, or (ii) an undertaking or any other legal person, other than those under (i), which issues means of payment in the form of electronic money.

Credit risk: the risk that the counterparty will not settle the full value of an obligation — neither when it becomes due, nor at any time thereafter.

LITAS-MMS (payment system): the payment system for making retail payments. The system was launched on 29 January 2007. It is maintained and operated by the Bank of Lithuania.

LITAS-RLS (real-time settlement system): the real-time payment system operating since 29 January 2007. The system is maintained and operated by the Bank of Lithuania. The participants of LITAS-RLS include Lithuanian commercial banks and many foreign bank branches active in Lithuania. LITAS-RLS is available each day, except for statutory holidays. Credit transfers are accepted from 7:45 a.m. and processed until 4 p.m.

Maximum technical interest rate: the interest rate, applied by life assurance companies, in calculating the technical provisions for covering losses. With the decreasing maximum technical interest rate, life assurance company liabilities are technically decreasing as well.

Monetary financial institutions (MFIs): financial institutions, which together form the money-issuing sector of the euro area. These include the Eurosystem. resident credit institutions (as defined in EU law) and all other resident financial institutions whose business is to receive deposits and/or close substitutes for deposits from entities other than MFIs and for their own account (at least in economic terms) to grant credit and/or invest in securities. The latter group consists predominantly of money market funds, i.e. the funds that primarily invest in short-term and low-risk instruments with a maturity of up to one year.

Systemic risk: the risks that, if materialised, have the potential to impair the functioning of the entire financial system to an extent that the financial stability and the growth of domestic economy suffer materially.

Debt security: a promise on the part of the issuer (the borrower) to make one or more payment(s) to the holder (the lender) on a specified future date or dates. Such securities usually carry a specific rate of interest (the coupon) and/or are sold at a discount to the amount that will be repaid at maturity. Debt securities issued with an original maturity of more than one year are classified as long-term.

General government: central, regional and local government authorities as well as social security funds. Excluded are government-owned entities that conduct commercial operations, such as public enterprises.

Debt (general government): the total gross debt at nominal value outstanding at the end of the year and consolidated between the sectors of general government.

Securities settlement system (SSS): a system which allows the transfer of securities, either free of payment or against payment (delivery versus payment).

VILIBOR (Vilnius interbank offered rate): the average interbank interest rate at which operating in Lithuania would borrow funds in litas to other banks operating in Lithuania. The Bank of Lithuania calculates the VILIBOR index based on the quotes (lending interest rates) provided by domestic commercial banks. The VILIBOR index is calculated and published for the following maturities: overnight, 1 and 2 weeks and 1, 3, 6 and 12 months. The index is derived from the interest rates for the above-mentioned maturities published by at least five banks, which have to enter (or have to be able. at any time. to enter) into deposit, loan, forward currency exchange or currency swap transactions in litas with residents in the interbank market and have to be assigned a long-term rating from international agencies, which shall not be more than two notches below the lowest long-term local currency sovereign rating on the Republic of Lithuania. Each maturity VILIBOR is calculated as an arithmetic average of rates of respective maturity. When the Bank of Lithuania becomes a member of the Eurosystem, the VILIBOR, applied until now, will be replaced by the EURIBOR.