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FINANCIAL STABILITY REVIEW

2014

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Abbreviations

AB	public company
BCBS	Basel Committee of Banking Supervision
CCB	Countercyclical Capital Buffer
CDS	Credit Default Swap
CRD IV	Capital Requirements Directive IV
LCVPD	AB Central Securities Depository of Lithuania
DSTI	Debt-Service-To-Income ratio
EBA	European Banking Authority
ECB	European Central Bank
ESRB	European Systemic Risk Board
EU	European Union
EURIBOR	Euro Interbank Offered Rate
FDI	Foreign Direct Investment
FMI	Financial Market Infrastructure
FRED	Federal Reserve Economic Data
GDP	Gross Domestic Product
HICP	Harmonised Index of Consumer Prices
IMF	International Monetary Fund
LTV	Loan-To-Value ratio
MFI	Monetary Financial Institution
PF	Pension Funds
p. p.	percentage point
PRI	Portfolio Risk Index
QE	Quantitative Easing
SME	Small and Medium-sized Enterprises
SSS	Securities Settlement System
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 2014.
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.

The publication Financial Stability Review is available at *EBSCO Publishing, Inc., Business Source Complete database* (**http://www.ebscohost.com/titleLists/bt-journals.pdf)**.

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Foreword

Financial stability is the state of the financial market, which enables its participants (banks, other financial institutions) and infrastructure to function effectively as financial intermediaries and to withstand shocks without major disruption in the effective reallocation of financial resources. The policies that aim to safeguard and strengthen financial stability are based on regular market surveillance, early identification and prevention of potential risks. Efforts to ensure financial stability pursue the following main objectives: to identify systemic internal and external threats to the financial system, to measure its ability to withstand the impact of adverse shocks, to design and apply risk mitigation measures, to propose recommendations to financial market participants on better ways to manage emerging risks. Early identification and assessment of the sources of risks to the country's financial system help reduce the probability of financial crises and the resulting potential losses.

The purpose of the annual Financial Stability Review published by the Bank of Lithuania is to help develop a full understanding of potential risks to the Lithuanian financial system, to identify and explore the system's ability to cope with these risks, as well as to promote discussions between the country's financial market participants and the public on relevant financial stability issues. The Financial Stability Review 2014 looks into the developments of the domestic financial system, the situation of the banking sector and its main borrowers, i.e. households and non-financial corporations, and the abilities to withstand changes in the external and internal macroeconomic environment and financial markets. In addition, the Review provides an overview of insurance industry performance, the securities market and the financial market infrastructure, as well as the situation in the real estate market. It also discloses potential risks to the country's financial system, provides an analysis of potential impact channels, assesses the losses that may be incurred if the risks were to materialise, and discusses the financial system's ability to withstand them while preserving the stability of the financial system.

FINANCIAL STABILITY OVERVIEW

The global economy has picked up. Its outlook, however, is still mired in uncertainty. Acceleration in the recovery of developed economies in the second half of 2013 and accommodative monetary policy implemented by major global central banks triggered a rise in stock prices in the developed countries and a decrease in yields of debt securities. Low returns from low-risk investment vehicles prompted market players to gear their search for yield towards higher-risk financial instruments and thus expose themselves to higher risks of impairment in the future. Lithuania could not buck the global trends of the financial markets, either. In particular, the interest rates were low, many of the listed stocks moved higher while the yields of government securities headed down. Lithuania's economic growth at one of the fastest rates in the EU has inspired more optimism in the domestic financial market. Domestic consumption has recently been taking over from exports as the main driving force of economic growth. **Inflation, meanwhile, remains subdued.**

The main participants of the Lithuanian financial system, i.e. the banks, remained highly resilient to potential adverse developments in the period under review, i.e. 2013 and the first half of 2014. The average capital adequacy ratio was more than twice the minimum requirement and the capital was almost entirely classified as the highest tier. The banking sector's operations were profitable and its loan portfolio showed improvements in quality. Despite the continued prevalence of low interest rates, the amount of deposits with banks increased. At the same time, the liabilities of the domestic banking system to parent banks followed a downward path. The banks reduced their investment in higher-risk assets and thus built up rather substantial buffers of liquid assets.

The functioning of financial market infrastructure in Lithuania is stable and reliable. Despite the suspension of operations of several deposit-taking financial institutions in the period under review, the domestic financial market infrastructure operated without any disruptions and ensured smooth execution of settlements. Other financial system participants, i.e. insurance undertakings, pension funds, collective investment undertakings, all showed a pick-up in activity and assets.

Although the banks were in good financial health, lending activity was not too strong in the period under review. The annual rate of growth of the loan portfolio to private sector (non-financial corporations and households) remained in the negative territory, i.e. the loan repayment exceeded new lending. On the one hand, the banks softened their lending standards amid a decrease in the risks of their main borrowers and a fall in the proportion of bad loans, and the interest rates were at a decade low. On the other hand, despite the improvements in private-sector expectations about the future, the lessons learnt from the crisis kept the banks reluctant to expand their lending quickly and by much. Nevertheless, borrowing for house purchase has intensified of lately.

The financial health of the private sector showed improvements, however, the households and non-financial corporations took a cautious stance towards new financial liabilities. Sales revenues and earnings of non-financial corporations kept rising over the past few years, building on economic growth in main trading partners as well as the growth of consumption and investment in Lithuania. Improvements in the financial well-being of business enterprises enhanced their debt repayment capacity. However, the companies mainly tapped into own resources to finance and gradually increase their investment. In addition, businesses stepped up hiring and some of them came across the skills gap. Employment and income gains helped enhance the financial health of the country's households, which, therefore, were deemed less risky as borrowers. This decrease in household credit risk was also fuelled by the easing of lending standards, the prevalence of low interest rates and the developments of household financial assets, which grew faster than financial liabilities. If the economy grows, the financial well-being of the private sector should continue to improve, driving up the borrowing requirement.

The real estate market has recently been active and the processes therein warrant vigilant oversight. The number of transactions concluded in the real estate market increased in 2013, to some extent, as a result of changes in the legal regulation pertaining to agricultural land. However, the numbers of other transactions, in particular with residential property in the capital city, reached relatively high levels, too. As a result, house prices, which remained virtually unchanged over the past five years, increased by an annual 5.2 per cent in the first quarter of 2014. Such an increase does not exhibit any signs of unsustainability. Moreover, bank financing still accounts for a relatively small fraction of transactions (the Responsible Lending Regulations approved by the Bank of Lithuania constrain excessive lending for house purchases). The growth of the economy and improvements in the financial health of Lithuanian households promote the balanced growth of real estate prices. However, there are risks that the growth of prices may be fuelled by overly optimistic household expectations. The risk of self-fulfilling expectations exacerbates concerns over future stability of the financial sector, which remains highly exposed to the real estate market.

The participants of the Lithuanian financial system are highly resilient to adverse developments. However, certain risks to the stability of the financial system are still present. Macroeconomic risks stem from the potential loss of export markets. Being a small and open economy, Lithuania is highly sensitive to changes in foreign markets. The risk of a decrease in exports to Eastern markets has already started to materialise, in particular due to the second consecutive year of deceleration in economic growth in Russia, one of the main trading partners. The conflict with Ukraine, which sparked early in 2014, undermines the state of the economy and financial markets in the entire Eastern European region. At the same time, Lithuania may encounter difficulties with exports to Western markets, in particular as the economic growth in the EU countries with closer ties with Lithuania is expected to slow down. Concerns over a decrease in exports are exacerbated by the simultaneity of stress in both Eastern and Western markets, which constrains the possibilities of reorienting the exports towards other markets. Deterioration in the financial well-being of the exporters is driving up their credit risk, which may bring losses to the financial institutions. Financial risks stem from three sources. Firstly, the activities of the domestic

banking sector – due to its specific features related to ownership, investment, liquidity and capital management, as well as business governance – depend on the stability of operations of their parent banking groups in headquarter countries, first of all in Sweden. Sweden has a large banking sector, which relies on money and capital markets for the financing of a substantial portion of its assets. Although the situation of the Scandinavian countries is regarded as one of the most robust in Europe, real estate prices in both Sweden and Norway are considered overvalued and the level of household debt is high. It should be noted, however, that the central banks of these countries as well as supervisory and other public authorities have already taken measures to mitigate the risks. Secondly, the Lithuanian financial system is sensitive to changes in international markets, hence the unwinding of non-conventional monetary policy measures, which were introduced after the economic downturn, may trigger a sharp repricing of risk premia and a fall in financial asset prices. Thirdly, the prolonged environment of low interest rates undermines the banks' efforts to improve the profitability of their operations. Moreover, low interest rates may erode the sustainability of operations of certain life assurance corporations, in particular as the returns they earn on their asset holdings are lower than necessary to meet their liabilities to customers.

The results of stress tests of the Lithuanian banks suggest that the banking sector is generally resilient to adverse shocks, despite differences in the wellbeing of its individual participants. As part of the stress test, the Bank of Lithuania developed adverse scenarios covering the full range of identified risks to the financial system and assessed the capital adequacy and liquidity positions of the banks. Under the adverse scenario, which involved the simulation of an approximately 10 per cent contraction of the country's GDP in a two-year window, the capital adequacy ratio of the banking sector would remain well above the benchmark. However, two banks would see their respective ratios dip below the minimum requirement by a small margin. The hypothetical shortfall of capital in these two banks is negligent if compared to the entire capital of the banking sector and, therefore, poses no risks to the stability of the country's financial system. Measures restricting the use of profits of the banks concerned for dividend payments or other remuneration might suffice to deal with these shortfalls. The banking sector holds a sufficient liquidity buffer and is capable of withstanding a substantial liquidity shock.

The Bank of Lithuania intends to continue building up the resilience of the financial sector against adverse developments as it seeks to ensure the stability of the sector's operations and the sustainability of its contribution to the country's economic growth. The central bank aims to take up a new function of macro-prudential policy implementation in order to stave off the emergence of systemic risks and reinforce its existing powers to ensure financial stability. A respective draft amendment to the Law on the Bank of Lithuania, which was drawn up and endorsed by the Government of the Republic of Lithuania in 2013, is currently debated by the Seimas. The macro-prudential policy mandate will provide extra tools to avoid the manifestation of systemic risks in the financial sector. Current measures to prevent and mitigate the systemic risks in Lithuania include, *inter alia,* the capping of the loan-to-value ratio, as well as the debt-service-to-income ratio, which are used to curb excessive credit growth. The transposition of the new Capital Requirements Directive into the Lithuanian law will further widen the set of tools available to the Bank of Lithuania to respond to signs of unsustainability in the financial system. In particular, Lithuania plans to apply a capital conservation buffer (at the full rate of 2.5 p. p.) on its banks from the beginning of 2015, as well as a countercyclical capital buffer, which will be reassessed for adequacy periodically thereafter. A number of important changes in the supervision and regulation of credit unions have recently been made. A package of legislative amendments, which aim to enhance the credibility of this sector, has been submitted to the Seimas. The Bank of Lithuania, which sees the need to continue with systemic reforms in the credit union sector, has developed a number of public consultation proposals, which, first and foremost, emphasise the need to strengthen the capital base of the country's credit unions.

I. STATE OF THE FINANCIAL SYSTEM AND ITS OUTLOOK

FINANCIAL MARKETS AND THE ECONOMY

International financial markets and economic situation

Global economic activity strengthened in the period under review. The economic recovery in advanced economies gained some momentum in the second half of 2013, while the emerging economies exhibited weaker trends (of these, probably the most significant deterioration was observed in Russia). Improved sentiment in advanced economies was mostly driven by better-than-expected economic growth in the US, which boosted the confidence of both consumers and businesses. Moreover, the euro area emerged from a year-and-a-half-long recession in the second quarter of 2013 and the outlook for its periphery economies became more positive. The IMF forecasts the growth of the world's economy to accelerate in 2014, although it may be dampened by the deceleration of China's economic growth and the deterioration in Russia's economy.

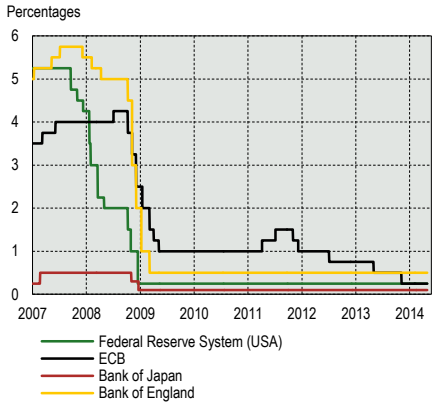
The major global central banks continued to pursue accommodative monetary policies, although the US central bank started to reverse its monetary policy stance. The Bank of England remained stuck to its monetary policy course of recent years. In particular, the UK's central bank kept its key policy rates unchanged from the spring of 2009 (see Chart 1) and made regular large-scale asset purchases. The Bank of Japan continued to keep its key policy rate at 0.1 per cent, unchanged since late 2008, and embarked on a new quantitative easing (QE) programme in 2013. Contrary to the initial plan, the programme should be further intensified from mid-2014. Given the weak economic situation in the euro area and the marked decrease in inflation, the ECB lowered its main policy rate on two occasions in 2013 (in May and November), taking it to a record low of 0.25 per cent. Although the Bank stopped short of QE, persistently low inflation in the euro area sparked discussions as to whether the ECB should relax its monetary policy stance even further or launch a large-scale asset purchase programme in 2014. On the other hand, the US central bank started to reverse its monetary policy stance: in December 2013, the Federal Reserve began tapering its QE programme, which is expected to be ended altogether in the fall of 2014 (see Chart 2).

This reversal of the monetary policy of the US central bank contributed to investment outflows from emerging markets. Fed's tapering expectations and, later, the actual decision by the Federal Reserve to reduce the scale of non-conventional monetary policy measures in the US widely led to a shift in capital flows to developed economies from emerging markets in 2013 and early 2014.[1] Investors were concerned that the phasing out of QE would drive up the cost of financing and the return on investment in emerging markets would not offset the risks associated with those markets. This rebalancing of investment portfolio was also reflected in the fluctuations of financial market volatility indices (see Chart 3). Moreover, increased capital flows to developed economies fuelled the demand for their sovereign and corporate securities, pushing up stock prices (see Chart 4) and driving down bond yields (see Chart 5).

Faced with the prevalence of low interest rates, investors searched for yield among lower-quality and higher-risk assets and the risk premium went down. A decrease in safe investment yields triggered by accommodative monetary policies implemented by central banks around the world prompted

Chart 1. Interest rates of major global central banks

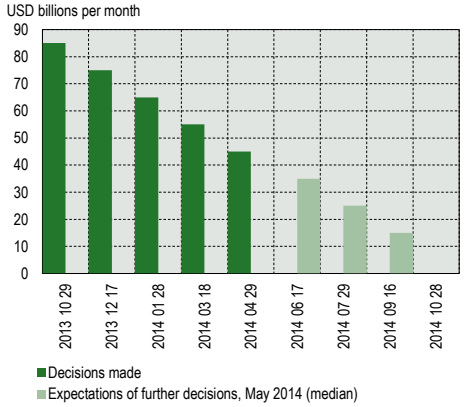
(1 January 2007–1 May 2014)



Source: Bloomberg.

Chart 2. Decisions made by the Federal Reserve and expectations of QE program tapering

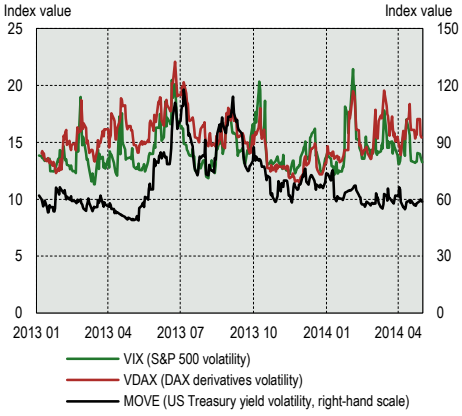
(October 2013–October 2014)



Sources: Federal Reserve System and Federal Reserve Bank of New York.

Chart 3. Developments of financial market volatility indices

(1 January 2013–1 May 2014)

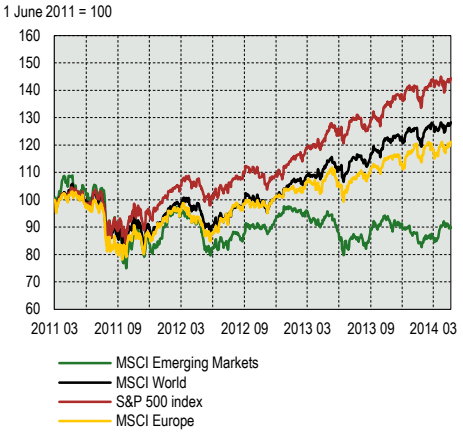


Sources: Bloomberg and Bank of Lithuania calculations.

[1] 20 March 2014 marked the twenty-first consecutive week of capital outflow from the emerging markets equity funds (USD 75 billion from October 2013). For more information about the effects of non-conventional monetary policy measures on the emerging market economies see: Burns, A., Kida, M., Lim, J. J., Mohapatra, S., Stocker, M. *Unconventional Monetary Policy Normalization in High-Income Countries: Implications for Emerging Market Capital Flows and Crisis Risks*. World Bank Policy Research Working Paper, No 6830, 2014; Aizenman, J., Mahir, B., Hutchison, M. *The Transmission of Federal Reserve Tapering News to Emerging Financial Markets*. NBER Working Paper, No 19980, 2014.

Chart 4. Developments of stock market indices

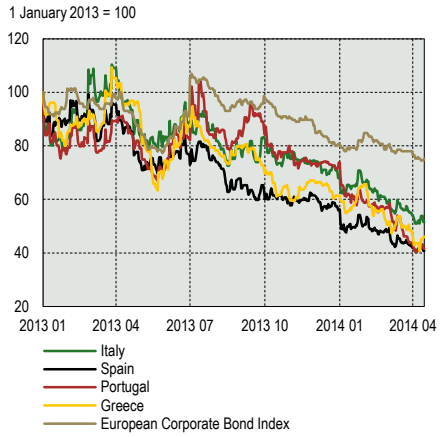
(1 March 2011–1 May 2014)



Sources: Bloomberg and Bank of Lithuania calculations.

Chart 5. Yield spreads of lower-rated European sovereign and corporate 10-year bonds over the German benchmark Bund

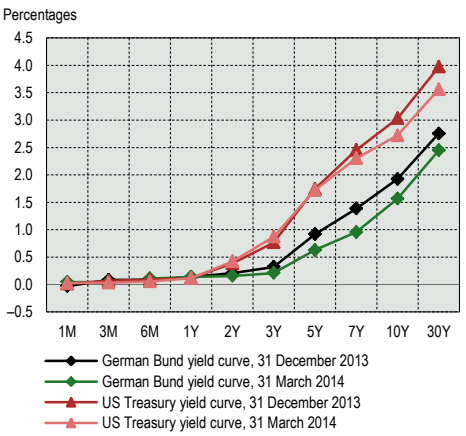
(1 January 2013–1 May 2014)



Sources: Bloomberg and Bank of Lithuania calculations.

Chart 6. US Treasury and German Bund yield curves

(Q1 2014)



Sources: Bloomberg and Bank of Lithuania calculations.

investors to redeploy their capital in lower-rated but higher-yield securities. This investment was mostly directed towards the bonds of euro area sovereigns facing public debt challenges or towards the securities of higher-risk companies in developed economies. This, in its turn, led to a general decrease in risk premia for higher-risk assets and the yield spreads between high- and low-rated sovereign (or corporate) debt securities narrowed at a fast pace (see Chart 5). Speaking of which, in early 2014, the yields on long-term sovereign bonds in southern euro area countries, which fell below the levels recorded before the global economic and financial crisis although their sovereign credit ratings were lower, underscored the instability of risk assessment in global markets. This, however, should change as the Federal Reserve continues tapering its QE programme.

In 2013, the global stock markets mainly grew at a hefty pace, which became more sustained early in 2014 (see Chart 4). US stocks rallied last year supported by the fast recovery of the country's economy. The S&P 500 stock index soared by nearly one-third in 2013, trebling the gains achieved in 2012. Although the recovery in the industrial sector and improvements in the financial health of European countries boosted the sentiment in European stock markets, persistently high unemployment rates subdued the growth of the MSCI Europe Index in 2013 (16.4%). The MSCI Emerging Markets Index fell by 5 per cent over the year, which was mostly due to falling commodity prices, weakening Chinese growth and concerns about the Fed's taper. Despite certain fluctuations, stock prices in the US and Europe continued to rise early in 2014, mainly on the back of corporate profits (as shown by the data for May), while the Asian and Eastern European markets suffered falls.

In the first quarter of 2014, the financial markets were jittered by weaker-than-expected China's economic data, the pull-out of capital from emerging markets and the uncertainty caused by the Russia-Ukraine conflict. Early in 2014, the global stock markets were hit by two shocks, which were mirrored in the fluctuations of financial market volatility indices (see Chart 3). First, the markets were shaken by worse-than-expected US unemployment data and China's economic indicators, the gradual withdrawal of QE by the Federal Reserve and, shortly thereafter, by the conflict in Ukraine and the ensuing sanctions imposed by the West against Russia. The build-up of risks of a military conflict in Eastern Europe also sent shudders through the bond markets of the developed economies (e.g. from the onset of the conflict, Russia had to cancel most of its government bond auctions due to lack of demand in the markets), since the money was more likely to flow into the government bonds of financially strong countries and safety demand further dampened the yields (see Chart 6). Sovereign spreads of southern euro area countries with respect to Germany narrowed in the first quarter of 2014. Such a trend shows that sovereign risks are abating, which is also evidenced by improvements in national economic indicators. Also important is the search for yield in the prevailing environment of low interest rates on low-risk assets (see Chart 7).

State of the financial market and economic situation in Lithuania

In 2013, Lithuania's economy grew at one of the fastest rates in the EU and other macroeconomic indicators improved as well. Economic growth was primarily driven by domestic demand, with increases recorded in both household consumption and domestic investment. Household consumption was mostly fuelled by the growth of real disposable income and domestic investment – by one-off factors and favourable business climate. On the other hand, the growth of exports lost steam in 2013, mostly due to more subdued growth in external demand and unfavourable developments in the prices of commodity imports and in the global markets for petroleum products. The slowdown of exports accelerated in the first quarter of 2014 on the back of the Russia-Ukraine conflict, which erupted early in the year. The weaker outlook for export growth has led to a more cautious forecast for the growth of the entire Lithuanian economy. The February 2014 forecast of the real GDP

growth this year has been revised down by 0.3 p. p. to 3.3 per cent.

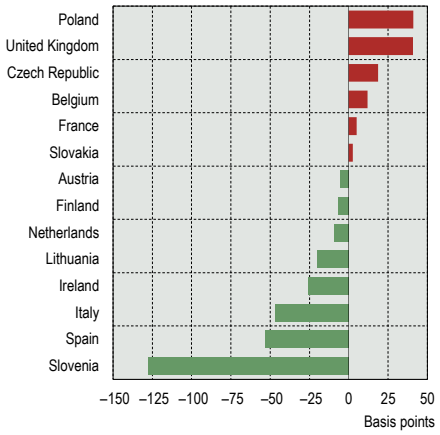
As the main driving force of economic growth, domestic demand led to faster growth in employment in the economic activities oriented towards the domestic market. However, the inflation declined. The expansion of employment was substantially driven by the recovery in the construction sector. An important contribution to the growth of employment came from the country's EU Council presidency. The drop in unemployment rate was mainly due to a rather substantial decrease in the number of long-term unemployed workers, which, however, might also imply exit from the labour market. In 2013, the average annual inflation rate fell well below the rates recorded in previous years and was lower than the long-term average. This fall in inflation can be attributed to trends in administered prices as well as in the prices for fuel and food, which benefit the consumers. These trends are intertwined with external factors, i.e. the developments of energy and food commodity prices in global markets.

Interbank lending volumes declined in Lithuania in the period under review, which also saw the narrowing in the gap between litas and euro interbank offered rates (see Chart 8). Although the ECB cut its key interest rate to a record low (0.25%) in November 2013, the EURIBOR crawled higher in 2013 and early in 2014 amid a gradual decrease in excess liquidity[2] in the euro area. On the other hand, with the banks operating in Lithuania holding large liquidity buffers, the volume of interbank transactions in the country continued to decrease at a fast pace in 2013 and in early 2014 until it reached LTL 24.5 million in April. At the same time, the VILIBOR rate went down slightly. A short-lived spike in VILIBOR, which was observed in mid-2013, can be attributed to high interbank offered rates applied by one bank, which was part of the VILIBOR panel, and the ensuing changes in the methodology used to fix the benchmark rate.[3] Low EURIBOR and VILIBOR rates translate into lower costs of borrowing from commercial banks, which leaves the borrowers with a higher level of free income and promotes investment activity. On the other hand, low volumes of interbank lending and low interbank offered rates prompt the banks to revise the approach used thus far in fixing interest rates,[4] and they have already started phasing out this dependence of commercial lending rates from the interbank offered rates.

In 2013 and early in 2014, Lithuania's credit ratings improved and the yields on its government securities went down amid the recovery of the global economy, improvements in the country's economic indicators and the increasing probability of euro adoption. Yield spreads between Lithuania's Eurobond maturing in 2018 and Germany's Bunds narrowed last year to reach 1.5 per cent at the end of the year and contracted at an even faster pace from early 2014. In 2013, *Fitch Ratings* upgraded Lithuania's sovereign rating by one notch (to BBB+), while *Standard&Poor's Ratings Services* raised its credit rating on Lithuania by two notches (to A-) early in 2014. Judging from the experience of other Baltic countries, Lithuania's entry to the euro area will most likely benefit the country's long-term borrowing. In particular, the demand for the country's bonds among foreign investors will increase as the country will gain access to a wider array of European support funds and reduce its currency risks, which will drive down the cost of its debt instruments. Such a trend is also shown by the decrease in the yield spread between the Lithuanian and Latvian bonds, which has been observed since early 2014 (see Chart 9). This spread is likely to vanish or even get into the negative zone in 2015, if Lithuania is assigned a higher credit rating. A decrease in the cost of borrowing in the financial markets will lower Lithuania's debt service costs as well as the costs of state

Chart 7. Changes in yield spreads of 5-year sovereigns of selected European countries relative to Germany

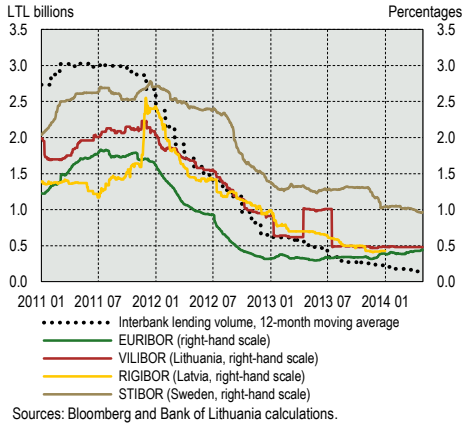
(Q1 2014)



Sources: Bloomberg and Bank of Lithuania calculations.

Chart 8. Six-month interbank offered rates and interbank lending volumes

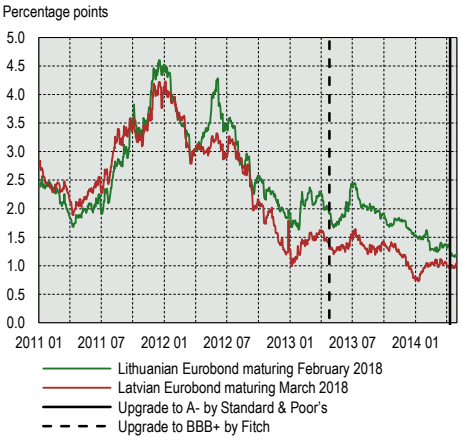
(1 January 2011–1 May 2014)



Sources: Bloomberg and Bank of Lithuania calculations.

Chart 9. Yield spreads of Lithuania's and Latvia's bonds maturing in 2018 relative to similar maturity German Bunds

(1 January 2011–1 May 2014)



Sources: NASDAQ OMX Group Inc. and Bank of Lithuania calculations.

[2] Excess liquidity is defined as the amount of cash beyond what a financial institution needs to carry out the required short-term operations. To some extent, the decrease in excess liquidity in the euro area can be attributed to the maturity of long-term refinancing operations (LTROs), within the framework of which the ECB made 36-month loans to banks in 2011-2012, or to early repayments of these loans.

[3] The methodology for the setting of VILIBOR was modified in July 2013. The VILIBOR rate is now fixed from the quotes provided by a panel of 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.

[4] In 2014, another bank operating in Lithuania announced changes in the methodology used for setting the variable component of its housing loan interest. Instead of EURIBOR and VILIBOR rates, the banks choose to use other indicators to set their variable interest base rate.

Table 1. Stock exchange indicators in Lithuania and other European countries

(end-of-2013)

	Market cap to GDP ratio (%)	Annual turnover to market cap ratio (%)
Lithuania	9	3
Latvia	4	2
Estonia	10	10
Poland	36	43
Sweden	107	74
Denmark	71	84
Norway	51	155

Sources: NASDAQ OMX Group Inc., Warsaw stock Exchange, Oslo Børs ASA and Bank of Lithuania calculations.

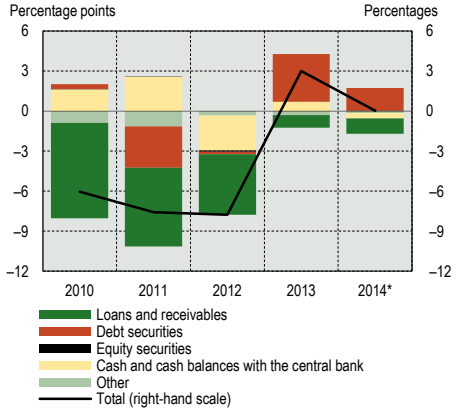
Chart 10. Stock market of the Baltic countries

(1 January 2011–1 May 2014)

Sources: NASDAQ OMX Group Inc. and Bank of Lithuania calculations.

Chart 11. Contributions to changes of the banking sector's assets

(2010–2013 and Q1 2014)



Source: Bank of Lithuania calculations.
* Q1 2014 vs Q1 2013.

budget deficit financing, which is favourable for the national economy.

Trading activity picked up gradually; however, the Lithuanian stock exchange still lagged well behind its counterparts in the developed countries both in terms of liquidity and the capacity to raise capital for business. Although the year 2013 saw no exceptionally large transactions, the number of deals concluded on the bourse increased by one-fourth. In general, the stock trading volume of the Lithuanian stock exchange fell by 28.6 per cent, which, however, can be explained by several block trades executed in 2012 and the exit of two companies from the bourse.[5] The low ratio of annual turnover to market capitalisation (3%), which is used to measure liquidity, and the ratio of market capitalisation to Lithuania's GDP, which is as low as 9 per cent, show that the acceleration of growth of *AB NASDAQ OMX Vilnius* remained modest (see Table 1) and reflected limited business possibilities for raising capital in financial markets. In addition, low liquidity affected the choice of a platform for share offering: the only initial public offering carried out by a Lithuania-registered company in 2013 was once again made on the stock exchange of Warsaw, and not Lithuania's. Weak growth of the Lithuanian stock market and low liquidity constrain securities trading, which undermines the stability of investors' financial assets.

The benchmark Vilnius outpaced the Riga and Tallinn counterparts (see Chart 10). Although gains in share prices were recorded by as much as two-thirds of all listed companies in 2013, this fast growth (of 18.7%) in the value of the index was mainly due to a very substantial rise in the stock prices of Lithuania's listed utilities, which account for approximately 40 per cent of the entire market capitalisation of the Vilnius stock exchange. Early in 2014, the benchmark Vilnius index continued its upward trend and outperformed other stock indices of the Baltic countries, which recorded sharp falls due to geopolitical tensions in the East. The growth of the national economy is conducive to further gains in the Lithuanian listed stocks. On the other hand, such a forecast should be viewed with caution since the prevailing uncertainty surrounding the geopolitical situation in the East and potential sanctions against Russia-bound exports of Lithuanian companies will constrain economic growth or have a direct effect on the stocks of listed companies which have close ties with Russia's market.

BANKS' RESILIENCE TO RISKS[6]

Banking assets, their quality and capital adequacy

The assets of the banking sector showed growth, which, however, was slower than the growth of the country's economy. Despite the suspension of operations of *AB Ūkio Bankas* and the closure of the Lithuanian branch of *AS UniCredit Bank* in the first half of 2013 (the launch of the Lithuanian branch of *Pohjola Bank Plc* did not have any substantial impact), the assets of the banking sector in Lithuania increased by 3.0 per cent in 2013 and posted a further slight rise in the first quarter of 2014 to reach LTL 77.9 billion at the end of the period under review. The recent growth in the assets of the banking sector has failed to catch up with the pace of economic growth and the asset-to-GDP ratio in Lithuania remained one of the lowest across the EU (of 65%).

The credit activity remained rather subdued and the choice of low-risk and sufficiently high-yield investment options was limited, hence the money raised by banks was mostly invested in liquid government debt securities (see Chart 11). In 2013, the security portfolio of the banking sector increased by LTL 2.7 billion. Similar to the previous periods, government secu-

[5] Two companies delisted from the Lithuanian stock exchange and one company debuted on the bourse in 2013.

[6] Information about the banks provided in this section is based on the data collected by the Bank of Lithuania for supervisory purposes hence it may differ from the data collected for statistical purposes (e.g. the banking loan portfolio is measured in net value, based on the data collected for supervisory purposes). Seven commercial banks licenced by the Bank of Lithuania and eight foreign bank branches operated in Lithuania at the end of 2013. The term 'banks' as used in the text refers to all these institutions, unless specified otherwise.

rities of the Republic of Lithuania comprised the bulk of this portfolio; however, the banks also stepped up the purchase of securities of other EU governments as well as the debt securities issued by banks. The banks' investment in the securities issued by foreign residents was duly diversified and targeted towards the markets of relatively strong sovereigns hence it did not entail any bigger risks. The largest item on the asset side of the banks' balance sheets, i.e. the loan portfolio measured in net value,[7] showed a slight increase in 2013, to some extent, due to a decrease in special provisions and consolidation of performance of the banks and their associated companies. The loan portfolio expressed in net value terms decreased in the first quarter of 2014.

The quality of loan portfolio of the banking sector improved in the period under review amid increase in debt repayment capacity of the private sector's debtors. In 2013 and in the first quarter of 2014, the share of non-performing loans in the total loan portfolio of the banking sector, as measured in gross value, continued to decrease and made up 10.5 per cent at the end of that period (see Chart 12). In addition to improvements in the debtors' financial health, the quality of loan portfolio was also bolstered by the continuing environment of low interest rates, the completion of recovery proceedings, the writing-off of non-performing loans and new crediting directed towards customers with a lower risk profile. Similar to the previous periods, the loans extended to households for house purchases scored best in quality. However, the biggest improvement in quality was achieved in loans to corporate customers. The ratio of special provisions to the gross value of loans shrank by 1.5 p. p. (to 4.1%) in 2013 and the first quarter of 2014. Consequently, the share of impaired loans in this portfolio contracted by 3.2 p. p. to 8.2 per cent.

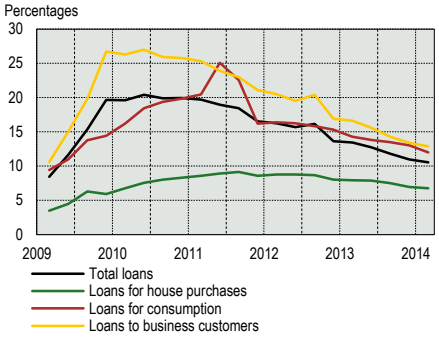
Increased risk aversion among the banks led to a decrease in the amount of their risk-weighted assets. First, the banking sector stepped up its investment in government securities considerably in the past several quarters. Second, the loan portfolio structure as measured by risks underwent some minor transformation as it shifted towards a greater proportion of lower risk loans. Third, the commercial banks have been gradually accumulating more money in their accounts held with the central bank (this trend should continue to prevail, supported by the time deposit auctions held by the Bank of Lithuania) and with other banks. As a result of growth in these assets of the commercial banks, their risk-weighted assets expressed as a proportion of total assets started to decrease, in particular from mid-2012 (see Chart 13).

The capital adequacy ratio of the entire sector improved in the period under review as the capital of the banking sector remained broadly unchanged and the risks undertaken by the sector decreased. The capital adequacy ratio of the Lithuanian banks increased by 1.9 p. p. in 2013 to reach 17.6 per cent at the end of the year, which was more than twice higher than the minimum requirement (8%). Moreover, the capital is almost entirely classified as the highest tier, i.e. tier 1 (mostly the equity capital and retained earnings). On the other hand, the levels of the banks' capitalisation were uneven and their capital adequacy ratios ranged from 10 to 19 per cent (see Chart 14). If the additional capital adequacy requirements (such as a capital conservation buffer)[8] were to come into force, the capital adequacy ratios of certain banks would barely exceed the minimum requirements early in 2015. Therefore, some banks should already be looking for ways to raise additional capital, while others, which safely meet the capital requirement, decided early in 2014 to pay a dividend from their earnings (which, however, will not have any substantial effect on their capital adequacy ratios).

The leverage of the banking sector increased in the period under review to reach 11.2 per cent at the end of the first quarter of 2014. This increase in the leverage ratio, which is calculated as the ratio of the banks'

Chart 12. Non-performing loans of the Lithuanian banking sector to the total value of a respective loan portfolio

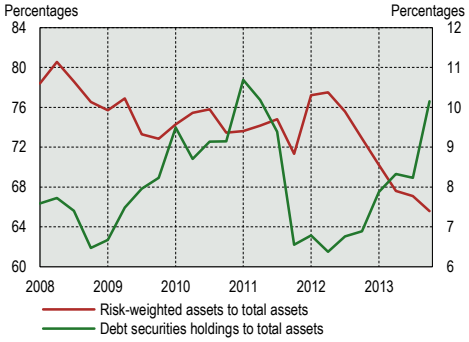
(Q1 2009–Q1 2014)



Source: Bank of Lithuania calculations.

Chart 13. Risk-weighted assets and holdings of debt securities of the Lithuanian banking sector to the total assets

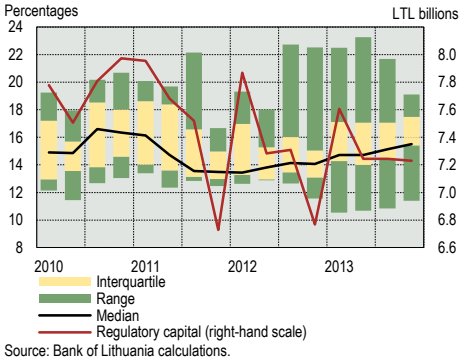
(Q1 2008–Q4 2013)



Source: Bank of Lithuania calculations.

Chart 14. Capital adequacy of the banks operating in Lithuania

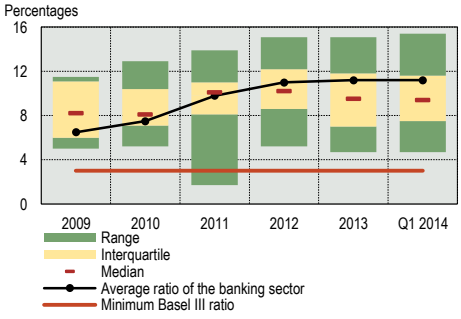
(Q1 2010–Q4 2013)



Source: Bank of Lithuania calculations.

Chart 15. Financial leverage ratio of the Lithuanian banking sector

(Q1 2009–Q1 2014)

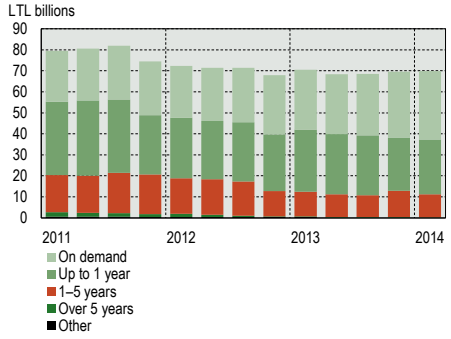


Source: Bank of Lithuania calculations.
Note: in line with the Basel III framework, the financial leverage is calculated as the ratio of bank equity to the sum of on-balance sheet assets and off-balance sheet exposures (a higher ratio shows better capital condition).

[7] The data of the loan portfolio measured in net value is compiled from consolidated financial reports and is affected by provisioning and interest accruals. This consolidated data shows the value of the loans granted by the banks and their subsidiaries. The MFI loan portfolio as measured in gross value includes the loans extended by all MFIs (banks, credit unions and money market funds) (see Glossary).

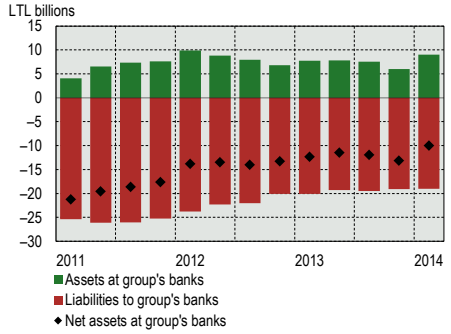
[8] In the light of the new Capital Requirements Directive, which provides for early introduction of the capital conservation buffer and the necessity to ensure sufficient resilience of the banking sector to adverse developments, the Lithuanian banks are likely to be required to hold a capital conservation buffer of 2.5 per cent from early 2015 (for details see Chapter III, Strengthening of the Resilience of the Financial System).

Chart 16. Structure of the banking sector's liabilities by maturity
(Q1 2011–Q1 2014)



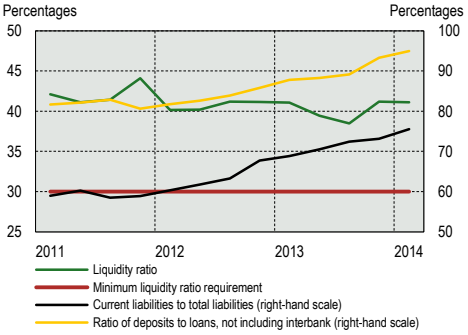
Source: Bank of Lithuania calculations.

Chart 17. Banks' liabilities to/assets at other banks of the same group
(Q1 2011–Q1 2014)



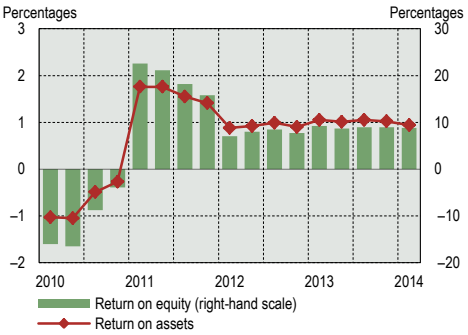
Source: Bank of Lithuania calculations.

Chart 18. Banking sector's liquidity and funding
(Q1 2011–Q1 2014)



Source: Bank of Lithuania calculations.

Chart 19. Annual profitability indicators of the banking sector
(Q1 2010–Q1 2014)



Source: Bank of Lithuania calculations.

equity to assets (plus other off-balance-sheet exposures) in the Basel III framework (see Chart 15), shows that the banks tend to use own funds to finance their operations. Similar to the capital adequacy ratio, the leverage ratios differed widely between individual banks and ranged from 4.7 to 15.4 per cent (see Chart 15).[9] Some banks with a lower level of equity as compared to assets had limited risk-weighted assets hence they safely met the capital adequacy requirement.

Bank funding and liquidity

The structure of liabilities of the banking sector underwent changes in 2013 (see Chart 16). Although the interest rates paid on deposits were extremely low, the amount of deposits with banks grew last year, mostly due to the deposits of natural persons and non-financial corporations, which increased by LTL 1.3 billion (5%) and LTL 1.1 billion (8%), respectively, in the course of 2013.[10] This enabled the banks to reduce their debts owed to other credit institutions and banks. From the beginning of 2013, the banks' net liability to other credit institutions and banks decreased by LTL 3.2 billion to LTL 10.3 billion. At the end of the first quarter of 2014, deposits accounted for 69 per cent of the total liabilities (up by 4.3 p. p. from early 2013), while the funds, which came from parent banks, comprised one-fourth of the total (see Chart 17).

Low interest rates paid on deposits triggered changes in the maturity structure of deposits. As the gap between interest rates on overnight and time deposits grew narrower, the decision to choose a time deposit over other types of deposits became less acceptable. At the end of the first quarter of 2014, demand deposits comprised two-thirds of the deposits held with banks (up by 5.7 p. p. in year-on-year terms). On the one hand, such a structure of liabilities resulted in a relatively small interest expense incurred by the banks. On the other hand, such a high share of short-term liabilities made them increase their holdings of liquid assets, which have low yields and poor profit earning capacity.

The liabilities of the Lithuanian banks to the foreign non-financial sector remained small. At the end of the first quarter of 2014, foreign private sector's money held with the Lithuanian banks amounted to LTL 1.5 billion and accounted for 1.9 per cent of the total liabilities of the banks. The dependence on foreign deposits is low; moreover, they are well diversified (in terms of the country of origin). If private-sector depositors from abroad were to withdraw their savings from Lithuania, the effects on the liquidity of the domestic banking sector are likely to be minor.

The banks had a sufficient buffer of liquid assets to meet their current liabilities (see Chart 18). The liquid assets[11] of the banks increased by LTL 2.0 billion (to LTL 20.9 billion) over 2013 and by additional LTL 0.8 billion in the first quarter of 2014 to comprise 27.9 per cent of the total bank assets at the end of the quarter. The liquidity ratio of the banking sector was 41.1 per cent in the first quarter of 2014, which was well above the minimum requirement. Hence the liquidity position of the banking sector is robust, which, *inter alia*, is also shown by the minimum reserves of the Lithuanian banks, which currently exceed the required level.

According to preliminary estimates, the alternative liquidity ratios are met by all banks. The banks' compliance with these ratios, i.e. the net stable funding ratio (NSFR) and the liquidity coverage ratio (LCR), is uneven and the actual indicators vary greatly among individual banks. However, even the banks with the lowest respective ratios exceed the minimum standard by nearly 40 per cent (under the Basel III framework, the NSFR should be equal

[9] In its initial discussions, the Basel Committee on Banking Supervision considered the leverage ratio of less than 3 per cent as a matter of concern.
[10] Excluding the effects of the transfer of *AB Ūkio Bankas* deposits to *AB Šiaulių Bankas*.
[11] The liquid assets of the banks include cash holdings, funds with central banks, Lithuania's and high-rated government securities, debt and equity securities and other assets repayable in less than a month. For a precise list of the types of assets classified as liquid see the Resolution of the Board of the Bank of Lithuania of 25 May 2010 amending the Resolution of the Board of the Bank of Lithuania of 29 January 2004 on liquidity requirement calculation rules (*Valstybės žinios* (Official Gazette), No 63-3141).

to at least 100%, and the LCR – to at least 1.0). Once the banks migrate to the methodology established by the new Capital Requirements Directive, the liquidity ratios mentioned above will decrease slightly as a result of methodological changes. However, they should still well exceed the minimum regulatory requirements.

Lithuania's entry to the euro area will widen the set of tools available to the banking sector to ensure liquidity. The Bank of Lithuania, which currently applies the currency board regime, may provide up to LTL 1.6 billion in liquidity support to the commercial banks. Once Lithuania joins the euro area, the country's banking sector will gain access to new sources of liquidity support. The ECB, acting as the lender of last resort, may offer unlimited liquidity through its marginal lending facility and emergency liquidity assistance. It may also undertake open market operations and use other instruments. Moreover, the Lithuanian government securities will become eligible as collateral for the ECB's monetary policy operations (the existing currency board arrangements limit possibilities to borrow from the Bank of Lithuania against collateral). In addition to these factors, which may strengthen the liquidity of the Lithuanian banking sector in the future, equally important is the factor that most of the banks belong to strong Nordic banking groups, which manage liquidity on the group's scale.

Bank profitability and efficiency

The banking sector saw its return on equity increase. The annual rate of return on equity rose by 1.2 p. p. to 8.9 per cent in 2013 and remained unchanged in the first quarter of 2014 (see Chart 19). The growth of risk-weighted asset yields and profit margins had a positive effect on the return on equity (see Chart 20). At the same time, the banks' return on equity was negatively affected by the decreases in risk-weighted assets and in the asset-to-equity ratio (financial leverage). This means that changes in the banks' return on equity were mainly driven by a decline in risk aversion and, at the same time, the banks managed to increase the yields of lower-risk assets.

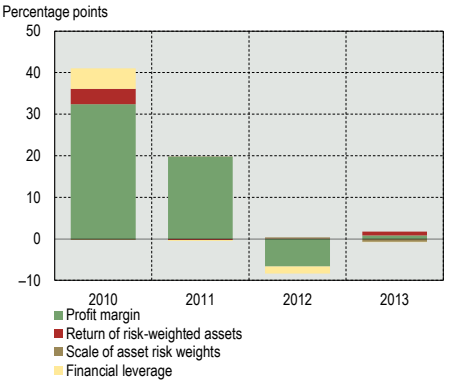
In 2013, the profit generated by the banking sector (LTL 786 million) rose by nearly one-tenth as compared to the previous year. This growth of earnings was mostly fuelled by gains from trading operations, which continued to grow for the second consecutive year. Growth in this category, as well as in the net fee and commission income, enabled the banks to earn more, although the net interest income, which is the largest source of income for banks, showed no improvement (see Chart 21). In 2013, loan impairment charges totalled LTL 22.7 million, although in the previous year such charges were virtually non-existent. In the first quarter of 2014, loan impairment increased to LTL 33.1 million. Despite this impairment, the banks remained profitable in the first quarter of 2014, although their performance was weaker than a year ago. In particular, the quarterly profit amounted to LTL 183.2 million, down by 8.5 per cent from the same period in the previous year.

The net interest margin has started growing gradually. The average net interest margin made up 1.5 p. p. in both 2012 and 2013. The loan portfolio remained virtually unchanged; therefore, the changes in the banks' net interest income were negligible. As the yields on the interest-generating assets stopped falling in 2013, the net interest margin recorded a slight increase in the first quarter of 2014 (to 1.6%; see Chart 22). At the same time, the price of interest-incurring liabilities continued to decline amid increase in overnight deposits, which entail virtually no costs for the banks. In the short-term horizon, improvements in the net interest income will be driven by the projected growth of loan portfolio.

As the banks had virtually no room to increase their net interest income, they worked to improve their income from trading operations, fees and commissions. The pick-up in economic activity fuelled the demand for banking services. As a result, the share of fee and commission income rose in 2013 to reach 31.4 per cent at the end of the period (from 30.8% a year earlier). In the first quarter of 2014, the net fee and commission income of the banks edged up by further 3.5 per cent. In 2013, income from trading operations,

Chart 20. Contributions to the development of return on equity

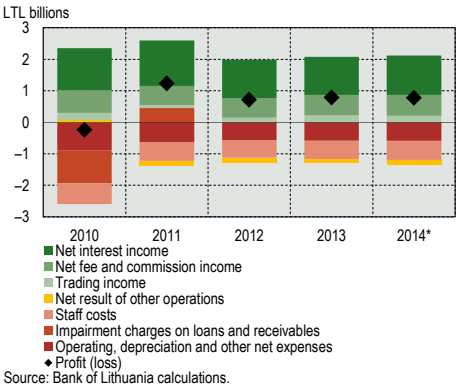
(2010–2013)



Source: Bank of Lithuania calculations.

Chart 21. Banks' income and expenses

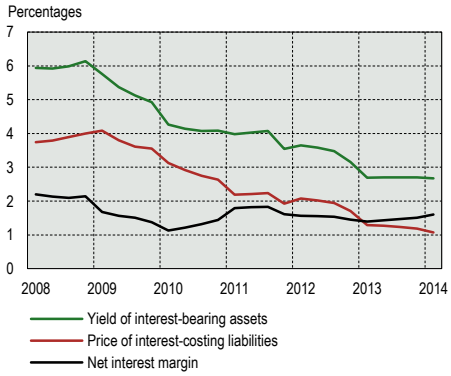
(2010–2013 and Q1 2014)



Source: Bank of Lithuania calculations.
*four-quarter sum for Q2 2013–Q1 2014.

Chart 22. Net interest margin

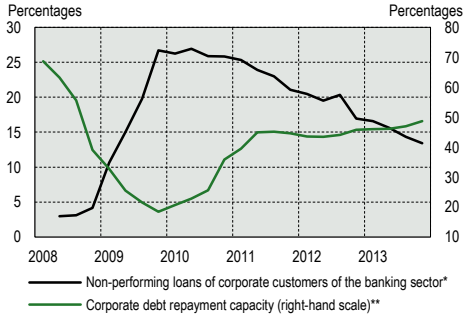
(Q1 2008–Q1 2014)



Source: Bank of Lithuania calculations.

Chart 23. Non-performing loans of corporate customers of the banking sector and their debt repayment capacity

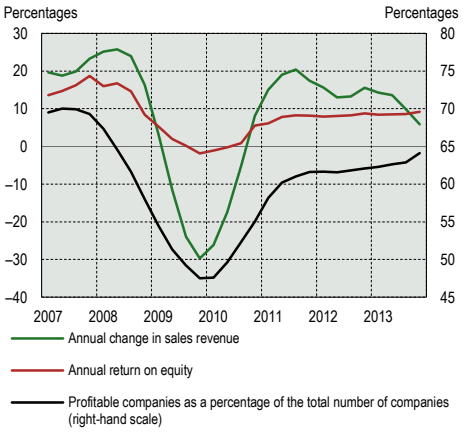
(Q1 2008–Q4 2013)



Sources: Statistics Lithuania and Bank of Lithuania calculations.
* vs total loan portfolio.
** Earnings before taxes, amortisation and depreciation vs financial liabilities.

Chart 24. Selected indicators of corporate income and profitability

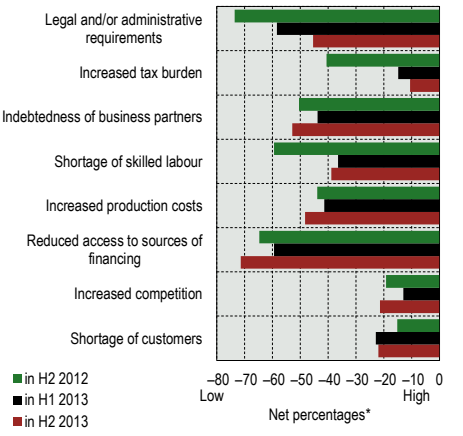
(Q1 2007–Q4 2013)



Sources: Statistics Lithuania and Bank of Lithuania calculations.

Chart 25. Assessment of relevance of the challenges encountered by non-financial corporations

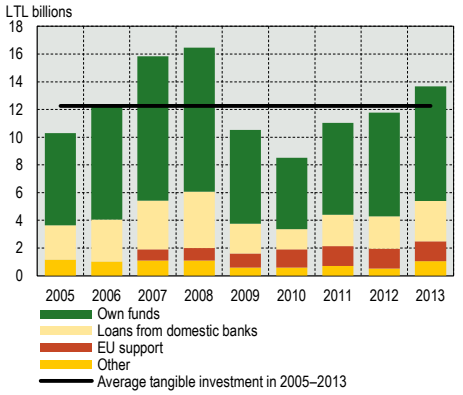
(H2 2012–H2 2013)



Source: the survey of non-financial corporations on business financing.
* Net percentage is defined as the difference between the percentage of corporations describing a respective challenge as high relevant and the percentage of corporations describing the same challenge as low relevant.

Chart 26. Structure of tangible investment funding

(2005–2013)



Sources: Statistics Lithuania and Bank of Lithuania calculations.

measured as a share of total banking income, rose by 2.8 p. p. to 10.4 per cent (in 2013, it soared by an annual 42% to LTL 215 million).

With costs growing somewhat slower than income, in 2013, the banks recorded a slight improvement in their operating efficiency. In 2013, the cost-to-income ratio remained virtually unchanged on a year-on-year basis and made up 56.5 per cent. The growth in staff costs constrained the efficiency gains. Those costs rose by 4.9 per cent to LTL 586.4 million last year. The growth of staff costs was driven by rising wages and salary bonuses, while the number of staff decreased by approximately 400 employees in 2013, to 7,600. This was accompanied by the growth of operating costs (by 1.9% to LTL 571.1 million), which, to some extent, can be explained by preparations for the adoption of the euro.

CREDIT AND DEBT REPAYMENT CAPACITY

Financial health of non-financial corporations

The economic recovery in both Lithuania and many countries worldwide has led to improvements in the performance of non-financial corporations as well as in their financial health and debt repayment capacity (see Chart 23). In 2013, the profitability of business enterprises continued to increase (see Chart 24). In particular, nearly two-thirds of them generated a profit and the annual return on equity returned to the level last seen before the downturn, i.e. to 9.2 per cent (the profit earned by non-financial corporations rose by 11.1% on the same period a year earlier). At the same time, the relevance of the challenges encountered by the companies in their operations was rated by them as low in the second half of 2013 (see Chart 25).[12] However, all industries reported higher susceptibility to the factors relating to increasing competition, a shortage of adequately skilled labour and changes in tax burden.

Capitalising on increased revenue and profit, the non-financial corporations strengthened their financial position and continued to build their liquidity buffer. The companies, in particular those in manufacturing, construction, trade and real estate operations, which accounted for nearly three-fourths of the loans issued by MFIs[13] to non-financial corporations, reduced their debt exposures to banks. The leverage of abovementioned economic activities (116.7%), although higher than the average leverage of all non-financial corporations (72.4%), was reduced by a wider margin in 2013 (the leverage of the economic activities that account for the biggest chunk of banks' loan portfolio decreased by 5.1 p. p. over the year, while the average leverage of the entire non-financial corporation sector shrank by 2.5 p. p. in the same period). In 2013, the liquid reserves (i.e. cash and cash equivalents as well as time deposits) held by non-financial corporations increased by more than one-tenth.

Last year, the country's companies became more decisive in their investment: until the middle of the year, the private sector's investment was close to its long-term average, but it picked up rather substantially in the latter half of the year. The strongest increases in corporate investments were recorded in the traditional top investment categories, i.e. the construction and reconstruction of building and civil engineering structures as well as the acquisition of plant, machinery and vehicles. These investments were mostly made from internal resources (60.5%) and bank loans (21.3%) (see Chart 26). 2013 year-end results show that investment by transport and real estate companies, which account for nearly one-fifth of the country's overall added value, surged at fastest rates. On the other hand, industrial capacity utilisation has exceeded

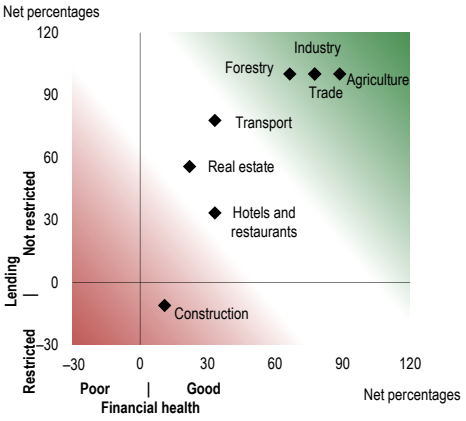
[12] As shown by the results of the April 2014 survey of non-financial corporations on business financing commissioned by the Bank of Lithuania. The enterprises surveyed were asked to rate the relevance of the following challenges: a shortage of customers, an increase in competition, a reduction of access to the sources of financing, an increase in production costs, a shortage of adequately skilled labour, indebtedness of business partners, a tax burden, legal and administrative requirements, etc.
[13] Basically the commercial banks and foreign bank branches.

70 per cent (such a level was only achieved during the period of economic upswing between June 2005 and October 2008) for quite a long while, which, coupled with the projected recovery and growth of both the domestic and external economies, puts more pressure on companies to expand and upgrade their existing production capacities. Although the rate of industrial capacity utilisation decreased moderately early in 2014 due to seasonal effects, the pressure for business enterprises to expand operations is not expected to abate in the short-term.

The results of the surveys[14] conducted by the Bank of Lithuania show that both the banks and the non-financial corporations were positive in their assessment of lending/borrowing possibilities. The main reasons for this favourable attitude among banks towards lending to non-financial corporations included the improvements in the financial health of their borrowers and in the expectations regarding the general economic situation, as well as the strengthening of their liquidity and the intensification of competition between banks. As a result, the banks kept relaxing their standards of lending to non-financial corporations (mostly for longer-term loans and larger loans or credit lines, however, the banks tended to increase margins on riskier loans) and basically not restricted the supply of loans over the past two years (see Chart 27). At the same time, the non-financial corporations indicated that their access to credit had recently been favourable, same as the possibility to modify the contractual terms of their existing obligations. Nearly three-fourths of all credit applications filed by the companies were approved and granted in full.[15]

Chart 27. Perception of financial health of companies by type of economic activity and lending thereto

(April 2014)



Source: bank lending survey, April 2014.

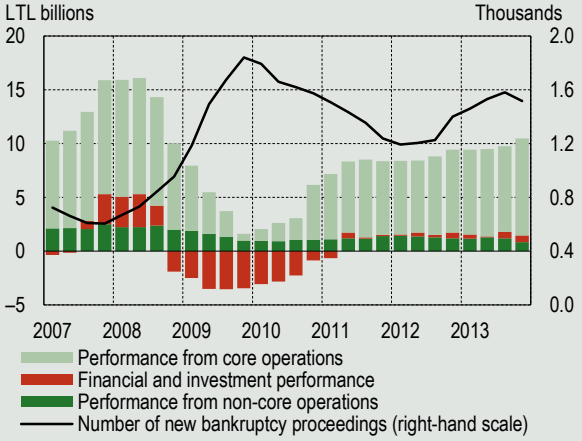
Box 1. Bankruptcies of non-financial corporations[1] and natural persons

Whenever a bank's debtor – whether it is a company or a natural person – goes bankrupt, the bank faces a much higher probability of loss since the bankruptcy proceedings undermine its chances of recovering the outstanding loan balance. Moreover, the Republic of Lithuania Law on Personal Bankruptcy, before coming into force, sparked many debates – both in the public and among relevant professionals – on its potential implications. The purpose of this box is to review the dominant bankruptcy trends and their developments.

Although the companies' performance improved, as did their debt coverage capacity, the number of new bankruptcy proceedings continued to rise from the end of 2012 (see Chart A). However, it should also be noted that the number of operating companies increased at a similar pace. On average, bankruptcy proceedings are brought against approximately 2.6 per cent of operating companies per year. This calculation of the average excludes the period of economic downturn, i.e. the years 2009 and 2010, during which bankruptcy proceedings used to be opened against the average of 3.5 per cent of operating companies (see Chart B). At the end of 2013, the share of companies in bankruptcy proceedings (2.7%) was close to a longer-term average. However, such estimates should be interpreted with caution since the series of data relating to the bankruptcy proceedings is very short.

Chart A. Developments in the performance of non-financial corporations and the number of new bankruptcy proceedings

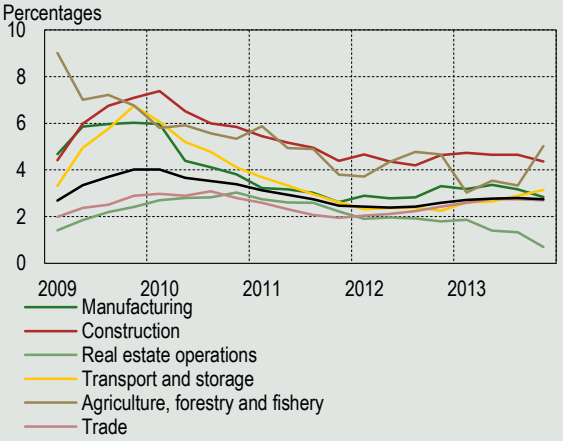
(Q1 2007–Q4 2013)



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

Chart B. Companies made subject to bankruptcy proceedings over 4 quarters, expressed as a share of the total number of operating companies

(Q1 2009–Q4 2013)



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

[14] The bank lending survey conducted by the Bank of Lithuania and the survey of non-financial corporations on business financing commissioned by the Bank of Lithuania.
[15] See April 2014 survey of non-financial corporations on business financing commissioned by the Bank of Lithuania.

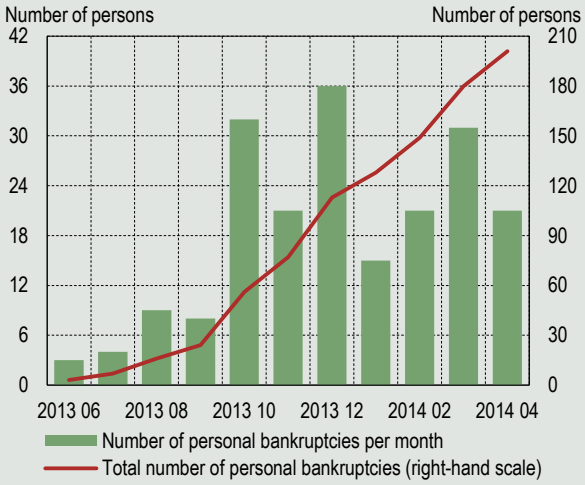
The breakdown by economic activity shows that, at the end of 2013, a more substantial growth in the number of new bankruptcy proceedings was typical for the agricultural and transport companies (see Chart B). The growth in the number of bankruptcies was probably mostly driven by several factors, including the increase of the minimum monthly wage, the end of the programming period for the EU support funds and the effects of geopolitical tensions between Russia and Ukraine on the companies with close economic ties with these countries.

The Republic of Lithuania Law on Personal Bankruptcy came into force in June 2013; however, the number of individuals filing for bankruptcy is not large (see Chart C). On average, 18 individuals per month filed for personal bankruptcy under the new law. According to the data as of 1 May 2014, personal bankruptcy proceedings were instituted against 201 individuals.

Almost all personal bankruptcies recorded in 2013 stemmed from liabilities, which arose before the financial crisis of 2008, or from business or investment plans, which were launched before that period and fell through at a later date. The vast majority of those persons (55%) became insolvent due to loss of job or business, which, in most cases, was related to real estate or construction activities as well as furniture manufacturing. A substantial part, or one-fourth, of the natural persons filing for bankruptcy became insolvent due to the guarantees made, without due prudence, on behalf of the economic entities, which they were closely related to (e.g. corporate executives, shareholders). One-tenth of natural persons go bankrupt due to failed investment in real estate or other assets. A further one-tenth of bankruptcy cases results from illness or incapacity for work, and 5 per cent – from divorce or the death of a family's main breadwinner. One in five natural persons going bankrupt cites several of the abovementioned reasons as the cause of his or her insolvency.

Chart C. Number of personal bankruptcies

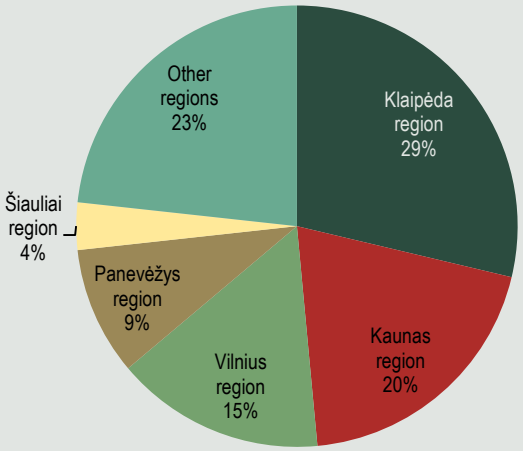
(1 June 2013–1 May 2014)



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

Chart D. Geographical breakdown of the natural persons filing for bankruptcy

(1 May 2014)



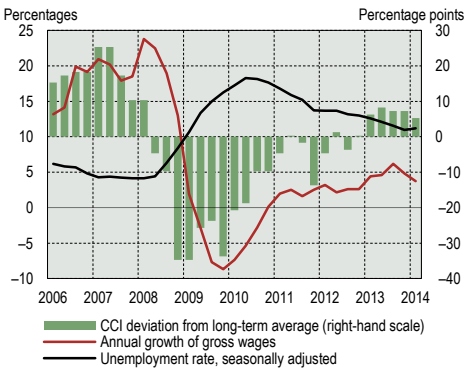
Sources: Department of Enterprise Bankruptcy Management under the Ministry of Economy and Bank of Lithuania calculations.

The largest numbers of personal bankruptcy proceedings were recorded in the regions of Klaipėda and Kaunas (see Chart D). The financial health of the residents of Western Lithuania might have been hit hard by failure of real estate investments at the seaside. A person going bankrupt had an average age of 45.7 years in 2013. The majority of individuals in personal bankruptcy proceedings brought against them fell in the age groups of 41–50 years (36.2%) and of 30–40 years (31.9%).

[1] In this box, the term 'companies' is used to mean all legal persons, not including budgetary institutions, political parties, trade unions, religious communities and associations.

Chart 28. Unemployment rate, growth of wages and consumer expectations in Lithuania

(Q1 2006–Q1 2014)



Sources: Statistics Lithuania and Bank of Lithuania calculations.
Note: CCI – consumer confidence index.

Financial health of households

In 2013, households saw their financial health improve and their credit risk diminish amid growth in income and employment (see Chart 28). In February 2014, the seasonally-adjusted unemployment rate fell by an annual 1.1 p. p. to 11.5 per cent.[16] The average wages went up as well last year and increased faster than inflation. At the end of 2013, the average real wages exceeded the year-earlier level by 4.1 per cent. Hence the year 2013 witnessed an increase in the number of residents with a regular income from work as well as an increase in the purchasing power of all employed persons. All of this enabled the households to be less cautious in their spending plans and to give more thought to the purchase of durable consumer

[16] The number of the employed in Lithuania increased by 29,200 in the fourth quarter of 2013 from the same period of the previous year.

goods (see Chart 29).

The prevalence of low interest rates in the financial markets further improved the capacity of indebted households to meet their liabilities. Housing loans in Lithuania are almost exclusively made at variable interest rates (which are set for short periods, e.g. of up to 1 year), which are quick to respond to changes in borrowing costs in the financial markets. At the end of 2013, the weighted interest rate on the housing loans issued in Lithuania made up 2.3 per cent and was the lowest in the history of this data series. On the other hand, some households will find it much more difficult to meet their financial liabilities in the future as the central banks will exit their stimuli, which will trigger an increase in interest rates.

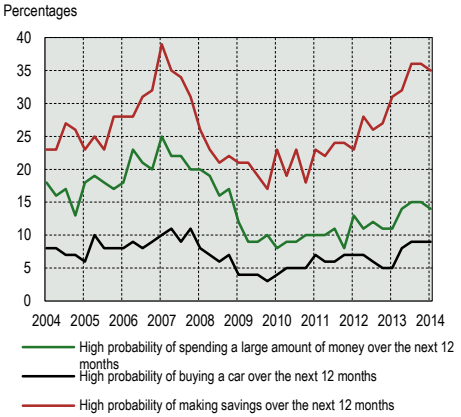
Despite the improvement achieved early in 2014, the financial health of Lithuanian households remained weaker than it was before the economic downturn (until 2009). At the end of 2013, households' real wages were 10 per cent below the level recorded in the third quarter of 2008, which was the highest in the history of this data series. It means that an average household can purchase 10 per cent less of goods and services than it could until 2009. Moreover, the unemployment rate remains relatively high, therefore, a substantial percentage of labour force does not have a stable income, which would make those people more confident in their financial decision-making (however, the number of natural persons filing for bankruptcy is not large, see Box 1). Hence, despite recent improvements in the households' financial health, they still remain highly susceptible to various shocks. The results of the surveys commissioned by the Bank of Lithuania show that approximately a half of the households with financial liabilities described them as a burden early in 2014. A similar percentage said that those financial liabilities would remain a burden within the next 6 months.

Larger financial assets make the households less risky and more stable in financial terms as they can tap into their assets in order to meet their liabilities if they were to lose any sources of income or run into unforeseen large expenditures[17] (even with the holdings of stocks and other equity securities excluded, the financial assets of households exceeded their financial liabilities by LTL 25 billion at the end of 2013, for details see Annex 1). In 2013, the growth of households' financial assets was mostly driven by the growth in the holdings of stocks and other equity securities as well as in cash and deposits (see Chart 30). At the end of 2013, the total financial assets of Lithuanian households amounted to LTL 97.6 billion (81.7% of GDP), a rise of 8.2 per cent in year-on-year terms.[18] Stocks and other equity securities accounted for 3.7 p. p. of that increase. The year 2013 was favourable for this type of assets since the low interest rate environment improved the investors' risk appetite and the companies were profitable. The Lithuanian households remain conservative in their build-up of financial assets: same as in previous periods, the assets mostly consisted of cash holdings and deposits (38.7% of the total financial assets), stocks (mostly in unlisted companies) and other equity securities (39.4% of the total financial assets). In 2013, net equity of households in pension funds increased by LTL 0.6 billion (up by 13% on a year-on-year basis) due to an increased number of members and a rise in the value of units of account. Net equity of households in insurance reserves increased by LTL 88 million in the same time period (up by 4% on a year-on-year basis).

Improvements in possibilities for making savings helped the households boost their financial assets. As shown by household surveys commissioned by the Bank of Lithuania, 62 per cent of the Lithuanians were able to make at least some savings early in 2014, up by 3 p. p. from a year before. Moreover, the number of households, which are able to make larger savings, increased by 2 p. p. (one-tenth managed to save LTL 500 or more per month). Improvements in possibilities for making savings can also be seen from the initial estimate of the household saving ratio, established by the Bank of

Chart 29. Expectations about certain financial household decisions

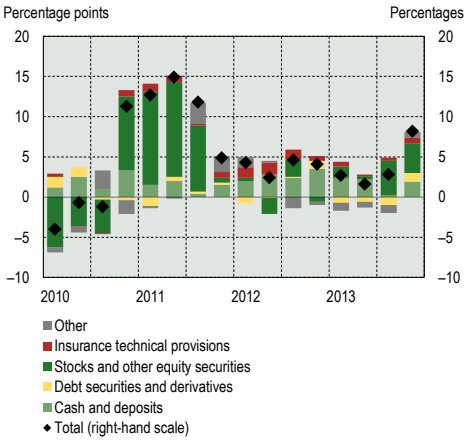
(Q1 2004–Q1 2014)



Sources: Statistics Lithuania and Bank of Lithuania calculations.

Chart 30. Annual developments in financial household assets and contributions thereto

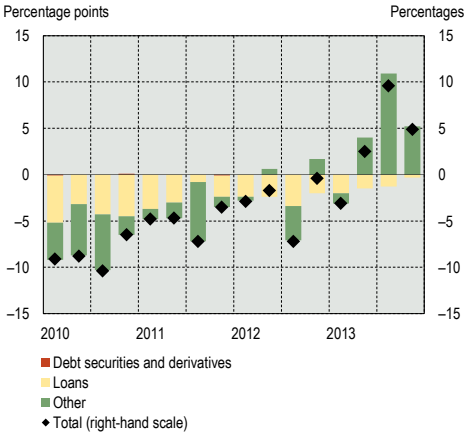
(Q1 2010–Q4 2013)



Source: Bank of Lithuania calculations.

Chart 31. Annual developments in financial household liabilities and contributions thereto

(Q1 2010–Q4 2013)

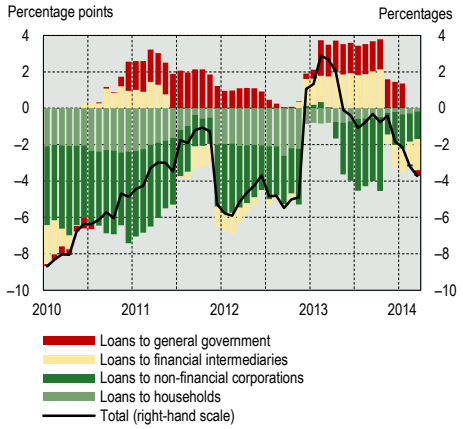


Source: Bank of Lithuania calculations.

[17] It should be noted that the households with financial liabilities are not necessarily those with financial assets (e.g. the households with substantial financial liabilities may have limited financial assets).
[18] Financial assets and liabilities are valued at market prices, excluding those, for which no secondary market exists (deposits, loans, other accounts receivable or payable).

Chart 32. Contributions to annual changes of banking loan portfolio

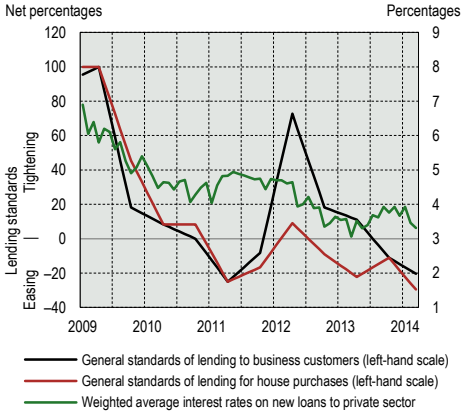
(January 2010–March 2014)



Source: Bank of Lithuania calculations.

Chart 33. Interest rates on new banking loans and lending standards

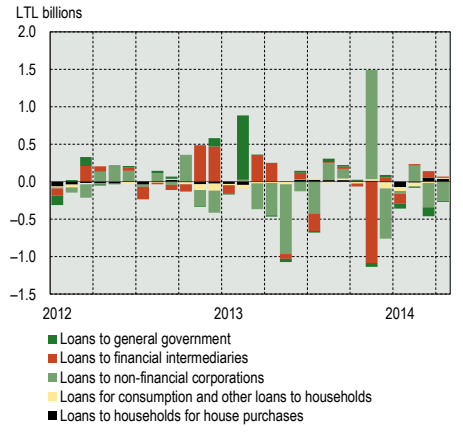
(Lending standards: April 2009–April 2014; semi-annual data. Interest rates: January 2009–April 2014)



Sources: bank lending surveys conducted by the Bank of Lithuania and Bank of Lithuania calculations.

Chart 34. Contributions to monthly changes of banking loan portfolio

(January 2012–April 2014)



Source: Bank of Lithuania calculations.

Lithuania for 2013 from the national accounts' data, as well as from the consumer opinion surveys conducted by Statistics Lithuania (see Chart 29).

In 2013, the growth of households' financial liabilities was driven by trade credits, advanced payments and other accounts payable to non-financial corporations (see Chart 31). The financial liabilities of households increased by nearly 5 per cent in twelve months to the end of 2013, however, the amount of loans (mostly from banks), which comprise the bulk of such liabilities, showed a slight decrease. The households still remained wary of taking new loans from banks. However, they became more confident in buying goods or services on credit.

With consumer expectations being high and the labour market forecasts[19] being favourable for households, the financial health of Lithuanian households should keep improving unless the economy is hit by severe shocks. Feeling safer in financial terms, the households will be more confident in their financial decision making, which may make them more prone to borrow from financial institutions. Although the results of the surveys of the financial behaviour of households conducted on behalf of the Bank of Lithuania show that the percentage of households, which plan to take a loan within the next 12 months, decreased somewhat in six months to April 2014 (to 4.1% of the polled, from 5.6%), more of such households intend to borrow for major purchases (26.8% of the respondents who planned to borrow intended to take a loan for house purchase, up from 12.5% six months earlier and up from 5.9% twelve months earlier). On the other hand, the economic sanctions imposed against Russia in response to its conflict with Ukraine may spill over through the Lithuanian tradable sector and affect the country's domestic market and derail hiring and wage increase plans of the country's companies. This would weaken the financial health of households and make it more difficult to meet the existing financial liabilities.

Credit market

The banking sector's lending remained sluggish. Between early 2013 and April 2014, the loan portfolio of MFIs, which mostly consist of credit institutions (banks), decreased by 3.0 per cent, or LTL 1.8 billion (see Chart 32). Changes in the loan portfolio of the banking sector in that period were triggered by one-off factors,[20] by the systemic factors on the supply and demand sides as well as by changes in official statistics, which were more of a technical nature.[21] Moreover, the year 2013 saw a rather rapid growth in MFI lending to other financial intermediaries (basically to leasing companies). However, a merger between one leasing company and its parent bank put a stop to that growth at the end of the year.[22] The banks' biggest debtors, i.e. non-financial corporations and households, reduced their debts to banks. Between early 2013 and April 2104, the banks' outstanding loans to non-financial corporations decreased by LTL 1.5 billion, and loans to households – by LTL 0.2 billion.[23]

Bank lending conditions became more favourable. More banks eased their general credit standards as applied to the private sector over the previous period,[24] and the cost of borrowing fell to its lowest level in nearly 10 years amid a decrease in interbank interest rates (see Chart 33). With the credit standards and the cost being one of the key factors in the private sector's credit decision-making, such a change might have contributed to the

[19] The Bank of Lithuania projects a 3.5 per cent increase in wages (compensation per employee), while the Ministry of Finance of the Republic of Lithuania forecasts a 5.8 per cent rise in average annual gross wages. The Bank of Lithuania estimates that the average annual unemployment rate should decrease to 10.4 per cent in 2014, while the Ministry of Finance of the Republic of Lithuania expects it to decline to 10.5 per cent.

[20] For example, in February 2013, one bank extended a nearly LTL 1 billion loan to the central government.

[21] The official statistics exclude *AB Ūkio Bankas*, which was declared insolvent by the Bank of Lithuania, and the Lithuanian branch of *AS Unicredit Bank*, which exited the market. With these institutions excluded and assuming that the portfolio of loans granted by *AB Šiaulių Bankas* has remained unchanged since February 2013, the MFI loan portfolio would show a slight increase in 2013.

[22] This led to a decrease in the portfolio of loans extended to financial intermediaries and, at the same time, to an increase in the portfolio of loans granted to non-financial corporations.

[23] These calculations exclude the merger between one leasing company and its parent bank and the resulting increase in the portfolio of loans to non-financial corporations in November 2013.

[24] Compared to the period before the economic downturn, the lending conditions are tighter now.

increases in the loan portfolio recorded in certain months. For example, certain months in the second half of 2013 or early in 2014 saw increases in the portfolios of loans to both non-financials and households (see Charts 34 and 35), which, however, has not yet developed into a long-term trend.

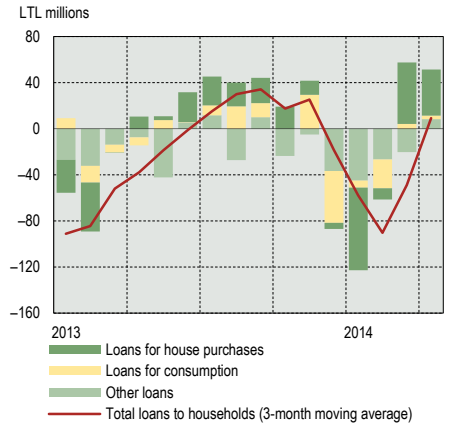
House purchases by households with the money borrowed from MFIs have been increasing. The banks have warmed up to lending for house purchase since the real estate prices have been growing slowly, supporting expectations of changes in the value of collateral. Moreover, the financial health of the households has been improving, with more households expecting the property prices to continue growing in the future. This reason, along with others, has led to an increase in the share of households, which plan to buy a home within the next year. These household expectations have already started to materialise, which is evidenced by the slow growth in the loan portfolio. Between early 2013 and April 2014, the portfolio of the banking sector's loans to households for house purchases increased by LTL 0.1 billion (the portfolio of loans for consumption and other loans to households shrank by LTL 0.3 billion in the same time period). The data of the new housing loan flow made available by the Association of Lithuanian Banks has also shown that the pace of housing credit growth has increased substantially (in 2013, the amount of such loans rose by one-third from the previous year).

Despite improvements in the banks' attitudes towards lending to non-financial corporations, the portfolio of loans granted to non-financial corporations continued to decrease. The commercial banks were more positive about lending to tradable sectors (e.g. agriculture, industry) than they were to non-tradable sectors (e.g. construction, real estate). In general, the lending standards applied to businesses became more relaxed and the interest rates became lower. Despite such developments, the portfolio of the loans granted by the banks to non-financial corporations continued to decrease and was 2.8 per cent, or LTL 0.7 billion, below the year-earlier level in April 2014. The banks remain cautious in their assessment of credit risks stemming from lending to businesses. In particular, the decrease in the loan portfolio was mainly due to the developments in the portfolio of loans extended to the companies related to the real estate market. Meanwhile, lending to the companies with closer ties with the general government (e.g. electricity or gas supply) tended to increase in the past quarters (see Chart 36). An increase in MFI lending to transport and warehousing businesses at the turn of 2013/2014 should largely be interpreted as a one-off factor since these companies sought to renew their fleets before the introduction of more stringent environmental requirements.

The growth of loan portfolio, which is expected to be moderate in the near future, and the projected growth of the economy highlight the development potential of the country's credit market. The growth of borrowing from banks is currently fostered by both the continued low interest rate environment and the lending standards, which have become more favourable to borrowers due to increasing competitive pressures. Improvements in the financial health of the private sector and the renewed growth of property prices mitigate the lending risks faced by the banking sector. The commercial banks surveyed by the Bank of Lithuania indicate that they will step up lending to both households and non-financials in the future and that the loan portfolio of the banking sector will increase by approximately 3 per cent in 2014. Moreover, some of the households (4.1%) and non-financial corporations (27.4%), which took part in the Bank of Lithuania's surveys, said that they would seek to borrow from banks in the future. Given the improvements in debt repayment capacity of the private sector (see Chart 37) and the forecasts of Lithuania's economic growth (nominal GDP), which is expected to outpace the growth of loan portfolio anticipated by the banks in 2014, it is fair to say that the development trends of the loan portfolio of the banking sector have not exhibited any signs of unsustainability thus far.

Chart 35. Contributions to monthly changes in the banking loan portfolio to households

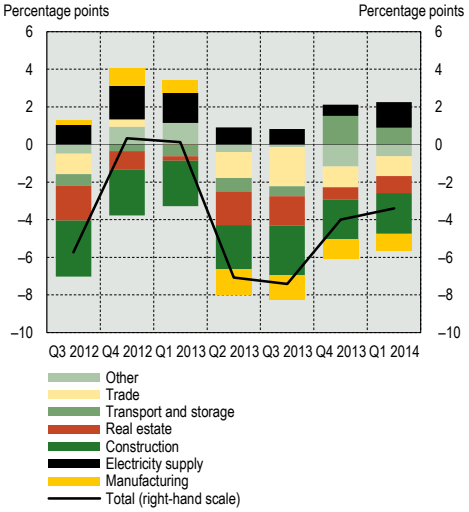
(January 2013–April 2014)



Source: Bank of Lithuania calculations.

Chart 36. Contributions to annual changes in MFIs' corporate loan portfolio by the borrower's economic activity

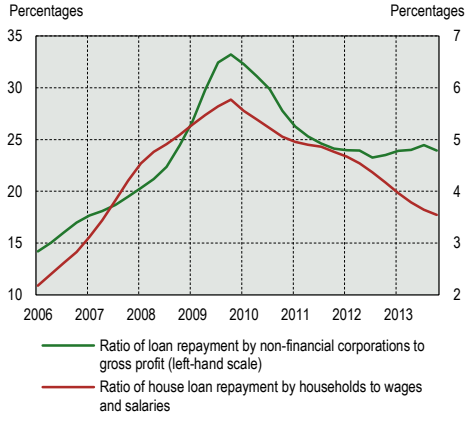
(Q3 2012–Q1 2014)



Source: Bank of Lithuania calculations.

Chart 37. Bank loan repayment capacity of non-financial corporations and households

(Q1 2006–Q4 2013)



Sources: Statistics Lithuania and Bank of Lithuania calculations.

Box 2. Alternative financing of the economy

The recent global economic and financial crisis, which triggered a substantial and prolonged credit contraction, has sparked discussions on which system of financing of the real sector might be more resilient against inevitable cyclical variations of the financial sector. Large-scale losses suffered by the banking sector in Lithuania and many other EU Member States in 2008–2009 led to substantial changes in lending policies. The banks reconsidered their lending standards applied during the period of unsustainable economic growth and tightened their credit criteria.

The financial system in Lithuania and in the EU in general is dominated by banks. In Europe, the banking system provides approximately 70 per cent of the financing needed by non-financial corporations (as compared to 20% in the US). [1] Substantial changes in the operational framework of the banking sector and extra regulation, as well as the lack of adequate alternatives in the credit market constrain access to finance for the private sector in the EU market.[2] Moreover, the dominance of the banking sector leads to the shortage of external equity funding for corporates in EU countries. Such a situation prompts the private sector and policymakers to enhance the role of other market participants (other than banks) at the European level and, in particular, to facilitate access to external finance for small and medium-sized enterprises (SMEs). The purpose of this box is to review the following forms of alternative financing available to SMEs: (i) securitisation; (ii) venture capital financing; (iii) crowdfunding; and (iv) peer-to-peer lending.

Securitisation is a form of financing whereby a pool of relatively similar loans (in most cases, loans to corporates or residential loans) issued by credit institutions is converted into asset-backed securities which are then sold to investors. In this way, credit institutions reduce the regulatory capital requirement and increase credit supply, provided that the asset-backed securities are in sufficient demand. In addition, securitisation allows greater flexibility in financial intermediation and better risk-sharing since the loans are packaged in more liquid securities. However, as shown by the recent financial crisis, securitisation may have serious negative consequences for the stability of the financial system, unless certain safeguards are in place. As a result, the market participants and supervisory authorities have developed a negative approach, which acts as one of the main constraints for the development of safe loan marketing activity.[3] In the environment of reduced risk appetite amongst credit institutions, it would be safe and sound to securitise relatively risk-free loans and to require credit institutions to 'keep some skin in the game', i.e. to retain a certain share of respective asset-backed securities. This form of securitisation could become a significant catalyst for the credit market.

Venture capital is another form of business financing, which is relatively underdeveloped but has a high potential. The key feature of this form of financing is that venture capital funds, as opposed to banks, provide the companies with external financing in the form of equity and therefore can contribute to the governance of the funded business and share their management knowhow, expertise and business relations. Venture capital is usually used to finance young, innovative, high potential companies, which do not have access to traditional funding provided by banks against collateral. Economic studies have shown that this form of financing is less cyclical than debt financing hence, if used more widely, it mitigates the adverse effects of an external financing squeeze in the downswing of the financial cycle.[4] Although, in certain countries, the financing provided by venture capital funds accounts for a relatively small share of the total financing provided by the domestic financial sector (in 2011, venture capital investment in the EU represented 0.3 per cent of GDP, and in Lithuania –0.09 per cent), the US companies (e.g. *Apple*, *Microsoft*, *Facebook*), which, in their early stages, relied on venture capital to finance their expansion, now account for a substantial share of the country's economy (approx. 18% of GDP and 10 million jobs).

Crowdfunding means the practice of raising money required for an investment project directly from the supporters of the initiative, most often through websites (which proved to be an effective platform for raising funds without the involvement of a formal financial intermediary).[5] Since the financial crisis of 2007, crowdfunding has skyrocketed in popularity among the start-ups. In 2011, crowdfunding volumes soared by 240 per cent.[6] In most cases, project funders represent future customers. However, a project may also be supported in mere appreciation of an idea or in pursuit of a return on investment. Contributions to a project are most often rewarded with products or services (i.e. such products or services are pre-ordered by supporting the project), and not with interest payment, on top of capital repayment, once the project generates sufficient money. Recently, the loan-based (and driven by the hope of a financial return) or equity-based models of crowdfunding have been getting more popular than reward- or donation-based models, therefore, they can fill the gap in bank financing for the start-ups and small enterprises.[7]

Crowdfunding in hopes of a return on investment is very much similar to another form of alternative finance, i.e. peer-to-peer lending, which is sometimes referred to as a form of crowdfunding. Its main difference from crowdfunding is that the money is raised from one lender, and not through many small contributions. In most cases, the loans are made between natural persons and, occasionally, involve businesses. Similar to crowdfunding, peer-to-peer lending is typically conducted through online platforms. Profit-driven lenders choose the projects which they want to finance. With no financial intermediaries involved, the lenders can earn higher interest rates on their investment while the debtors have to pay lower interest rates than they otherwise would have to pay if they were to borrow from banks or other lenders (since no financial intermediation margin is charged). The costs of lending through financial intermediaries are also driven up by risk assessment and debt administration costs.

Crowdfunding and peer-to-peer lending, as compared to traditional fundraising methods, have both strengths and weaknesses. These forms of raising money may be convenient where the traditional credit institutions find it difficult to measure the risks of a particular project. When the demand for a product involved in the project is unknown, the supporters express confidence in the prospects of the idea through their financing (and provide early feedback for businesses). Where the backers are offered a reward with future products or services, the demand can be gauged before the launch of the project. On the

other hand, a project that may look attractive may turn out to be a scam. Unlike traditional financing, where the lenders (i.e. credit institutions) possess the necessary expertise and capacity to assess whether or not an economic entity is serious in its intentions to take up a certain activity, in crowdfunding and peer-to-peer lending, the public may be invited to invest in an attractive-looking project, which its initiator may actually have no intentions of implementing.[8] Investments made by supporters through crowdfunding or peer-to-peer lending are not insured, which means that they may suffer losses, i.e. lose the funds provided to a project and receive no promised reward (i.e. services or goods), if the project turns out to be fake. Moreover, given the relatively limited regulation, crowdfunding and peer-to-peer lending can easily be used for money-laundering.

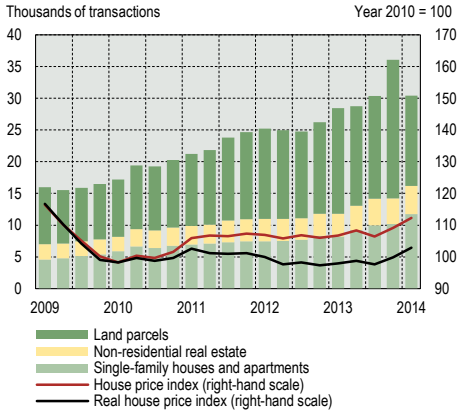
[1] Cour-Thimann, P., Winkler, B. *The ECB's Non-Standard Monetary Policy Measures. The Role of Institutional Factors and Financial Structure*. ECB Working Paper Series, No 1528, April 2013.
[2] See the survey on the access to finance of small and medium-sized enterprises conducted by the ECB in October 2013.
[3] Since 2009, the EU market for asset-backed securities has contracted by approximately 30 per cent and is currently worth EUR 1.5 trillion, which is four times less than in the US (ECB and the Bank of England).
[4] Covas, F., Den Haan, W. J. *The Cyclical Behavior of Debt and Equity Finance*. The American Economic Review, 2007, No 101(2), p. 877–899.
[5] One of the most popular crowdfunding sites are the following: www.gofundme.com, www.kickstarter.com and www.indiegogo.com.
[6] *The Crowdfunding Industry Report*, 2013CF, 2013.
[7] *Ibid.*
[8] Although the most popular crowdfunding websites are trying to check the projects registered therein, such controls are not too effective. The websites do provide an option whereby the funds collected for a project can only be transferred to its initiators once the project reaches (or exceeds) a predetermined target. Still, it is not difficult to raise funds for an idea, which looks attractive but is actually a fake.

REAL ESTATE MARKET

The year 2013 witnessed a breakthrough in the real estate market – both in terms of activity and in terms of price developments. The real estate market is critical for the financial stability in particular as the assets traded therein are often used as collateral for banking loans. Any impairment in these assets and the insolvency troubles faced by the debtors may bring losses to the collateral holders. Up till 2013, the real estate market activity showed moderate growth, which, however, had no implications for prices. In the middle of the year, the growth in the number of transactions concluded in the market started to accelerate (see Chart 38), to some extent, as a result of changes in the legal regulation pertaining to agricultural land, which came into effect in 2014. As far as the housing segment is concerned, the activity started to expand at a faster rate as well. The number of real estate transactions concluded in 2013 increased by 22.5 per cent versus the previous year to 124,000.

Chart 38. Number of real estate market transactions (seasonally adjusted) and price developments in Lithuania

(Q1 2009–Q1 2014)

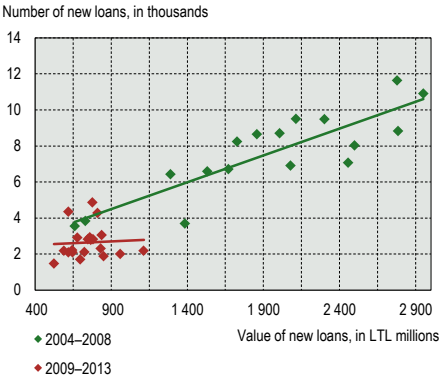


Sources: State Enterprise Centre of Registers, Statistics Lithuania and Bank of Lithuania calculations.

In the first quarter of 2014, the fastest growth in the real estate market activity was recorded in the housing segment. The number of single-family houses and apartments, which changed hands in that period, soared by 43 per cent in year-on-year terms (seasonally adjusted; by 15% in quarter-on-quarter terms), mostly as a result of the rapid economic growth, the search for alternative investment opportunities in the prolonged environment of low interest rates (amid low yields on risk-free assets), the expected change of the national currency[25] and, presumably, efforts to legalize some of the money circulating in the shadow economy.

Chart 39. New housing loans

(Q1 2004–Q4 2013)



Sources: Household Financial Monitoring Information System and Bank of Lithuania calculations.
Notes: lines indicate linear relations between respective sequences.

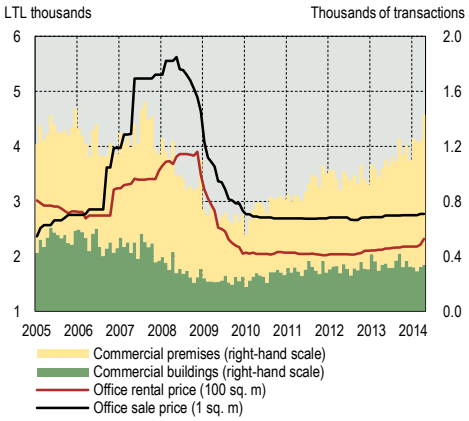
Although the prices edged up by an average of just 1.2 per cent in 2013 versus 2012, preliminary estimates have shown that they rose by 5.2 per cent in the first quarter of 2014 on a year-on-year basis. The level of housing market activity, which has recently been stabilising (more than 10 000 transactions per quarter), is sufficient to exert an impact on housing prices. Overall, the growth of housing prices is driven by all market segments, except for newly built apartments in Vilnius, which, most probably, is related to an increase in the number of transactions involving the acquisition of properties at a less advanced stage of completion compared with the previous periods (e.g. with more apartments sold without any interior decoration), therefore, such statistics should be interpreted with caution.

Although the majority of buyers use own funds to finance their housing transactions, the banks have stepped up lending for house purchase. Data from the State Enterprise Centre of Registers has shown that nearly 29 per cent of housing transactions concluded by natural persons in 2013 involved mortgaging the properties concerned. According to the data made available by the Central Mortgage Office, this proportion remained broadly the same in the first quarter of 2014. Although the share of transactions with

[25] Despite statements that the switchover will not trigger a rise in prices, some members of the public may prefer to convert their cash holdings to 'safe haven' real estate as they are wary of the uncertainty around the currency changeover.

Chart 40. Commercial real estate market transactions (seasonally adjusted) and price developments

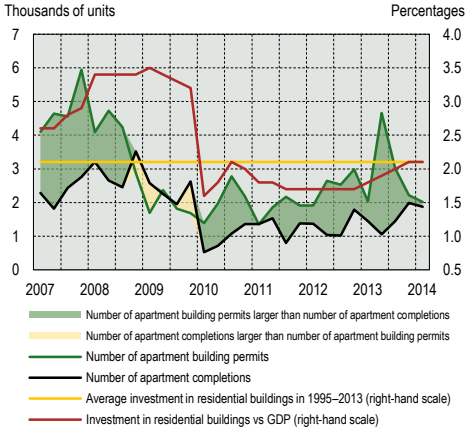
(January 2005–April 2014)



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

Chart 41. Real estate market supply (construction economic activity) indicators

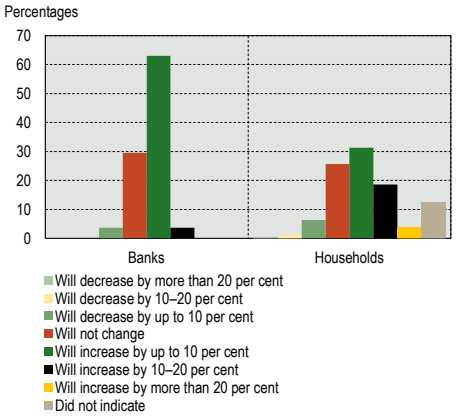
(Q1 2007–Q1 2014)



Sources: Statistics Lithuania and Bank of Lithuania calculations.

Chart 42. House price expectations by banks and households for the next 12 months

(H1 2014)



Sources: survey of household financial behaviour and bank lending survey.

borrowed funds is basically unchanged, the total number of market made transactions, which it forms a part of, is increasing with each period (the number of housing loans is growing). As shown by the data from the Household Financial Monitoring Information System maintained by the Bank of Lithuania, the number of new housing loans issued in 2013 soared by 53 per cent from the previous year to exceed 16 000, which was still 60 per cent below the level achieved in 2007. Moreover, home prices are still relatively low compared to 2007–2008 hence the properties being financed are less expensive. The average value of a new housing loan fell to LTL 84 000 in Q1 2013 from LTL 131 000 in Q4 2008. This implies that since the global financial crisis, the relations, which existed until the beginning of 2009 between the number of loans and their value, have changed (see Chart 39). As a result, the value of housing loans remains stable although their number is actually increasing.

The existing situation in the housing market is different from 2004–2007 in terms of a relative decrease in bank lending for house purchase. In line with the Responsible Lending Regulations, which entered into force in 2011, the banks cannot lend more than 85 per cent of the price of a new home. Moreover, these Regulations oblige the banks to assess whether or not a household's income is sufficient (a household cannot spend more than 40% of its disposable income to pay back the loan) and sustainable. The unemployment level, which is higher than in 2006–2008, as well as the economic environment, which remains less explicit amid efforts made by countries around the world to deal with the consequences of the financial crisis, has dampened the demand for credit. Moreover, low yields on safe investments in an extended period of expansionary monetary policy encourage search for riskier alternatives, including investments in real estate, which is held to earn rental income or to profit from changes in its value.[26] Tightening of monetary policy in the future will trigger an increase in borrowing costs and, consequently, will moderate the demand for housing.

As far as other non-residential properties are concerned, it is worth noting the developments in prices for land parcels (see Chart 38). Land sales soared at the end of 2013 in anticipation of the tightening of farmland ownership regulation on 1 January 2014.[27] As a result, the number of land transactions concluded in 2013 reached an all-time high (70 600) in the history of these statistics. This pickup in market activity had no substantial effect on prices. Although the average price of agricultural land rose by 10 per cent in twelve months to December 2013, the year-end price was approximately 70 per cent below the level recorded at the end of 2007. In the first quarter of 2014, land sale activity receded and was 14.1 per cent below the year-earlier level.

In 2013, activity in the commercial real estate segment was supported by transactions involving commercial premises, although price developments in this segment were moderate (see Chart 40). The average sale price per square meter of commercial property increased by 2.1 per cent in twelve months to March 2014 and the rental price rose by 4.4 per cent in the same period. In the first quarter of 2014, the sales of commercial buildings fell by 12.5 per cent year-on-year, whereas the sales of premises soared by 38 per cent. Recent months have seen an increase in demand for offices and commercial premises, which are part of larger properties.

An increase in housing demand triggered a rise in the investment in residential property at the end of 2013 (see Chart 41). In the fourth quarter of 2013, the investment, expressed as a percentage of GDP (seasonally adjusted), exceeded the respective average level of 1995–2013 for the first time from early 2010. In 2013, the number of building permits issued for new apartments rose by 18.5 per cent from the previous year. Therefore, the investment in residential property is expected to keep growing. Thus far, there have been no indications that this growth might be unbalanced in the future,

[26] Real estate investors are usually defined as the economic entities which do not resort to leveraged financing to acquire such properties.

[27] See Provisional Law No IX-1314 of the Republic of Lithuania of 16 July 2013 on the Acquisition of Agricultural Land (*Valstybės žinios* (Official Gazette), No 76-3847).

i.e. that the investment might grow faster than the GDP. The contribution to the GDP from the investment in non-residential buildings and structures remains much lower than the average contribution recorded in 1995–2013. However, this gap narrowed down in 2013. On average, the investment in non-residential property, as a share of the GDP, was 1.9 percentage points below its long-term average in 2012 and in 2013, that gap shrank to 1.5 percentage point.

Rapid changes in prices exacerbate the risks of unjustified expectations. If the prices of housing move broadly in line with the general price level, the real housing value remains stable. This precludes the emergence of the so-called negative wealth effects,[28] while real estate development remains a profitable business. Following the financial crisis, the rise of housing prices in Lithuania matched the dynamics of residential construction costs. In the short-term, the growth of construction input costs is also driven by the tightening of quality requirements for new housing starts, such as the energy efficiency requirements.[29] On the other hand, even if the price dynamics are balanced, market participants may develop adaptive expectations, which, in its turn, would lead to the overpricing of real estate and create the potential for a price bubble to develop. Such expectations may well rise even if the increase in market activity observed in recent periods (and the resulting rise of prices) is a temporary phenomenon caused by households' efforts to convert their liquid funds into other assets (in 2013, cash plus cash balances in bank accounts comprised nearly one-fifth of nominal GDP), in this particular case – into real estate, before Lithuania's switchover to the euro. The growth of activity may ease after the changeover of the national currency, but market participants, led by unjustified expectations, would continue to expect the prices to rise at a fast rate. In April 2014, the commercial banks and households surveyed by the Bank of Lithuania mostly expected the prices of housing to grow by up to 10 per cent in the next twelve months (see Chart 42). This implies the risk of self-fulfilling expectations. The prevalence of optimism about the prices of housing means that the monitoring of real estate market warrants special attention in the near future.

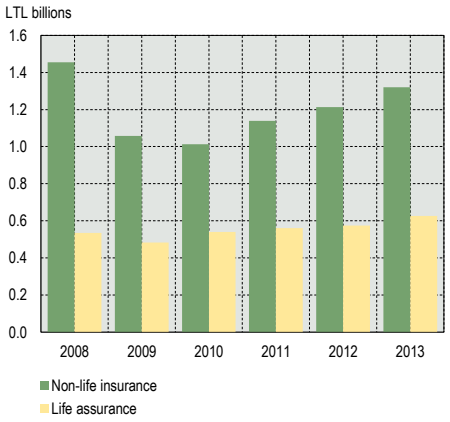
INSURANCE MARKET AND PENSION FUNDS

In 2013, Lithuania's insurance market showed solid growth and the operations of insurance undertakings remained stable. The assets of operating insurance undertakings, which account for some 3 per cent of the total assets of the domestic financial system, increased by 7.7 per cent over the year to reach approximately LTL 3 billion at the end of the year. The assets of life assurance undertakings running as a going concern grew at a faster pace (9.9%) than the assets of non-life insurers (3.6%). On the other hand, the amounts of premiums written grew rapidly in both life and non-life insurance segments (by a total of 8.8%) and totalled LTL 1.9 billion at the end of the year (see Chart 43). The operations of Lithuania-registered insurance undertakings remained profitable and a high solvency ratio (2.6) indicates that the insurance industry was stable in 2013.

Last year, the life assurance segment, as measured by the premiums written, rose by 8.9 per cent to LTL 626 million, reaching six-year highs. The growth of the economy and the level of household income led to a notable increase in the number of life assurance contracts in 2013. At the same time, a decrease in insurance claims signals the end of the insurance claim boom, which was triggered by the expiry in 2012 of many life assurance contracts concluded by the end of 2002, i.e. before changes in tax environment. These factors underpinned the profitability of life assurance undertakings, which raked in a net profit of LTL 36.7 million in 2013. In addition, positive developments in stock markets in 2013 fuelled the demand for potentially higher-yield but higher-risk unit-linked life assurance products (see Chart 44). These products accounted for 45 per cent of life assurance market at the end of the year, a rise of 3.1 p. p. compared with the year before. Given the growth of the

Chart 43. Developments in life and non-life insurance premiums written

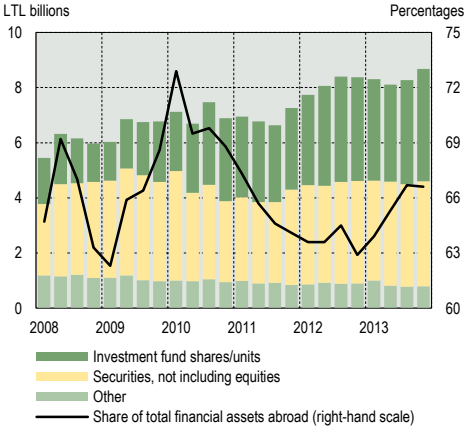
(2008–2013)



Source: Bank of Lithuania calculations.

Chart 44. Developments in financial assets of insurance undertakings and pension funds

(Q1 2008–Q4 2013)



Source: Bank of Lithuania calculations.

[28] See Carroll, C. D., Zhou, X., Mae, F. Measuring Wealth Effects Using US State Data, October 26, 2010.
[29] The Construction Technical Regulations STR 2.01.09:2012 stipulate that the buildings built under the permits issued after 1 January 2014 shall meet the requirements of the minimum energy efficiency class B. By 2021, the minimum energy efficiency class required will be raised to A++ in several stages.

economy and the current low penetration rate of life insurance, with just one in seven or eight Lithuanians having a life coverage, the life assurance market is likely to continue growing at a fast pace in the future (9–11%).

Low interest rates create risks for the life assurance segment. Next year, the extended period of low interest rates may affect those life assurance companies, which used high technical interest rates in their calculations of insurance premiums in previous years. First, with the financial reinvestment period[30] approaching the end, the insurance undertakings should face a decrease in income, unless they opt to invest in higher-risk securities, which, in its turn, would impair the capital or have an adverse effect on the existing portfolio of securities. Second, a decrease in interest rates is accompanied by a decrease in the maximum technical interest rate[31] used by the insurance undertakings. This encourages the build-up of technical reserves, which requires additional funds.

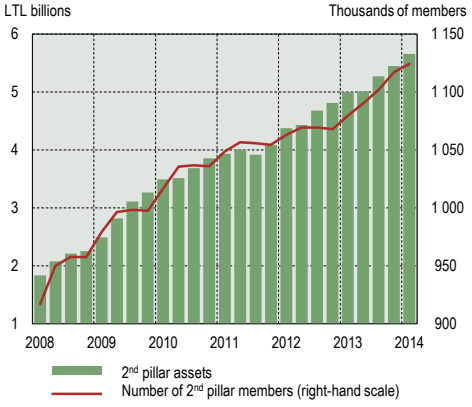
The non-life insurance segment expanded at a fast rate in 2013. The amount of insurance premiums written rose by 8.7 per cent to LTL 1.3 billion coming close to its pre-crisis level. With the economy recovering, the number of new contracts increased in all major insurance categories, except suretyship insurance, which saw its volume fall by one-fourth due to changes in the legal environment relating to the regulation of customs procedures. A substantial increase in loss coverage (45%) shows improvements in the financial literacy of both natural and legal persons and has positive implications for the country's financial stability. The growth of the market was accompanied by an increase in non-life insurance claims. In 2013, the amount of insurance claims paid in the non-life insurance segment rose by 6.5 per cent year-on-year to LTL 742.9 million. In general, the non-life insurance undertakings operated at a profit. At the end of 2013, the total earnings of non-life insurers amounted to LTL 24.5 million and were slightly below the level recorded in the previous year. If the trends of Lithuania's economic development remain similar, the non-life insurance segment should grow at a similar pace, i.e. by 8–10 per cent, in 2014.

The year 2014 saw an increase in market concentration in the Lithuanian non-life insurance industry. Following the acquisition of *AB Lietuvos Draudimas*, the largest Lithuania's non-life insurance undertaking in terms of market share (31.1%), by Poland's insurance undertaking *AB PZU SA*, which holds 13.6 per cent of the respective market through its subsidiary *PZU Lietuva*, in April 2014, three top players will hold 70 per cent of the total market. Such a high degree of market concentration may undermine competition, thus hurting the users of non-life insurance services. Moreover, higher concentration would pose risks to Lithuania's financial stability in case of adverse developments in the market, i.e. in case of solvency problems encountered by a major market player.

The assets managed by the 2nd and the 3rd pillar pension funds continued to grow in 2013 (see Charts 45 and 46). In particular, the assets under the management of the 2nd and the 3rd pillar pension funds increased by 13.2 per cent and 19.9 per cent, respectively, in that period, supported by a favourable international market environment, an increase in the number of members and growth in household income. Nearly all pension funds recorded positive changes in their unit values amid growth in stock prices on global markets. Although early in 2013, as the portion of contributions transferred by the State Social Insurance Fund to the pension funds was raised to 2.5 per cent, from 1.5 per cent, pension savers were given the opportunity to choose between a number of options for their future retirement savings, the growth in the second-pillar membership accelerated in year-on-year terms, to 4.6 per cent. Given the favourable situation in stock markets, new second-pillar mem-

Chart 45. Developments in the number of members and assets of 2nd pillar pension funds

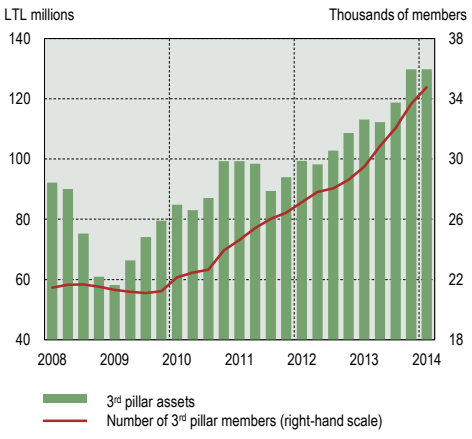
(Q1 2008–Q1 2014)



Sources: State Social Insurance Fund and Bank of Lithuania calculations.

Chart 46. Developments in the number of members and assets of 3rd pillar pension funds

(Q1 2008–Q1 2014)



Source: Bank of Lithuania calculations.

[30] Life assurance undertakings assume very long-term liabilities (e.g. of 30 years) and direct their investment into shorter maturity securities (e.g. 10-year bonds). With the holding period of these investments approaching the end and given the prevalence of low interest rates, the companies will have to reinvest their funds in lower yield securities. Therefore, the life assurance undertakings that used to apply high technical interest rates to discount future liabilities, which resulted in smaller insurance premiums, will incur losses as a result of reinvestment of their funds in lower yield securities.

[31] The maximum technical interest rate is the interest rate used by life assurance undertakings in the calculation of the technical provision for loss cover.

bers mostly chose riskier pension funds. In general, the bulk of investment went into the pension funds with medium exposure to equities (52%). This distribution of investment is primarily age-related since the majority of members fall into younger age groups. With the population getting older, the 2nd pillar members will most probably be more inclined to choose the 2nd pillar pension funds with a lower risk exposure in the future. The assets under the management of the 3rd pillar pension funds comprised a relatively small slice of the total assets managed by the pension funds (approx. 2%), and the bulk of investment in this pillar (53.4%) went into high risk securities, such as equities and equity collective investment undertakings. Rapid growth of pension funds' membership, coupled with the rise of stock markets, fuels growth in the financial assets of Lithuanian households. However, private retirement saving still lose out substantially in popularity to similar schemes for households in the developed economies. With the global markets and the trends of pension funds' membership growth being stable, these assets should continue growing in the coming year.

The money fund market remains highly concentrated and the growth of investment in higher-risk products offered by pension funds and life assurance undertakings entails the risk of a decrease in the households' financial assets in case of major stock market shocks. In 2013, the market witnessed the exit of two 2nd pillar pension funds and one 3rd pillar pension fund as well as the establishment of two 3rd pillar pension funds. The markets for both pillars remain highly concentrated. As far as the 2nd pillar market is concerned, the funds managed by three retirement savings companies accounted for nearly 80 per cent of the total assets. As regards the 3rd pillar market, as much as 82 per cent of assets were held in the funds of two retirement savings companies. In general, the investment by the insurance undertaking and pension funds operating in Lithuania in investment fund shares or units rose by 10 per cent in 2013, and investment in other securities – by 3 per cent (see Chart 44). This trend of higher-risk securities investment, which is now in its third year, is most likely to continue in the year to come. However, the growth in the share of investment made by Lithuania's households in higher-risk securities amid uncertainty over the future course of monetary policy of the major global central banks augments the risk of impairment of the households' financial assets.

FINANCIAL MARKET INFRASTRUCTURE

The functioning of systemically important financial market infrastructure (FMI) in Lithuania is stable and reliable. The FMI comprises the following payment systems all three operated/administrated by the Bank of Lithuania: LITAS-RLS, the real-time gross settlement system for the litas, LITAS-MMS, the deferred settlement system for retail payments, and TARGET2-LIETUVOS BANKAS, the real-time gross settlement system for the euro, all three operated by the Bank of Lithuania. In 2013, these systems processed 32 million payment orders worth LTL 0.7 trillion, which is 5.8 times the national GDP. As far as the securities market is concerned, the systemically important infrastructure consists of the Securities Settlement System (SSS) operated by the Central Securities Depository of Lithuania (LCVPD). In 2013, the systems operated without any major disruptions.

The main settlement systems comply with the applicable international standards. In 2013, the settlement system LITAS-RLS was assessed for compliance with the CPSS-IOSCO Principles for financial market infrastructures. The LITAS-RLS was found to be in line with those principles. The results of this assessment exercise were consistent with the results of the assessment carried out in 2010 pursuant to the Core Principles for Systemically Important Payment Systems developed by the Bank for International Settlements. The interpretation of the requirements contained in the new principles and the assessment methodology led to differences in certain aspects of assessment. The assessment was followed up by recommendations for the strengthening of operational risk management and the continuity of the system's operations as well as for the enhancing of transparency. The assessment of the SSS, which was carried out in 2011 against the ESCB-CESR recommendations for securi-

ties settlement systems, was updated early in 2014. It showed that the SSS complied with these recommendations and its compliance with the requirements of one recommendation had improved since the time of the previous assessment. As a follow-up, several measures were recommended to be taken to improve the system's reliability in a changing legal and business environment.

Lithuania's entry to the euro area will also lead towards the integration of its FMI into the respective euro area infrastructure. In general, this integration means the (inter)connection of financial market structures to form one entity, which implements uniform standards, provides FMIs with a level playing field and facilitates their interaction in a competitive environment. In this context, the banks active in Lithuania and the Bank of Lithuania are the most concerned with the Eurosystem's payment system TARGET2 (Trans-European Automated Real-time Gross settlement Express Transfer system), as well as with the infrastructure projects SEPA (Single Euro Payments Area) and TARGET2-Securities.

A vital part of Lithuania's FMI has already been linked to the systemically important euro payment system TARGET2. After the adoption of the euro, the existing real-time payment system LITAS-RLS will cease operation. The commercial banks operating in Lithuania and the Bank of Lithuania will carry out their real-time euro payment transactions, including the final settlement of the transactions executed in a retail payment system, within the payment system TARGET2-LIETUVOS BANKAS, which is part of TARGET2, the Eurosystem's payment system. The euro is already used for the settlement of securities transactions. Material changes are not foreseen in the near future and the transfers of funds in euros related to the settlement of securities transactions continue to be made through the system TARGET2-LIETUVOS BANKAS.

Following the changeover to the euro, the commercial banks operating in Lithuania and the Bank of Lithuania will have a year to bring the processing of their customer payments in line with the requirements of the SEPA Regulation.[32] The LITAS-MMS, which does not comply with these requirements, will be adapted to execute retail euro payments at a designated time from 1 January 2015 and will remain in operation for one year. Both the banks with foreign parents and foreign bank branches, and the standalone domestic banks and small payment service providers (such as credit unions, payment and electronic money institutions) will have to choose between methods for the execution of SEPA payments across the EU. The Bank of Lithuania seeks to develop a SEPA-compliant retail payment system, which, after its launch on 1 January 2016, would enable payment service providers to initiate SEPA payments to other payment service providers in the EU and receive such payments from such parties.

The practice and standards of securities settlement in Lithuania will be aligned with those used in Europe in the implementation of TARGET2-Securities – a project to establish a single technical platform for securities settlement. The TARGET2-Securities (T2S) platform will put in place harmonised procedures and will allow effective domestic and cross-border settlement of euro securities transactions. All central securities depositories, which will connect to the T2S platform, as well as the markets serviced by these depositories will have to implement harmonised securities settlement standards.

Efforts made by the Bank of Lithuania to promote reliable and effective FMI operation will be more focused on joint supervision of euro FMI. FMI integration processes increase the interdependencies between FMIs and promote effective cooperation between the authorities in charge of reliable and efficient FMI operation. Acting in line with EU legislation, the Bank of Lith-

[32] Regulation (EU) No 260/2012 of the European Parliament and of the Council of 14 March 2012 establishing technical and business requirements for credit transfers and direct debits in euro and amending Regulation (EC) No 924/2009.

uania has already joined the Eurosystem's efforts relating to common supervision of TARGET2. Once Lithuania enters the euro area, the Bank of Lithuania will also get involved in the supervision of other European euro payment systems, which are relevant for the country.

Box 3. Settlement fail

The settlement of securities transactions on a set day is a critical element to ensure smooth and effective operation of the SSS and reliability of the securities markets providing a platform for such transactions. Settlement fails may cause liquidity problems for the securities' market participants, which are not delivered cash and/or securities due to the counterparty's fault. In a very adverse scenario, settlement fails may disrupt the operation of the SSS.

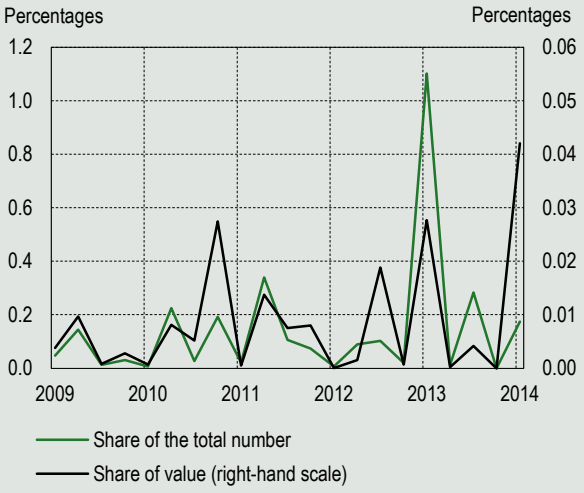
The concept of settlement fail has various definitions. According to the narrower definition of this phenomenon, 'settlement fail' means the inability of an SSS participant to meet its settlement obligations in the SSS at the intended settlement day due to a lack of securities and/or cash. However, the securities and/or cash are often not delivered to the receiving participant due to a failure of the participant, which shall deliver those securities and/or cash, to confirm the settlement instructions (obligations) generated in the SSS. The settlement of the transactions concluded on *AB NASDAQ OMX Vilnius*, the Lithuanian stock exchange, is based on the information provided by this exchange, therefore, the participants of the SSS operated by LCVPD have to confirm the settlement instructions, i.e. the details of settlement of each transaction, which identify them as the participants delivering or receiving the securities and/or cash. A failure to confirm the settlement instructions is considered a settlement fail as well.

Such non-confirmation of settlement instructions may be occasional and it often results from operational mistakes. The number of settlement instructions that are not confirmed in due time in the SSS operated by LCVPD ranges from sometimes several such incidents in a quarter to nearly one hundred in another quarter. Such fluctuations can hardly be explained by specific factors (e.g. seasonal factors, the total number of settlement instructions, market activity or technical glitches). LCVPD and market participants cite a long chain of intermediaries as the main reason of late confirmation of settlement instructions – before confirming the settlement instruction, an SSS participant waits for the confirmation from its customer, which, in its turn, waits for the confirmation from its customer, etc. Moreover, in a situation where a transaction is concluded on the exchange by one intermediary and the customer's securities and/or cash are kept in custody with another intermediary or even several other intermediaries, it is a common mistake to specify the wrong intermediary (SSS participant) for the settlement. The misidentified SSS participant does not confirm the settlement instruction.

The execution of settlements in the SSS operated by LCVPD has not experienced any real negative effects. The SSS operated by LCVPD has not recorded any settlement fails due to a lack of cash or securities since early 2010. The settlement instructions that are not confirmed in due time comprise a meagre part of the total number and value of settlements made in the SSS operated by LCVPD. Such non-confirmations usually account for up to 0.3 per cent of the total number of settlements and up to 0.04 per cent of their total value. Most of the settlement instructions that are not confirmed in due time are confirmed and executed later – on the same day or within nearest working days.

Chart A. Late confirmations of settlement instructions as a percentage of the total number and value of settlement instructions

(Q1 2009–Q1 2014)



Source: Bank of Lithuania calculations.

Timely settlement will be promoted through the EU legislation. The Regulation of the European Parliament and of the Council on improving securities settlement in the European Union and on central securities depositories (CSDs) and amending Directive 98/26/EC will establish measures to ensure timely settlement. Moreover, the investment firms and their professional clients will have to enter into an agreement, under which the allocation of securities for settlement and the acceptance or rejection of settlement terms shall be duly notified in sufficient time before the intended settlement date.

II. RISKS TO THE FINANCIAL SYSTEM AND ITS STABILITY

This part of the review addresses the most relevant of the existing risks for the Lithuanian financial system and its stability, their impact channels and implications if these risks were to materialise (see Table 2). Based on their nature, the risks are divided into two main categories: macroeconomic and financial. The macroeconomic risks would emerge if Lithuania's economic growth were to start losing steam or if the country's economy were to experience a downturn. In this context, the financial health of the private sector would deteriorate imperilling its capacity to pay back debts to banks. Meanwhile, the financial risks would surface if the banking sector's access to financing were to become more constrained, i.e. as a result of changes in both the volumes available and costs. Box 4 provides an additional assessment of the systemic approach to the sensitivity of Lithuania, as a small and open economy, to external risks. The scenarios of the risks discussed have a low probability of occurrence and are not included among the developments projected by the Bank of Lithuania.

Table 2 Main risks and challenges to the Lithuanian financial system

Risks	2013 assessment	2014 assessment
1. Macroeconomic risk: exports to Eastern markets	→	↑
2. Macroeconomic risk: exports to Western markets		→
3. Risks stemming from the activities of parent banks	→	↗
4. Prolonged low interest rate environment	→	↗
5. Snapback in risk premia		↑
Challenges	**2013 assessment**	**2014 assessment**
1. Deterioration in the financial health of municipal authorities	↑	→
2. Unbalanced performance of credit unions	↑	→

Pronounced systemic risk
Medium-level systemic risk
Low systemic risk

Elevated probability of risk occurrence ↑
Slightly elevated probability of risk occurrence ↗
Unchanged probability of risk occurrence →
Slightly reduced probability of risk occurrence ↘
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.

MACROECONOMIC RISKS

Being a small and open economy, Lithuania is highly sensitive to external demand developments. Therefore, purchasing power developments in the export markets may be described as a structural risk to the activity of the Lithuanian economy. The range of measures available to mitigate this risk is limited and its manifestation usually brings losses to the financial sector. The structure of Lithuania's economy is hardly likely to undergo any material changes in the future hence the decrease in export volumes and its effects on non-financial corporations and households will continue to pose a structural

risk to the financial system. The macroeconomic risks in this review are divided into two categories of export destinations due to obvious differences in the trends prevailing in the Eastern and Western export markets.

Although the situation in global economies is mending and the forecasts of economic growth are getting brighter, the risk of a decrease in external demand in the East has already started to materialise. The manifestations of this risk might be exacerbated by a further escalation of geopolitical tensions and the consequences from efforts to resolve the Russia-Ukraine conflict for the national economies. Moreover, the growth of Russia's economy has been decelerating for the second consecutive year. This will affect Lithuania's economy both directly and indirectly, in particular if the growth outlook for other economies with close commercial ties with Russia and, simultaneously, with Lithuania were to deteriorate (see Table 3).

The euro area – another key Lithuania's foreign trade market – is recovering although the signs of unsustainability still remain. With the standoff between Russia and Ukraine ongoing, the growth outlook for certain euro area economies has become gloomier. Others, including the non-euro-area EU Member States, have been subject to the Macroeconomic Imbalance Procedure by the European Commission. All this taken together may trigger a slowdown in economic growth and a decrease in demand for Lithuania's exports.

The risks of a sharp fall in external demand are amplified by the reduced realm of possibilities for the redirection of exports. Lithuania's diversified export market used to be one of the factors reducing the risk of a decrease in export volumes and the heightened uncertainty in one of the markets used to be expected to be offset in others. **However, the diversification of Lithuania's export markets no longer contributes to mitigating risks since the difficulties are encountered by trade partners both in the East and in the West.**

Exports to Eastern markets

Russia is one of the top markets for Lithuania's exports (19.8% of the total exports). A decrease of Lithuania's exports to this market or their politically-motivated restriction has an adverse impact on the Lithuanian economy and its growth. Direct effects on the financial sector are exacerbated by the transport sector. The entities of this sector maintain close cooperation with their Eastern peers. Moreover, it is the sector, which has recently seen an increase in lending from the banks and the leasing companies, which in most cases are controlled by the banks (see Chart 47). Hence a decrease in eastbound exports will have both direct and indirect effects on the Lithuanian financial system and its stability. The indirect effects would manifest themselves through a slowdown in economic growth and the resulting shrinking of the debt repayment capacity of the private sector. The direct effects would largely come from deterioration in the financial health of transport and other companies, which have closer links with the Russian market and are engaged in the economic activities that are more reliant on bank lending.

The outlook for exports to Russia is gloomy, which can be explained by several reasons. First, the growth of Russia's economy has been decelerating for two consecutive years. Second, the outlook for recovery is marred by ongoing geopolitical tensions and the economic sanctions, which have already been introduced or are still planned to be imposed against Russia in response to its actions. The aim of these sanctions is to force Russia to change its stance on the annexation of the Crimean Peninsula and to reduce the risk of military confrontation in Eastern Ukraine. This situation has evoked a strong response from foreign investors. First, Russia's public debt securities have lost their appeal due to an inadequate correlation between yields and geopolitical risks and, as a result, the country's access to market financing has been constrained. Second, Russia's companies are isolated from the global financial markets or are forced to borrow at high rates, hence the existing debt may soon need support from the public sector to be refinanced. Third, the amount of money withdrawn by investors from Russia in the first quarter of 2014 is comparable to the total net outflows recorded in full 2013. As a result,

Table 3. Merchandise exports by selected countries compared to the total merchandise exports by an exporting country in 2013

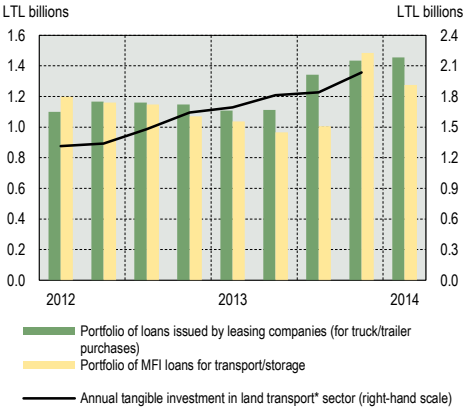
(percentages)

		Euro area	Lithuania	Latvia	Estonia	Russia	Ukraine	Belarus
Exporter	Lithuania	28.2	–	**10.1**	**7.6**	**20.0**	**3.4**	**5.2**
	Latvia	30.3	16.1	–	12.0	**16.1**	1.2	1.9
	Estonia	31.5	6.0	10.7	–	**11.7**	0.8	0.4
	Russia	37.1	1.6	1.3	0.5	–	5.0	4.1
	Ukraine	13.9	0.4	0.2	0.2	**24.2**	–	2.7
	Belarus	18.1	2.9	1.4	0.3	**45.3**	11.3	–

Sources: Thomson Reuters and Bank of Lithuania calculations.

Chart 47. Loans and leases provided by banks and leasing companies to the Lithuanian transport sector

(Q1 2012–Q1 2014)

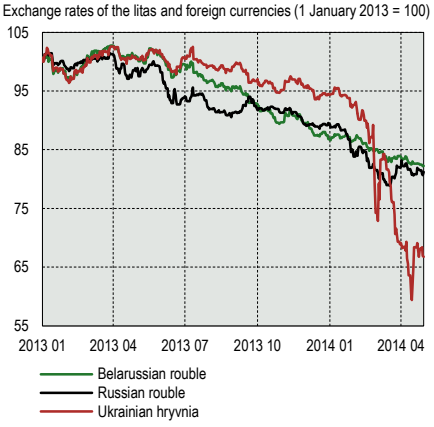


Sources: Statistics Lithuania, the Association of Lithuanian Banks and Bank of Lithuania calculations.

* Land transport and transport via pipelines.

Chart 48. The exchange rate of the litas against the Russian rouble, the Belarussian rouble and the Ukrainian hryvnia

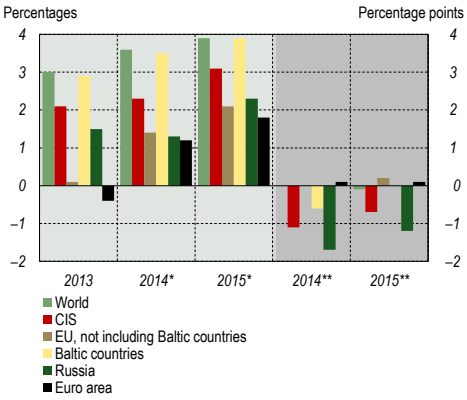
(January 2013–April 2014)



Source: Bank of Lithuania calculations.

Chart 49. Real GDP of Lithuania's main trading partners and its forecasts

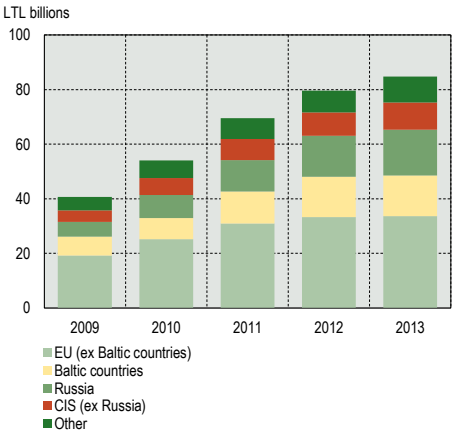
(2013–2015)



Sources: European Commission, IMF and Bank of Lithuania calculations.
* IMF's and European Commission's February 2014 forecasts.
** Revision of forecasts vs November 2013 projections (right-hand scale).

Chart 50. Breakdown of Lithuania's exports by key markets

(2009–2013)



Sources: Statistics Lithuania and Bank of Lithuania calculations.

the Russian national currency has lost its appeal and started to weaken, although market interventions by the central bank have helped mend the situation to some extent (see Chart 48). The prices of goods have increased, which has blunted the competitive edge of exporters, such as Lithuania's companies, in this market. With the Russian rouble getting weaker, Lithuania is becoming less of a lure to tourists from Russia, which exacerbates the risk of losing the revenue brought to Lithuania by the Russian tourists who account for about one-fourth of the total Lithuania's incoming tourism revenue.

Lithuania's exports to other Eastern countries may decrease as well. Ukraine, which has recently seen its economic situation deteriorate, is not an important trading partner for Lithuania (3.5% of Lithuania's total exports). Still, the demand for Lithuania's refined petroleum products may decrease as Ukraine used to rank fifth among the country's top export partners in this category of goods. On the other hand, the World Bank, the IMF, the EU and some countries are ready to give (and are providing) financial support to Ukraine, which mitigates the negative consequences of economic downturn in this country. The growth of Belarus economy (5.2% of Lithuania's total exports) is decelerating as well and the pace of its deceleration may pick up amid economic slowdown in Russia, its top trade partner. The Belarussian national currency has lost some value in the past year, which has eaten into the competitive edge of Lithuania's exporters in that market and reduced the purchasing power of tourists from Belarus.

In addition, Russia has a reputation of imposing political import restrictions targeted at certain markets, including Lithuania. Such measures have direct implications for the food industry as well as the Lithuanian providers of transport services. In 2013, these entities stepped up their fleet investments in order to comply with the upcoming tightened environmental requirements. A part of these investments were financed with borrowings, which led to an increase in the relative share of loans extended to this economic activity by the banks and leasing companies (see Chart 47). A decrease in sales revenues would impair the debt repayment capacity of the country's companies. Moreover, Russia is a vital partner for Lithuania in terms of imports of energy resources. Lithuania's dependence on a single source of gas imports should decrease with the launch of a liquefied natural gas terminal at the end of 2014. The risks of these and other restrictions on the supplies of energy resources are still there, though, in particular as Lithuania imports large amounts of Russian electricity. Any such restrictions would deal a blow to certain energy intensive industries and disrupt their operations, which, in its turn, might derail economic growth.

Exports to Western markets

The economy of the euro area has been getting stronger in the past year (see Chart 49).[33] The European Commission now expects the economic growth in the euro area in 2014 to exceed its November 2013 forecast by 0.1 p. p. The actual growth rate achieved in 2013 exceeded the Commission's forecasts by 0.2 p. p. (last year, Lithuania's exports to the EU market comprised 57.2% of its total exports, and to the euro area alone – 29.9%; see Chart 50). The IMF expects global growth this year to be higher than forecast six months ago and to accelerate further in 2015.

The situation in certain euro area countries, which were previously struggling with financial troubles with their unbalanced public sector, has improved. For example, Ireland has implemented the programmes sponsored by international institutions and has already returned to the capital markets. Greece has reduced its budget deficit and expects its economy to grow in the future. Italy's GDP stopped contracting in the final quarter of 2013. On the other hand, some other economies failed to live up to expectations in 2013: for example, the growth of Estonia's economy (7.5% of Lithuania's ex-

[33] In March 2014, the Economic Sentiment Indicator for the EU exceeded its long-term average by 5.2 points and that for the euro area – by 2.4 points. It has already been a year that both indicators have been showing steady (seasonally adjusted) improvements in relation to their low-end long-term average rates of 10.1 points and 11 points, respectively.

ports) last year missed the forecast of the national central bank by 1.2 p. p. Estonia's trade, same as Lithuania's, is highly sensitive to the economic trends in Russia. Although the growth of Estonia's economy is projected to gain momentum gradually in 2014 and 2015, the existing uncertainty stemming from geopolitical tensions between Russia and Ukraine warrants a very cautious approach to such forecasts. The IMF has revised down its February 2014 forecast for the growth of Latvia's economy by 0.3 p. p. to 3.7 per cent (Lithuania's exports to this country comprise 10.0% of the total exports). Moreover, the in-depth reviews conducted by the European Commission to check for macroeconomic imbalances in the EU Member States have shown that such imbalances are present in more than a half of the Member States reviewed. The measures, which may be taken to rectify the situation, would reduce import demand in those countries.

In the near term, the economic recovery in the euro area will be affected by the consequences of the stand-off between Russia and Ukraine and low inflation. Early in March 2014, the IMF ranged the risk of extended disinflation in the euro area at approximately 15–20 per cent. Such inflation would make the real debt burden heavier than expected. Many euro area countries have high levels of sovereign debt; hence the currency bloc's fragile economic recovery may be derailed once again. Moreover, low inflation can morph into deflation, which would suffocate the recovery, which is still tepid.

The outlook for certain euro area economies and the economies with closer trade ties with Lithuania has recently become a source of concern. The economic relations between euro area countries and Russia are relatively close and some of Lithuania's key export partners (Latvia, Estonia) are actively involved in bilateral trade with Russia (see Table 3). Other countries in Lithuania's top ten export markets maintain close commercial ties with Russia as well (Belarus, Ukraine). A reversal in the economic development of the euro area, i.e. the slowdown of economic growth, in particular in the markets with close links to Lithuania, cannot be ruled out. Its impact would be further amplified by a slowdown in the growth of eastbound exports. In addition to Lithuanian exports, this shock would also pose risks to the stability of the country's economic and financial systems.

Lithuania's foreign trade partners in the East and the West are facing difficulties simultaneously, which constrains the possibilities of reorienting the country's exports towards other markets. Deterioration in the financial health of the businesses engaged in tradable economic activities would accordingly affect the businesses in the non-tradable sector, which means that the role of domestic consumption – the main driver of Lithuania's recent economic growth – may weaken. As a result, domestic consumption may be insufficient to offset a fall in export volumes. On the other hand, any decrease in domestic consumption should not be substantial since the financial sector is in a good financial shape and its reserves are higher than those before the downturn. A number of international institutions and individual countries have started providing support to Ukraine, which should contain the decrease in demand in this market. The situation in Russia or other countries with close links to Lithuania should not have any major direct (i.e. other than through trade) effects. The Lithuanian financial system has a low degree of openness to these countries (i.e. the holdings of government securities or other financial assets versus the total assets), deposits from these states comprise a minor portion of the banks' liabilities and investments in their markets are not substantial, either.

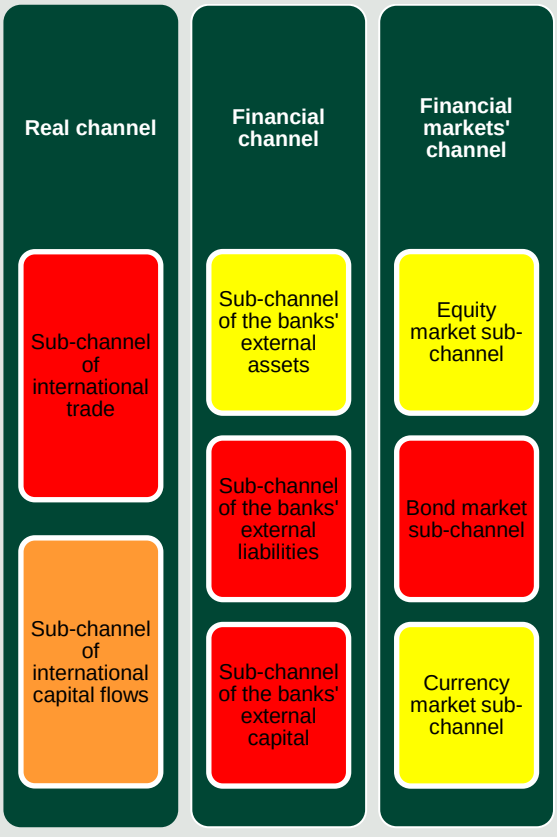
Box 4. Cross-border contagion risk: contagion channels and sources relevant for Lithuania

Cross-border contagion risk is defined as the risk that systemic developments in one country can spread to other countries through various channels, such as the **real channel, the financial channel and the financial markets channel**. The real channel of cross-border contagion works through economic linkages between different countries while the financial channel – through linkages between the countries in the international financial system. However, even if there are no economic or financial linkages, the risk of cross-border contagion may arise through the channel of financial markets due to herd behaviour of cross-border investors or panic in international financial markets.

The relevance of a particular cross-border contagion channel for a given country depends on the level of integration of its economy and financial system at the global scale. The following indicators are measured in order to identify the cross-border contagion channels relevant for Lithuania: as regards the real channel – the ratio of international trade flows to GDP and the ratio of cumulative foreign direct investment (FDI) and direct investment abroad (DIA) to GDP; as regards the financial channel – the ratio of the banks' external assets, liabilities and capital to their total assets, liabilities and capital; and, as regards the financial markets' channel – the ratio of investments by the institutional sectors in the financial instruments issued by Lithuania's residents to the financial assets of these sectors, the ratio of portfolio investment assets and liabilities to GDP, and the structure of assets and liabilities of the institutional sectors by currency.

The identification of the cross-border contagion sources, which are relevant for Lithuania, involves the assessment of the major destinations for the exports and imports of goods, FDI and DIA, as well as the countries, which are important with respect to the external assets, liabilities and capital of the banks operating in Lithuania and the portfolio investment assets and liabilities of Lithuania's residents. The key sources of cross-border contagion are divided into three categories in terms of their importance: (i) important sources, i.e. the countries, which account for more than 10 per cent of the country's exports, imports, FDI, DIA, the external assets, liabilities or capital of the banks operating in Lithuania, and the portfolio investment assets or liabilities of Lithuania's residents; (ii) relatively important sources, i.e. the countries with the respective share of between 5 and 10 per cent; and (iii) less important sources, i.e. the countries with the respective share of between 1 and 5 per cent. For the summary of the results of the analysis of the cross-border contagion channels relevant for Lithuania see Chart A, and for the results of the analysis of contagion sources see Chart B.

Chart A. Cross-border contagion channels relevant for Lithuania



Note: the red colour indicates very important channels, the orange colour – the channels of average importance, and the yellow colour – less important channels.

Chart B. Cross-border contagion sources relevant for Lithuania
(percentages)

Cross-border contagion sources	Cross-border contagion channels and sub-channels										
	Real channel				Financial channel			Financial markets' channel			
	Sub-channel of international trade		Sub-channel of international capital flows					Equity market sub-channel		Bond market sub-channel	
	Exports of goods	Imports of goods	DIA	FDI	Sub-channel of the banks' external assets	Sub-channel of the banks' external liabilities	Sub-channel of the banks' external capital	External assets	External liabilities	External assets	External liabilities
Ireland								16		2	2
Belarus	5	3	5								
Denmark	2	2	2	6	4	7	1			6	1
Estonia	8	3	14	5	3	2		11	41	1	
United Kingdom	5	2	5	2	2	1			1	2	11
USA	3	1		1	1			4	7	3	38
Cyprus			13	4					4		
Latvia	10	6	14	1	1	1	2		4	3	
Poland	7	9	11	10					4	3	
Luxembourg				2	6			53	4	4	11
Netherlands	4	5	24	9	3					10	2
Norway	2			6	9	20	18		5		
France	2	3		2	11			4		18	4
Russia	20	29	4	4		1		1	1		
Finland	1	2	1	5	9	28		3	3	1	1
Sweden	3	3		24	36	34	74	3	24	2	1
Germany	7	10	2	10	8	1		1		11	13

Source: Bank of Lithuania calculations.
Note: the countries indicated in the table are the countries, which are important or relatively important in terms of at least one sub-channel of cross-border contagion; for the equity and bond market sub-channels, the data refers to 30 June 2013, and all other data – to 31 December 2013; statistical aggregates for other MFIs are used to identify Lithuania-relevant sources of cross-border contagion through the financial channel.

The assessment of the cross-border contagion channels and sources, which are of the highest relevance for Lithuania, has shown that the key channels include the sub-channel of international trade, the bond market sub-channel and the financial channel, while the key sources of risk include the markets of Russia, certain EU countries (Estonia, Latvia, Poland, Luxembourg, the Netherlands, France and Germany), the Scandinavian countries and the US.

FINANCIAL RISKS

The largest participants of the Lithuanian financial system in terms of assets, i.e. the banks, are part of strong Scandinavian banking groups. The effects of economic situation in the Scandinavian countries and the financial health of their banking sectors spill over to the Lithuanian financial system through two channels: (i) directly, i.e. through changes in possibilities to provide financing to subsidiary banks in the necessary volume and at an acceptable price; and (ii) indirectly, i.e. through distrust in the sustainability of banks' activities in Lithuania, which might be triggered by unfavourable economic or financial developments in the Scandinavian countries. This inherent and more structural risk to the stability of Lithuania's financial system has recently been exacerbated by other concerns. The situation in the Lithuanian financial market depends on developments in the international markets, which are influenced by the protracted application of non-conventional monetary policy measures and the continued prevalence of low interest rates. These three sources of financial risks are currently of the utmost relevance for Lithuania, thus, they are discussed below.

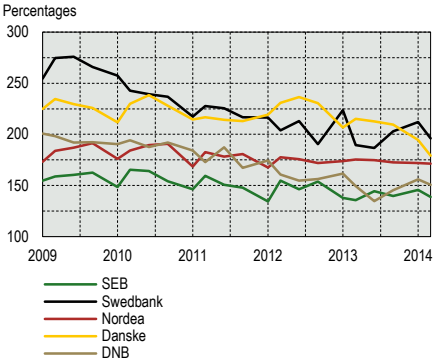
Risks stemming from the parent banks

The stability of Lithuanian banking sector depends, both directly and indirectly, on the sustainability of activities of the parent banking groups in the Scandinavian countries. Sweden has a large banking sector (with MFI assets four times larger than Sweden's GDP), and the loan-to-deposit gap, measured by the loan-to-deposit (LTD) ratio, varies from 150 to 220 per cent (see Chart 51). Banks in Sweden issue various financial instruments to bridge the existing gap in financing (see Chart 52). A substantial share of issued securities is denominated in foreign currencies and the maturities of these securities are rather short. Sweden's banks raise 70 per cent of their total short-term financing from the US money market funds, which generally pursue short-term investment strategies. Therefore, these funds may respond to any deterioration in the assessment of macroeconomic or financial system of the Scandinavian countries with a relatively quick withdrawal of capital from these markets, which are currently regarded as safe havens. The direct effects on bank activities in Lithuania could materialise through tighter or more expensive supply of credit from parent banks and, indirectly, through the sensitivity of Lithuanian depositors to negative information regarding the status of parent banks in Scandinavia and subsequent withdrawal of funds.

The macroeconomic situation of the Scandinavian countries is regarded as one of the most robust in Europe. However, the risks are still present. Lending to households has been growing continuously for many years (for example, in Sweden, by an average of 7.7% over the last five years), although their level of indebtedness is already high (see Chart 53). The level of indebtedness is particularly high amongst lower-income households, which are very sensitive to fluctuations in income, interest rates or property prices. The ratio of both new lending and total lending to collateral, or the loan-to-value ratio, amounts to approximately two-thirds; however, the bulk of housing loans granted to households are not amortised, meaning only the interest amount is paid. Hence, banks in Sweden and other Scandinavian countries are sensitive to a potential decrease in household income and real estate prices as well as to an increase in interest rates. If any (or several) of these risks materialised, some debtors would most probably fail to meet their obligations, which would trigger losses for the banking sector and would make investors more cautious about the Scandinavian financial sector. On the other hand, the risk factor stemming from substantial household liabilities is slightly reduced by the value of the financial assets accumulated by households. At the end of 2013, the financial assets of households in Sweden amounted to SEK 9.3 trillion, while their liabilities amounted to SEK 3.3 trillion.[34] At the same time, the bulk of these assets are held in pension funds and their use in distressed circumstanc-

Chart 51. Loan-to-deposit ratio of parent banks

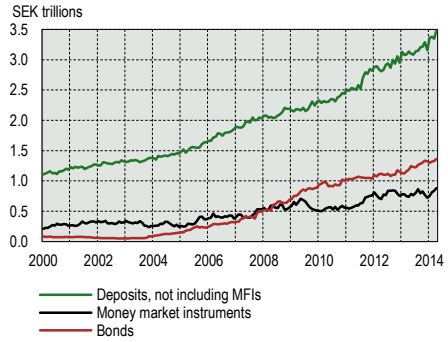
(Q1 2009–Q1 2014)



Sources: Bloomberg and Bank of Lithuania calculations.

Chart 52. Main sources of financing of Swedish banks

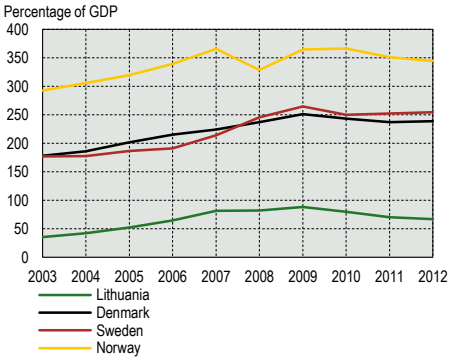
(January 2000–April 2014)



Sources: Statistics Sweden and Bank of Lithuania calculations.

Chart 53. Private sector debt in selected countries

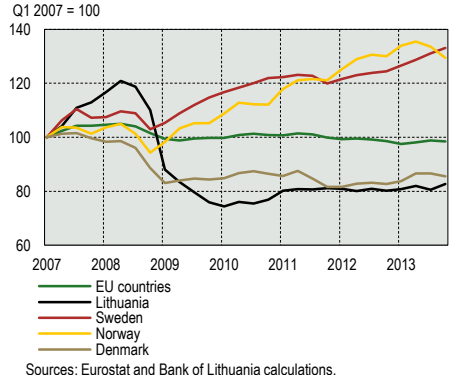
(2003–2012)



Sources: Eurostat and Bank of Lithuania calculations.

Chart 54. House price indices in selected countries

(Q1 2007–Q4 2013)

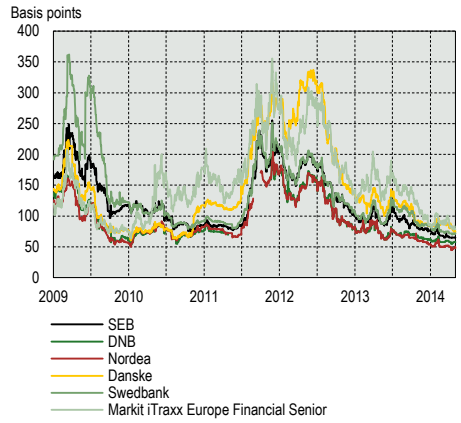


Sources: Eurostat and Bank of Lithuania calculations.

[34] The total financial assets or liabilities of households, as well as the net value of financial assets (as a risk-reducing factor) should be interpreted with caution, since a household, which has financial liabilities (e.g. a bank loan) does not necessarily have financial assets (e.g. a deposit with a bank).

Chart 55. 5-year CDS for unsecured debt of Scandinavian banks

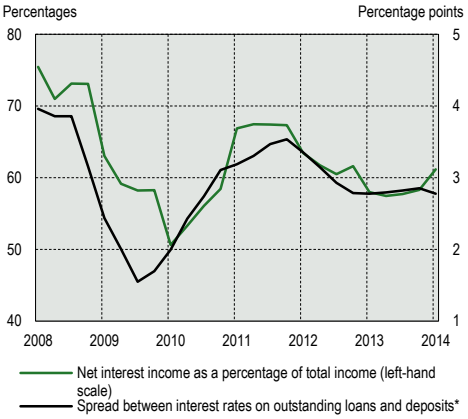
(1 January 2009–1 May 2014)



Sources: Bloomberg and Bank of Lithuania calculations.

Chart 56. Net interest income of the banking sector and interest rate spreads

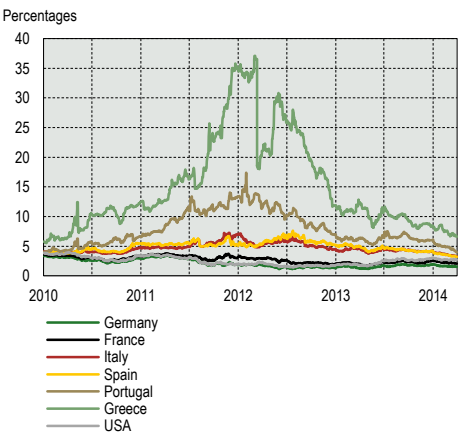
(Q1 2008–Q1 2014)



Source: Bank of Lithuania calculations.
* End-of-quarter interest rates.

Chart 57. Yield on 10-year sovereign debt in selected countries

(1 January 2010–1 May 2014)



Sources: FRED, Bloomberg and Bank of Lithuania calculations.

es would be limited.

The European Systemic Risk Board considers that real estate prices in Sweden are overvalued (see Chart 54). As observed by Sweden's Financial Supervisory Authority (*Finansinspektionen*), a fall in real estate prices in the country, coupled with an increase in interest rates and a decrease in household consumption may tip the economy into recession. With the level of indebtedness being this high, it would undermine the health of the banks, while the abovementioned negative factors would further reinforce one another.

The measures, which have already been put in place, mitigate the risks stemming from potential imbalances in the Scandinavian market. First of all, the central bank is expected to take all possible measures to manage the risks if the banking sector in Sweden faced any operating challenges. Second, the central banks of the Scandinavian countries, acting upon their own initiative, have already started raising additional capital requirements for banks. Third, potential risks pertaining to the real estate market and lending to households have prompted supervisory authorities to initiate the increasing of the weight of risk-weighted assets (housing loans) in the assessment of the banks' capital requirements related to the provision of such loans. Moreover, certain countries have set the maximum possible loan-to-value ratio and introduced other macro-prudential policy instruments. Finally, the cost of hedging against default, or credit default swaps (CDS), which is lower than the respective cost for the European financial institutions, shows that the approach towards Scandinavian banks in the market is favourable (see Chart 55). This reduces the direct risks to the Lithuanian banking sector (i.e. the probability of not receiving the necessary financing at an acceptable price); however, the indirect risks continue to exist, supported by the high sensitivity displayed by the depositors in Lithuania in respect of negative information about the challenges encountered by parent banks.

Prolonged low interest rate environment

The environment of low interest rates has a profound effect on the income of the banking sector in Lithuania (see Chart 56). The decrease in interest income is further exacerbated by the contraction of the interest income base, which is attributable to the bank loan portfolio that has been shrinking in the past few years, with occasional periods of minor increases. Income-earning possibilities related to other bank assets are limited by the growth in the number of overnight deposits, as a result of which the banks are forced to hold a larger buffer of liquid and relatively low-yield assets. The growth of overnight deposit book is mainly driven by low interest rates on time deposits, which are being replaced with overnight deposits.

Low interest rates also put downward pressure on the profit ratios of insurance corporations and the yields of pension funds. In 2013, holdings of securities (other than shares) and investment fund shares (units) comprised 91 per cent of the financial assets of Lithuania's pension funds and insurance corporations (see Chart 44). The bulk of the funds collected by these financial market participants must be invested in safe assets, which have seen their returns plunge in the context of low interest rates. If the returns persist at such low levels over a longer time horizon, some life assurance corporations may encounter difficulties in meeting their long-term financial liabilities. In 2013, investments by insurance corporations in shares and other variable-yield securities increased by 14 per cent (to LTL 105.6 million) and accounted for 6.6 per cent of the total investments, which shows that the insurance corporations have started seeking out higher-return, albeit riskier, investment opportunities. On the other hand, this risk is partly mitigated by a high solvency margin of 2.6 (the solvency margin requirements are met where the solvency ratio is higher than 1) and the adequate coverage of insurance technical reserves with assets.

The investors seeking out the returns that would meet their requirements are forced to reconsider their investment strategies and to divert a major portion of investments into higher-return, but riskier, instruments. With the return on low-risk assets being very low (the yields of

long-term securities are historically low; see Chart 57), the investors are forced to divert their assets towards riskier exposures, e.g. to the stock markets. This process is known as a 'search for yield'. This search for yield in the context of low interest rates available for safe assets may trigger a build-up of riskier asset-price bubbles since the growth of prices is not justified by any fundamental factors or the risks undertaken. In fact, the environment of low interest rates also makes it difficult for the banks in Lithuania to obtain a higher return on capital. Although the Scandinavian banking groups moved to strengthen the capital of their Lithuanian subsidiaries once they ran into losses, they may decide to redistribute their funds in order to improve operating efficiency and maximise the return to shareholders, which would probably lead to the withdrawal of capital.

The trends of economic stimulus policies implemented by the central banks of the major powers may diverge in the near future. In March 2014, the Federal Reserve System updated its benchmark interest rate projections and revised the expected rate at the end of 2015 to 1 per cent from 0.75 per cent. On the other hand, low inflation, which is projected to remain subdued next year (see Chart 58), has already prompted both the ECB and the *Riksbank* to hint at further economic stimulus through low interest rates (see Chart 59) and possible introduction of additional non-conventional monetary policy measures.

A substantial decrease in the loan portfolio credit risk partly offsets the risks posed by economic stimulus measures. Firstly, low interest rates pose challenges to efforts made by the financial sector towards generating sufficient returns and, secondly, a rise in interest rates would most probably trigger an increase in credit risk in Lithuania since the majority (approx. 70 per cent) of new loans issued to households in the country carry the interest rates fixed for a period of less than one year. Low interest rates, coupled with improvements in the financial health of the private sector, strengthen the ability of a bank's debtors to pay back their debts, hence some of the loans, which in previous periods were categorised as non-performing or were written off and which have been provisioned, may be reclassified by the banks as performing. Moreover, the prospects of growth in the loan portfolio are optimistic: the results of bank lending surveys suggest that the banks expect the loan portfolio to grow by 3.4 per cent in 2014. This should also help the banks increase their interest income.

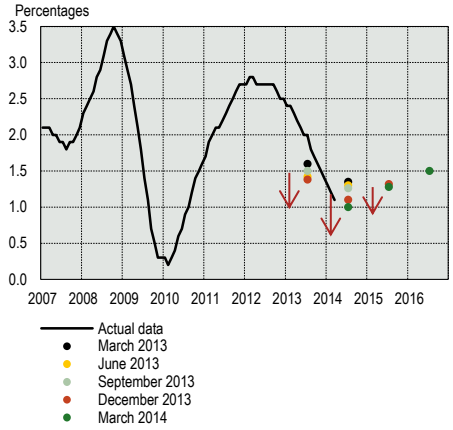
Snapback in risk premia

Having exhausted conventional monetary policy measures[35] to stimulate the economy, the world's major central banks turned to non-conventional monetary policy measures (see Chart 60), which led to a substantial decrease in risk premia charged on riskier assets (see Chart 61). When this stimulus ends, the perception of financial risks should go back to its long-term average levels. Risk premia charged on longer-term and substantially riskier assets will increase while the prices of assets will fall since the investors will opt for safer investment choices, which will meet their financial return requirements. Expectations play a major role in risk assessment hence it is probable that the process of reassessment of risk premia will be sudden and chaotic. Market participants would be unable to adapt to a sudden shift in risk assessment and would suffer a double effect as the cost of financing for high-risk borrowers would increase (and some of them would lose access to financing altogether) while the borrowers, which mark-to-market such assets in their balance sheets, would sustain losses.

Changes in market participants' expectations regarding the monetary policy implemented by the world's major central banks or increased risk aversion due to geopolitical tensions may act as a catalyst for the reassessment of risk premia. Non-conventional monetary policy measures had a profound effect on a wide range of interest rates and drove down the risk

Chart 58. Euro-area annual inflation rates and forecasts

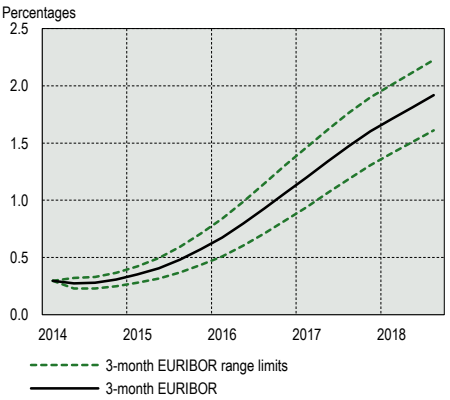
(Q1 2007–Q1 2013; forecasts for 2013–2016)



Sources: Eurostat and ECB forecasts.

Chart 59. Range of interest rates on 3-month EURIBOR futures

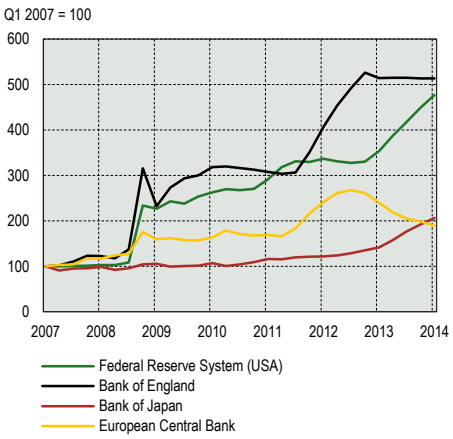
(Q1 2014; forecasts for Q2 2014–Q4 2018)



Sources: Bloomberg and Bank of Lithuania calculations.

Chart 60. Developments in the assets of major central banks

(Q1 2007–Q1 2014)

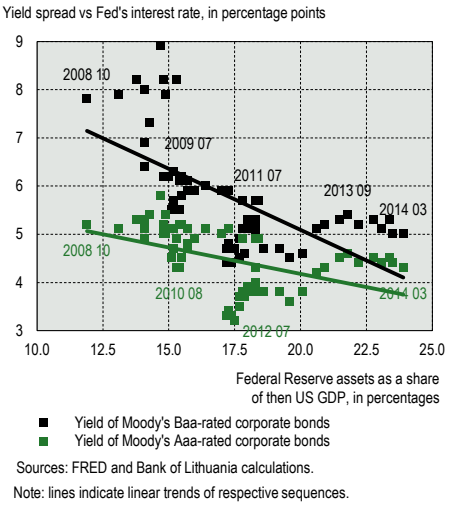


Sources: FRED and Bank of Lithuania calculations.

[35] In usual cases, short-term nominal interest rates cannot be less than zero since the economic entities can always choose to hold their money in cash. The setting of interest rates below zero is an example of non-conventional monetary policy measures.

Chart 61. The effects of QE in the US on the borrowing costs of non-financial corporations

(October 2008–March 2014)

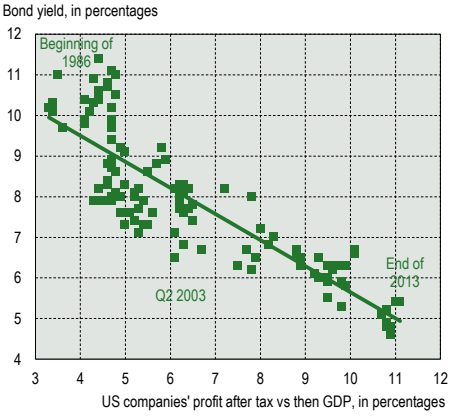


Sources: FRED and Bank of Lithuania calculations.

Note: lines indicate linear trends of respective sequences.

Chart 62. Correlation between profitability and bond yields of Moody's Baa-rated corporations

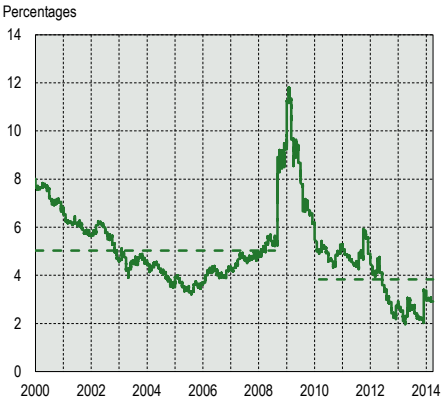
(Q1 1986–Q4 2013)



Sources: FRED and Bank of Lithuania calculations.

Chart 63. Yields on long-term euro-denominated government securities of the Republic of Lithuania

(10 February 2000–1 May 2014)



Sources: Bloomberg and Bank of Lithuania calculations.

Note: dashed lines indicate average values in a respective period.

premia charged on riskier assets (see Chart 3). Moreover, as the world is still trying to overcome the aftermath of the global financial crisis, the investors are highly sensitive to pessimistic news; therefore, they may reset their expectations quickly. Capital outflow from emerging markets may trigger herd behaviour in the financial markets, which would further exacerbate the adverse effects of risk premia reassessment. Since December 2013, the Federal Reserve System has been gradually tapering the quantity of assets bought under its large-scale asset purchase programme,[36] while the ECB this year has repeatedly hinted at a possibility of QE in Europe. Although the non-conventional monetary policy measures are applied by the central banks in a transparent manner and are notified, their actions or messages sent to the market are still likely to be interpreted in a wrong way. This probability is further supported by the fact that the long-term consequences of such measures are highly uncertain due to limited experience of their practical application.

A snapback in risk premia would weaken corporate profitability and lead to changes in the assessment of their stocks. There are signs that lower borrowing costs resulting from the application of non-conventional monetary policy measures have made a significant contribution to profitability, which has recently been achieved by non-financial corporations (see Chart 62). A rise in borrowing costs triggered by a snapback in risk premia would undermine corporate profitability hence the stock prices should enter the correction mode from their current record high levels. The proportion of such assets in investors' portfolios is growing now; it can therefore be concluded that the investors would also suffer losses if the abovementioned risk materialised.

The largest effects from a sharp repricing of risk premia on the Lithuanian financial system would be indirect, i.e. through links with other countries worldwide. Assets, which change in value reflecting the developments in the market, comprise a minor portion of the total assets of the Lithuanian banks (10% of assets), therefore, the effects of this risk would first of all spill over through the nexus of these banks and the Scandinavian financial sectors, which are dependent on market borrowing conditions. Money raised by the Swedish banks in the market, mostly in foreign currencies, comprise around a half of their lending. The above described risk stemming from the activities of parent banks would materialise if the reassessment of risk premia compromised access to financing for the Scandinavian banks. Other major participants of the Lithuanian financial market, such as pension funds or insurance corporations, keep the bulk of their assets (for which a secondary market exists) until maturity (they are not traded much); therefore, any volatility in their value is not likely to have any major effects on these participants, either.

The direct effects from the reassessment of risk premia on Lithuania would be less pronounced than the indirect ones, but they would manifest themselves through borrowing costs. Although the companies and banks in Lithuania barely tap the market for funds, a scaling back of non-conventional monetary policy measures would trigger a rise in interest rates for the private and public sectors. Moreover, a sudden repricing of risk premia may affect the yields of Lithuania's debt securities. Recently, they have been lower than before the 2008 financial crisis (see Chart 63), although Lithuania's sovereign risk, as rated by the rating agencies, is now higher than in 2006–2007. Therefore, there is reason to believe that the sovereign borrowing costs as well as the borrowing costs for the Lithuanian private sector would increase if that risk materialised. This would entail an increase in the default risk of corporations and households and a decrease in market prices for the debt securities held by the domestic financial institutions. In other words, the financial institutions could once again suffer losses due to a sudden reassessment of risk premia.

[36] In line with the tentative schedule for the exit from non-conventional monetary policies, the large-scale asset purchases in the US will be ended by the close of 2014.

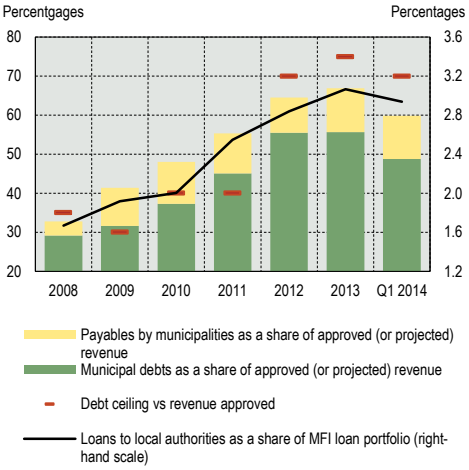
CHALLENGES TO THE FINANCIAL SYSTEM

Deterioration in the financial health of municipal authorities

Unsustainable levels of local government debt, which were identified in the Financial Stability Review 2013, continued to be a concern. Although the municipalities were inclined to finance the bulk of their debt with bank loans, they accounted for a minor share of the total portfolio of loans issued by the banks to residents. In 2013, that share edged up by 0.3 p. p. before easing by 0.2 p. p. in Q1 2014 to 2.9 per cent, or LTL 1.7 billion, at the end of March (see Chart 64). Doubts about the sustainability of local government debt were fuelled by a gradual increase in overdue payables[37] for the procurement of services, supplies and works. On the one hand, municipalities account for a small proportion of the total loan portfolio of the banking sector; therefore, any deterioration in their financial health would have minor direct effects on the country's financial stability. On the other hand, the growth of debts to banks is accompanied by the growth in the backlog of payments. Solvency troubles in one or several municipalities may put pressure on the central government finances or affect the sovereign risk assessment.

Chart 64. Municipalities' debt and borrowing caps

(2008–2013 and Q1 2014)

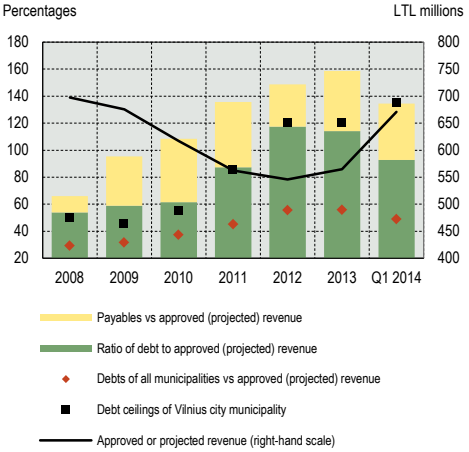


Sources: Ministry of Finance and Bank of Lithuania calculations.
Notes: April 2014 data and revenue forecast for 2014 ; the debt ceiling does not apply to overdue payables.

The Law of the Republic of Lithuania on the Approval of Financial Indicators of the State Budget and Municipal Budgets of 2014 has obliged the local authorities to reduce overdue debts by at least one-tenth over the year.[38] On the other hand, the mechanism for enforcing this provision has not been supported by any clear-cut criteria, which raises doubts about the efficiency of enforcement and monitoring. In Q1 2014, the municipal debt decreased by 4.2 per cent (as opposed to the increase of 6.4 per cent in 2013), largely due to seasonal factors. The ratio of municipalities' debt to the revenue approved[39] decreased despite growth in their debt levels (see Chart 65), which was the result of an increase in municipalities' financing related to the transfer of additional social welfare functions. In fact, improved compliance with the debt caps set for municipalities is not related to changes in their actual financial situation as it comes, to a larger extent, from the redistribution of public services functions.

Chart 65. Vilnius municipality's debt

(2008–2013 and Q1 2014)



Sources: Ministry of Finance and Bank of Lithuania calculations.

Notes: April 2014 data and revenue forecast for 2014; in line with a legislative amendment passed by the Seimas, the 2014 debt ceiling of the municipality of Vilnius includes overdue payables.

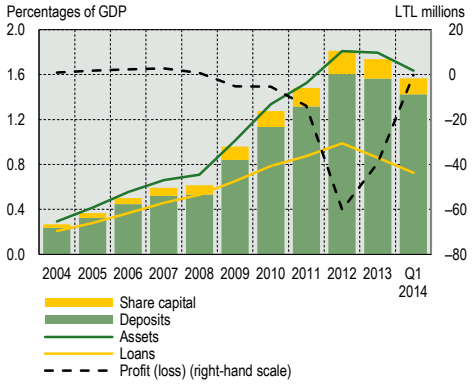
The amount of payables overdue by the municipalities continued to grow. In Q1 2014, this trend of decrease in the debt of local government authorities to credit institutions was interrupted with a fast growth of overdue payables for the procurement of services, supplies and works. These amounts increased by 8.2 per cent in that period, as compared to the increase of 31.2 per cent recorded in full 2013 (mostly on account of the local authority of Vilnius). Moreover, local government authorities delay payments to non-financial corporations (some of which are likely to be owned by the municipalities). Therefore, a reduction in debt repayment capacity of municipalities would trigger an increase in risk profile of the entire public sector and would also undermine the financial situation of closely related corporations.

The debt-to-income ratio of the municipality of Vilnius, which accounts for the biggest chunk of the total local government debt, remains very high. At the end of Q1 2014, the debt of the municipality of Vilnius comprised as much as one-third of the total local government debt (the revenue of this municipality projected for 2014 accounts for 19% of the total revenue projected for the local government sector). The debt and overdue payables of the municipality of Vilnius comprised 134.5 per cent of the projected 2014 revenue at the end of Q1 2014, which was 0.5 p. p. below the ceiling set for the municipality as an exemption (see Chart 65).[40]

[37] For the purposes of this section, overdue payables include the amounts overdue by more than 10 days (e.g. wages) and 45 days (e.g. utility bills).
[38] By 31 December 2014, the debts overdue by the municipalities for the procurement of services, works and supplies shall be reduced by at least 10 per cent, as compared to the amount recorded on 1 January 2014, and by at least the amount specified in Appendix 6 to this law.
[39] For 2014, as compared to forecasts.
[40] The law adopted at the end of 2013 added overdue payables to the debt caps set for the municipality of the city of Vilnius, which is not the case with the ceilings established for other municipalities. This legislative amendment stipulates that as far as the municipality of Vilnius is concerned, the total amount of its debt and payables overdue by more than 10 days and 45 days shall not exceed 135 per cent of the projected budget revenue of the municipality.

Chart 66. Developments in performance indicators of credit unions

(2004–2013 and Q1 2014)



Source: Bank of Lithuania calculations.

Note: 2012 losses relate to discontinuation of operations of certain credit unions.

Unbalanced performance of credit unions

Operational difficulties identified in the credit union sector in the Financial Stability Review 2013 remained a challenge. As of 1 April 2014, Lithuania had 75 active credit unions. The assets of the credit union sector totalled LTL 2.1 billion, which accounted for 1.6 per cent of GDP (see Chart 66). In the period from 2013 to the end of Q1 2014, insolvency concerns led to the suspension of operations of four credit unions, including *Vilniaus Taupomoji Kasa*, which was the largest in the sector. As a result of these developments, the public deposit and investment insurance vehicle *VĮ Indėlių ir Investicijų Draudimas* paid more than LTL 380 million in deposit insurance claims.

The growth of assets of the credit union sector moderated in 2013 and Q1 2014, thanks to the tightened prudential requirements introduced early in 2013 and additional operational limitations applied to certain credit unions. In 2013, these assets increased by 4.3 per cent (down from the average growth of 21% in 2009–2012) to reach LTL 2.1 billion. The growth of assets of the credit unions was accompanied by changes in their structure, in particular, by a decrease in the portfolio of outstanding loans (by 8.5% per year) and a fast growth of investments in government securities (by 57% per year). Hence the share of government securities in total assets of the credit union sector increased to 34.4 per cent (up by 4.3 p. p. quarter-on-quarter), while the share of loans, which are the largest asset item, decreased to 44.4 per cent. In Q1 2014, the trends remained broadly the same. An 8 per cent decrease in the assets of the credit union sector recorded in that period was caused by a technical reason, i.e. the suspension of operations of *Vilniaus Taupomoji Kasa*, which was the largest credit union in the country, late in 2013. Despite these developments,[41] the assets of the credit union sector kept growing (by 5.5% quarter-on-quarter). In 2013, two-thirds of credit unions recorded a profit, which totalled LTL 7.7 million. However, the remaining credit unions lost a combined LTL 46.0 million (including LTL 32.4 million in the losses of *Vilniaus Taupomoji Kasa*). All in all, the credit union sector suffered LTL 39.4 million in losses in 2013. Excluding the losses incurred by the credit union *Vilniaus Taupomoji Kasa*, the losses of the entire sector would amount to LTL 7.0 million. In Q1 2014, the sector suffered a loss of LTL 0.1 million as the combined profits of LTL 7.9 million generated by 34 credit unions failed to offset the combined losses of LTL 8.0 million incurred by 41 credit unions.

A long-term solution to the problems of the credit union sector can only come from the implementation of structural changes to the regulation of the sector's activities. The problems identified in the credit union sector remain unsolved. First of all, the regulatory framework for credit unions fails to provide proper incentives for participation in the credit union activities based on the concept of cooperation and underpinned by the principle of democratic governance (one member, one vote). Second, some credit unions pay high interest rates on deposit accounts. Insured deposits comprise the bulk of credit unions' liabilities hence the depositors are not exposed to the unions' operational risks. As a result of this, and in the context of low interest rate environment, credit unions become increasingly attractive for the depositors (shareholders) who are profit-driven instead of cooperation-driven or fully committed to participate in the activities of a credit union and its management. Third, credit unions do not have a capital buffer, which would be sustainable and stable enough and sufficient to actually cover the losses. In the light of these structural challenges of the credit union sector, the Bank of Lithuania came up with a discussion paper on the strengthening of the credit union sector,[42] which was published in March 2014. It invites to discuss the existing situation and the challenges encountered in the credit union sector, as well as outlines a number of conceptual proposals on how to create a framework for a

[41] In Q1 2014, the loan portfolio of credit unions amounted to LTL 876 million, while in late 2013 it totalled LTL 880 million (not including the loan portfolio of *Vilniaus Taupomoji Kasa*). If compared to the credit unions' assets, such a portfolio totalled LTL 2 billion in Q1 2014 and LTL 9 billion at the end of 2013 (not including the data for *Vilniaus Taupomoji Kasa*).

[42] Available online at https://www.lb.lt/strengthening_of_the_credit_union_sector_discussion_paper.

sustainable build-up of capital from profit, how to achieve sustainability in the structure of credit unions' liabilities, how to create incentives for the credit unions to integrate into cooperative banks, how to ensure adequate governance in the unions, etc. (for details about these proposals see Chapter III of this review).

STRESS TESTING[43]

The Bank of Lithuania conducted a stress test on the banking sector in order to assess quantitatively the banks' resilience to identified risks. As part of the stress test, the Bank examined the entire range of risks discussed in Chapter II of this review and assessed the size of hypothetical shocks, based on the historical statistical characteristics of economic indicators. Implications for the banking sector were measured under both the exceptionally stressed conditions matching the economic shock of 2008–2009 and the scenario of a less severe but more likely shock. The banks' solvency was tested through the assessment of the effects of macroeconomic developments on their credit losses and profitability. The test covered a period of two years and involved consistent simulations of items in the banks' quarterly profit and loss accounts. The liquidity of banks was measured against one-off shocks to bank funding, occurring in a short period of time (of up to 1 month).

Solvency of banks

The main purpose of solvency testing is to measure changes in the capital adequacy ratio of the Lithuanian banking system and its constituent banks in case of unfavourable economic shocks. Economic developments were simulated under the baseline scenario and two adverse scenarios. The solvency stress test involved the banks exposed to credit risk, i.e. *AB SEB Bankas*, *AB DNB Bankas*, *AB Šiaulių Bankas*, *AB Citadele Bankas*, *Swedbank, AB* and *UAB Medicinos Bankas*. Banks' data covering the period to Q4 2013 were used in the exercise.

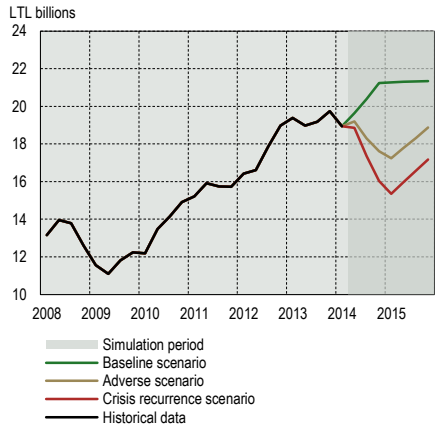
It is important to note that the results of testing cannot be treated as forecasts. On the contrary, it is the analysis of tail events and its conclusions are conditional. The results obtained shall be interpreted with caution, taking into consideration the assumptions made. Stress testing by the Bank of Lithuania is conducted on the assumption of a static balance sheet, which enables to perform more specific calculations and to exclude the developments that are difficult to predict. The assumptions behind the assessment and its methodology are described in Annex 2.

The baseline scenario was developed using the macroeconomic projections published by the Bank of Lithuania in May 2014,[44] which envisage continued moderate economic growth in 2014–2015. The results of the baseline scenario are used as a benchmark for the comparison of the results of other stress test scenarios as well as for the assessment of sustainability of banks' operations on the most likely path of economic development.

The adverse scenario is the core testing scenario, which is used to draw conclusions on the resilience of the banking system. This scenario assumes a decrease in external demand. The downturn would begin in the latter half of 2014 with the biggest drop in early 2015. Increased uncertainty over economic development would exacerbate negative expectations of the private sector. As a result, businesses would further postpone their investment plans and households would try to increase savings, which would trigger a decrease in consumption expenditure. Such developments would lead to a general slowdown in economic growth and an increase in unemployment level in 2015. A decrease in debt repayment capacity of households and businesses would lead to an increase in banks' credit losses. In addition, Lithuania would see its risk premiums go up.

Chart 67. Lithuania's quarterly real exports under different scenarios

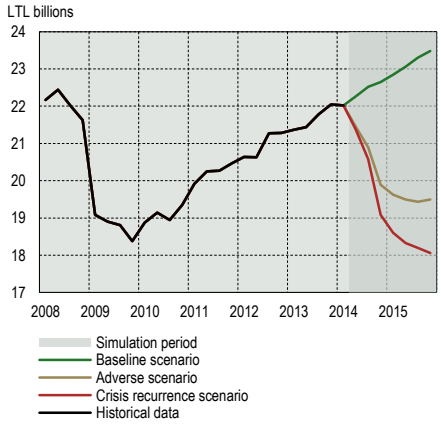
(Q1 2008–Q4 2015)



Sources: Statistics Lithuania and Bank of Lithuania calculations.

Chart 68. Lithuania's quarterly real GDP under different scenarios

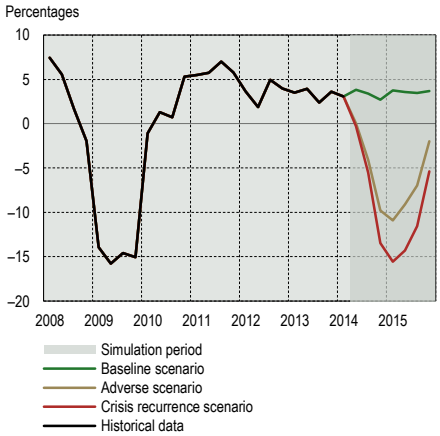
(Q1 2008–Q4 2015)



Sources: Statistics Lithuania and Bank of Lithuania calculations.

Chart 69. Annual change in Lithuania's real GDP under different scenarios

(Q1 2008–Q4 2015)



Sources: Statistics Lithuania and Bank of Lithuania calculations.

[43] Given the insufficient availability of the data required for stress testing, the test was conducted using the banks' non-consolidated data.

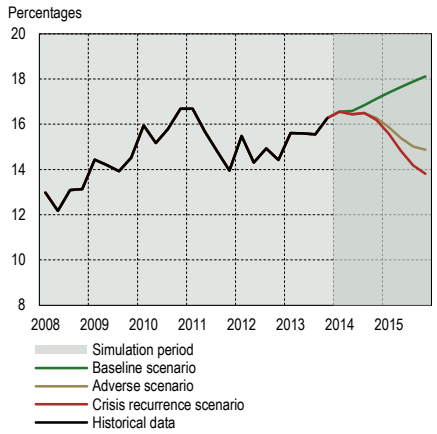
[44] Available on the website: http://www.lb.lt/lithuanian_economic_review_may_2014

Table 4. Developments in the main macroeconomic indicators under stress test scenarios
(percentages)

	Actual data	Baseline scenario[1]		Adverse scenario		Crisis recurrence scenario	
	2013	2014	2015	2014	2015	2014	2015
GDP (at constant prices, annual change)	3.3	3.3	3.6	–2.6	–7.4	–4.0	–12.0
Exports of goods and services (at constant prices, annual change)	10.3	3.9	6.1	–2.1	–3.7	–5.9	–9.8
Private consumption expenditure (at constant prices, annual change)	4.7	3.5	3.6	–3.9	–8.3	–4.6	–9.8
Unemployment rate (average annual; as a percentage of labour force)	11.8	10.4	9.2	11.8	14.9	11.9	17.3
Wages (compensation per employee, annual change)	5.0	3.6	4.3	1.0	–8.1	0.8	–11.0
Average annual inflation rate (HICP based)	1.2	0.9	1.5	0.6	–1.0	0.6	–1.5

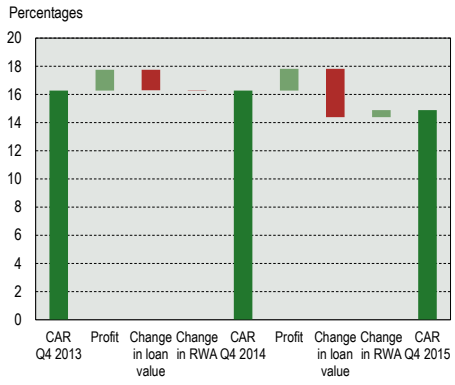
Sources: Statistics Lithuania and Bank of Lithuania calculations.

Chart 70. Capital adequacy ratio of the banking sector under different scenarios
(Q1 2008–Q4 2015)



Sources: banks' data and Bank of Lithuania calculations.

Chart 71. Contributions to the capital adequacy ratio of the banking sector under the adverse scenario
(2013–2015)



Sources: banks' data and Bank of Lithuania calculations.
Note: CAR means capital adequacy ratio; RWA means risk-weighted assets.

The scenario of the crisis recurring was worked out on the basis of the developments in macroeconomic indicators in the period from Q4 2008 to Q3 2010. The developments envisaged in the scenario are somewhat different from those observed in the recent crisis; however, the scenario echoes the essential trends of that period and the scale of shock to the economy. The probability of a shock of such a scale repeating is very low.[45] However, this scenario facilitates the comparison between the banks' current resilience and that before the financial crisis. The main macroeconomic indicators and their developments under each scenario are provided in Table 4. Charts 67–69 show the comparison of developments in Lithuania's real exports and GDP under the test scenarios.

Credit risk is the principal source of losses in the Lithuanian banking sector. In the baseline scenario, credit losses remain unchanged throughout the simulation period. In the adverse scenario, a slowdown of economic growth, a decrease in consumption and an increase in unemployment would undermine the quality of loans to households and non-financial corporations and trigger an increase in credit losses to the banks (in 2014–2015, credit losses would amount to LTL 2.0 billion). In practice, credit losses are typically recorded with a certain lag, therefore, they would peak in Q2 2015. In the crisis recurrence scenario, negative effects on the quality of loans to households and non-financial corporations would be even more pronounced and credit losses sustained by banks in the simulation period (2014–2015) would reach LTL 2.4 billion. The composition of the banks' loan portfolio has changed since Q4 2008, i.e. the onset of the recent financial crisis. In particular, the banks have reduced lending to riskier sectors. Moreover, the overall loan portfolio has decreased. As a result, credit losses, measured in absolute terms, would be lower than in the crisis period even in the context of similar macroeconomic developments (for more details see Box 5). This shows that the banks are more resilient to economic shocks.

The assessment of profitability of banking activities is a crucial element of testing, in particular as the operating profit can largely offset the losses stemming from credit and, thus, make a substantial impact on the final outcome of the simulation exercise. In the baseline scenario, operating profit would decrease by a small margin – approximately, by an average of 4.8 per cent over the testing period. This decrease in operating profit might be triggered by a prolonged low interest rate environment and increased upward pressure on operating costs.[46] In the adverse scenario, a decrease in economic activity and an increase in customer insolvencies would lead to a decline in the banks' net fee and commission income as well as in net interest income. In this scenario, the operating profit would be approximately 10.8 per cent lower than that in the baseline scenario. Finally, in the crisis recurrence scenario, the operating profit of the banking sector would be approximately 13.2 per cent lower than that in the baseline scenario.

The results of the test exercise show that the banking sector is currently well capitalised and sufficiently resilient to economic shocks. The weighted capital adequacy ratio of the Lithuanian banking sector would exceed the 8 per cent requirement established for 2014 or the 10.5 per cent benchmark[47] established for 2015 even in the context of unfavourable economic circumstances. The resilience of the banking sector mostly builds upon high capital adequacy, which amounted to 16.3 per cent in Q4 2013.[48] In the adverse scenario, the weighted average of capital adequacy ratios of the

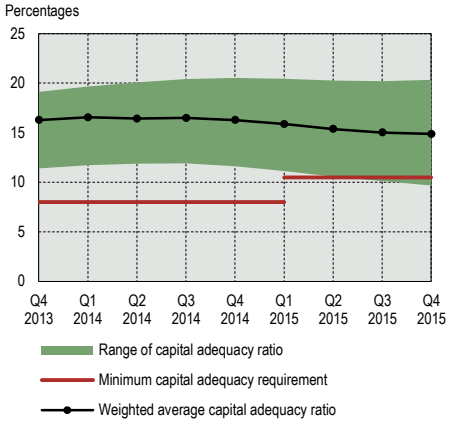
[45] In contrast to the end of 2008, Lithuania's current economic situation should be treated as balanced. In particular, credit growth is not excessive, the prices of housing do not exceed the level justified by fundamentals and the GDP has come close to its potential level (see the Lithuanian Economic Review of May 2014 published by the Bank of Lithuania).
[46] A decrease in banking income stemming from the changeover to the euro is not included. An assumed approximately 40 per cent fall in the banking fee and commission income triggered in 2015 by the adoption of the single currency would lower the 2015 operating profit of the banks sampled for the test by approximately LTL 230 million, which, in its turn, would reduce the weighted capital adequacy ratio by approximately 0.5 p. p.
[47] Under the assumption that, from 2015, the minimum capital adequacy requirement of 8 per cent would be complemented with a 2.5 per cent capital conservation buffer requirement (see chapter III 'Strengthening of the resilience of the financial system').
[48] Unconsolidated data.

banks tested might be approximately 3.2 p. p. lower than the respective average under the baseline scenario (see Chart 70). In 2014, changes in loan quality would still be covered by operating profit. Next year, however, the sector would incur losses (see Chart 71). Although the banking sector is generally resilient, two banks would breach the 10.5 per cent capital adequacy requirement at the end of the testing period, should the adverse scenario materialise (see Chart 72). For the capital adequacy ratios of these banks to meet the requirement, they should increase capital by approximately LTL 22 million, which would account for approximately 0.3 per cent of the existing capital of the banking sector. As compared to the size of the banking sector, this figure is not significant to pose any risks to the sector's stability. In addition, the banks could improve their capital adequacy position both through the increase of capital and the reduction of the exposure to the risky assets.

In the scenario of the crisis recurring, the weighted capital adequacy ratio of the banking sector would well exceed the requirement, too. This ratio of the banking sector would reach 13.8 per cent at the end of the stress test period, which is 4.3 p. p. below the respective ratio in the baseline scenario. Under the scenario of the crisis recurring, the 10.5 per cent capital adequacy requirement would be breached by two banks as well (see Charts 73 and 74). However, they would not fully exhaust the capital conservation buffer. The gap between their capital and the required volume of capital would amount to LTL 63 million (or 0.9% of the banking sector's capital). Hence the banking sector would even be able to withstand an economic shock similar in scale to the crisis of 2008–2009.

Chart 72. The range of capital adequacy ratio of the banking sector under the adverse scenario

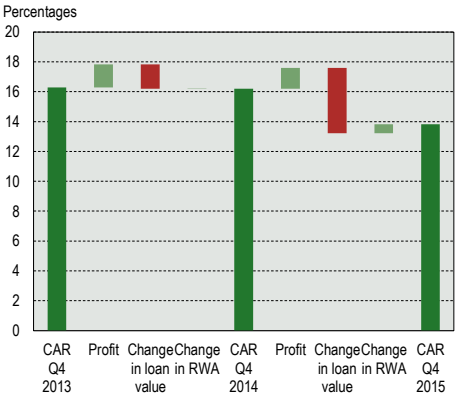
(Actual data: Q4 2013. Simulation data: Q1 2014–Q4 2015)



Sources: banks' data and Bank of Lithuania calculations.

Chart 73. Contributions to the capital adequacy ratio of the banking sector under the crisis recurrence scenario

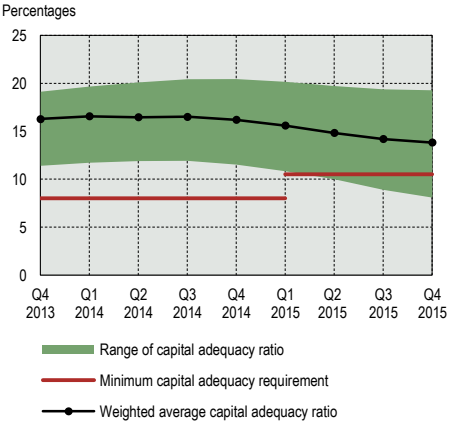
(2013–2015)



Source: commercial banks' data and Bank of Lithuania calculations.
Note: CAR means capital adequacy ratio; RWA means risk-weighted assets.

Chart 74. The range of capital adequacy ratio of the banking sector under the crisis recurrence scenario

(Actual data: Q4 2013. Simulation data: Q1 2014–Q4 2015)



Sources: banks' data and Bank of Lithuania calculations.

Box 5. Loan portfolio risk indices

Loan portfolio risk indices (hereinafter referred to as PRI) are intended to gauge changes in credit risk arising from developments in the composition of the banks' loan portfolio and its size. They facilitate understanding of the stress test results relating to the bank's credit risk. The loan portfolio is divided into seven buckets (loans to households for house purchase, for consumption and other purposes, loans to non-financial corporations by economic activity). The indices cover the period from 2008.[1]

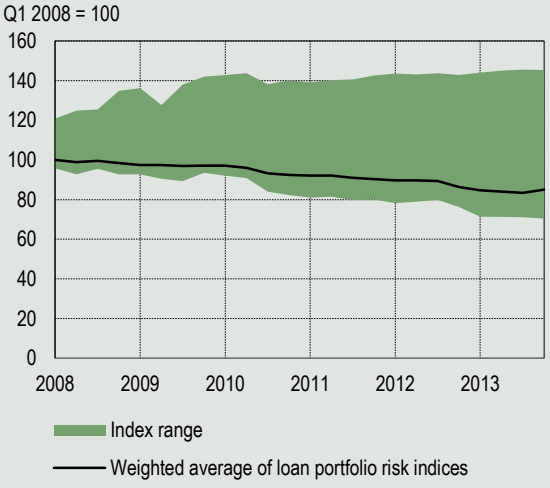
Methodology of the calculation of portfolio risk indices

The indices are calculated on a quarterly basis for each bank and for the entire group of tested banks. Calculations are based on loan write-off data obtained from the Loan Risk Database, as well as the gross value of credit portfolio derived from the information provided by the banks within the framework of a credit risk stress test.[2] All debtors within a single credit portfolio bucket are assumed to have the same level of risk. PRM_1 is intended to analyse the developments in loan portfolio riskiness triggered by changes in the credit portfolio composition, while PRI_2 facilitates the analysis of the portfolio's riskiness in the light of both changes in its composition and its size.

The first step of PRI calculations involves the assessment of riskiness of the credit portfolio's buckets in the period under review. This level of risk is expressed as a ratio between the amount of write-offs in a particular credit portfolio bucket throughout the period and the average gross value of that portfolio bucket. PRI_1 is equal to the weighted average of these estimated levels of risk. The weights are the proportions of credit portfolio buckets in the total credit portfolio of a specific bank in the quarter under review. The measure obtained is standardised, i.e. divided by the PRI_1 value of the market portfolio for Q1 2008. PRI_2 is obtained by multiplying PRI_1 by the gross value of credit portfolio of a specific bank. The measure obtained is standardised relative to the PRI_2 value of a specific bank for Q1 2008.

Chart A. Weighted average of banks' loan portfolio risk indices (PRI_1)

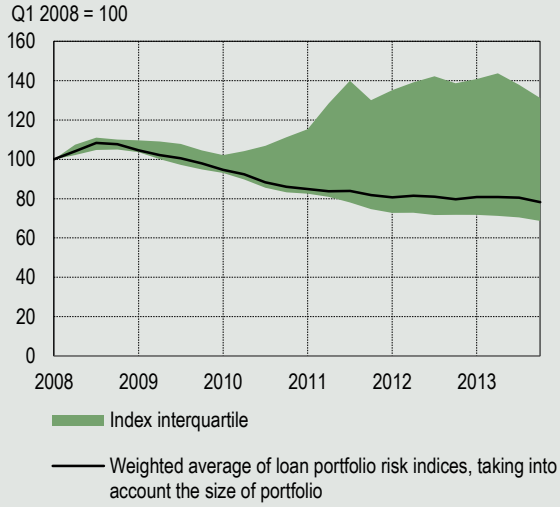
(Q1 2008–Q4 2013)



Sources: banks' data and Bank of Lithuania calculations.

Chart B. Weighted average of banks' loan portfolio risk indices, taking into account the size of portfolio (PRI_2)

(Q1 2008–Q4 2013)



Sources: banks' data and Bank of Lithuania calculations.

Calculation results

PRI_1 is used for the comparison of riskiness of different loan portfolio compositions. As shown in Chart A, the range of the riskiness index widened in the period under review, which implies that the banks applied different strategies to build their credit portfolios and in some banks, the weights of credit portfolio buckets shifted towards higher-risk sectors, while in other banks, towards lower-risk buckets. It can also be observed that the general level of risk of the portfolio composition decreased consistently from the beginning of 2008, which means that the banks, which saw the ratios of exposures in high-risk buckets of their credit portfolios decrease, made a bigger impact on the total credit portfolio of the banks reviewed. The average measure of the banks' riskiness (PRI_1) decreased by approximately 15 per cent in the period under review. Consequently, the credit losses of the banks in the hypothetical scenario of the 2008–2009 crisis recurring may now be expected to be approximately 15 per cent lower on the sole account of this redistribution in the composition of credit portfolio. PRI_2 is intended to analyse a portfolio's level of risk while also taking into account the changes in the size of a bank's credit portfolio. Chart B shows that the most recent value of the measure established thereupon is approximately 22 per cent below the value recorded early in 2008.

[1] Calculations of these measures include the banks sampled for the solvency stress test, i.e. *AB SEB Bankas*, *AB DNB Bankas*, *AB Šiaulių Bankas*, *AB Citadele Bankas*, *Swedbank AB* and *UAB Medicinos Bankas*.
[2] All data about the write-offs and the credit portfolio buckets available at the time of calculations is included.

Liquidity of banks

The Bank of Lithuania performed a stress test of liquidity risk in order to measure the resilience of domestic banks to unfavourable short-term liquidity shocks, i.e. to a sudden and sizeable decrease in financial resources available to banks. The test was applied to all Lithuania-based banks and foreign bank branches, which rely on deposits as sources of funds, i.e. *AB DNB Bankas*, *AB SEB Bankas*, *AB Šiaulių Bankas, UAB Medicinos Bankas, AB Citadele Bankas, Swedbank AB, Danske Bank A/S* Lithuania branch and *Nordea Bank Finland Plc* Lithuania branch. The test was based on banks' data as of Q1 2014.

Testing results were obtained from a sensitivity test, i.e. through the assessment of shock-induced changes in the assets and liabilities of each bank and the calculation of indicators reflecting the banks' liquidity status, i.e. a liquidity ratio and an adjusted liquidity ratio. The liquidity ratio is used to compare the banks' liquidity against the requirement. It is a ratio between a bank's liquid assets and current liabilities, which are defined by the resolution of the Board of the Bank of Lithuania.[49] This resolution stipulates that the ratio of a bank's liquid assets and current liabilities may not be lower than 30 per cent. For testing purposes, the Bank of Lithuania also applied the adjusted liquidity ratio, which is intended to measure the banks' liquidity status in severe stress. In such circumstances, the banks would experience difficulties using less liquid assets and the flows of receivables may be disrupted in the period under review (1 month), therefore, the liquid assets are taken to exclude certain types of assets that are included in calculations of the common liquidity ratio (e.g. loans and leasing to residents are excluded), and the current liabilities are taken to include more asset types (e.g. all time deposits are included).

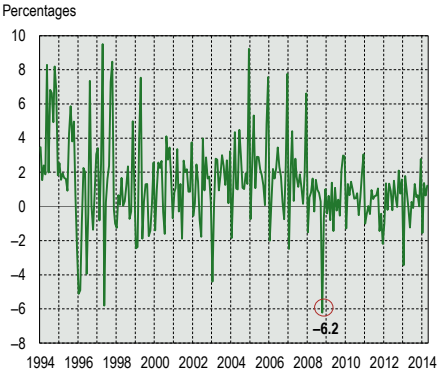
Problems with funding encountered by parent banks may have implicit effects on the Lithuanian banking sector, if they undermine depositors' trust in Scandinavian-owned banks and in sustainability of operations of Lithuania-based banks in general. As an illustration, in October 2008, uncertainty in the global financial markets triggered doubts about financial health of certain Swedish banks operating in the Baltic countries. As a result, the amount of customer deposits held with banks in Lithuania fell by 6.2 per cent in the course of a month (see Chart 75), which was the largest system-wide fall in deposits from 1994 (although deposit fluctuations at certain banks might have been even more pronounced,[50] see Chart 76). The scenarios analysed assume deposit falls of 10, 15 or 25 per cent in each bank.

The banks were assumed to use their liquid assets to offset a decrease in financing. If the banks had, where necessary, to fire-sell some of their liquid assets, they would incur losses. The value of the most liquid assets, such as cash and cash balances with the central bank, banks and other credit institutions of the EU and higher-rated countries, would remain unchanged, foreign sovereign securities would be sold at a 10 per cent discount to the market price, and the government securities of the Republic of Lithuania – at a 35 per cent discount thereto. These haircut estimates are sufficiently conservative.[51] Moreover, the banks were assumed to have no possibilities to raise other financial resources to offset a decrease in assets triggered by a liquidity shock. In addition, potential measures, which might be taken by the central bank and public authorities to improve the liquidity status of the country's banks, were not taken into consideration.

The results of testing show that the banking sector has a sufficient buffer of liquid assets to withstand a sudden short-term decrease in de-

Chart 75. Monthly change in deposits

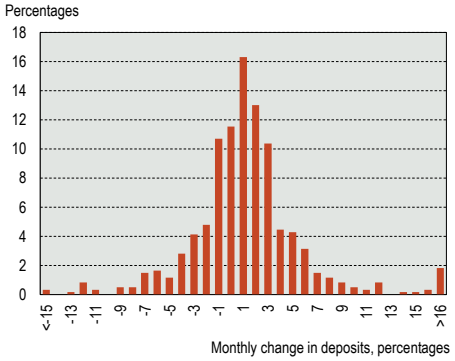
(January 1994–March 2014)



Source: Bank of Lithuania calculations.

Chart 76. Frequency of monthly changes in deposits in the banks subject to liquidity stress tests

(November 2008–March 2014)



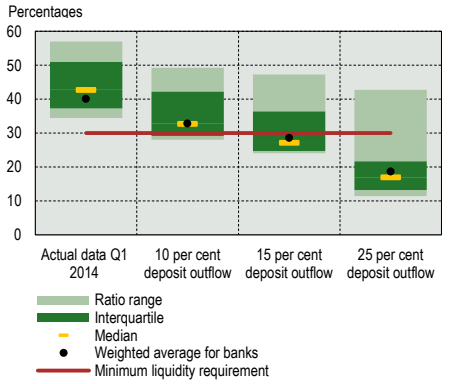
Source: Bank of Lithuania calculations.

[49] See footnote 11.

[50] For example, in a period from 1 November 2008, when the deposit insurance conditions were amended (the amount of an insured deposit was increased substantially as the conditions were amended to establish full compensation for a deposit of up to EUR 100 000), a monthly fall in deposits in one bank exceeded 15 per cent in two months.

[51] For example, the ECB, when providing liquidity loans and accepting government securities as collateral, applies the haircuts of between 0.5 and 7.0 per cent to higher-rated government securities (depending on their residual maturity) and the haircuts of between 6.0 and 16.0 per cent to lower-rated government securities. Debt securities issued by non-financial corporations and credit institutions (not including shares) are subject to haircuts of 1.0–22.5 per cent (higher-rated) or 7.0–44.0 per cent (lower rated).

Chart 77. The range of liquidity ratio of the banking sector under different scenarios
(Q1 2014)



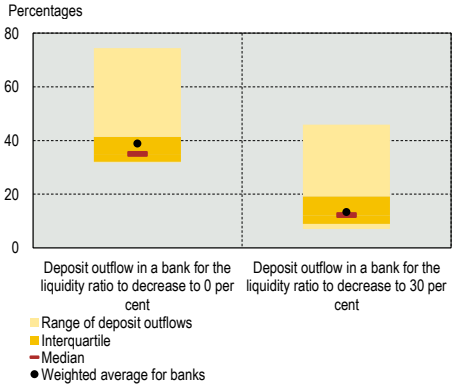
Source: Bank of Lithuania calculations.

Table 5. Banks' liquidity ratios under different scenarios
(percentages)

	Liquidity ratio	Adjusted liquidity ratio
Actual ratio at the end of Q1 2014	**40.1**	**35.4**
Scenarios:		
10 per cent deposit outflow	32.8	28.5
15 per cent deposit outflow	28.5	24.4
25 per cent deposit outflow	18.6	15.4

Source: Bank of Lithuania calculations.

Chart 78. Range of deposit outflow measured through reverse liquidity risk testing
(Q1 2014)



Source: Bank of Lithuania calculations.

Table 6. Deposit decrease measured through reverse liquidity risk testing

	Change in deposits
For the liquidity ratio to remain above 30 per cent	–13.3
For the liquidity ratio to remain above 0 per cent	–38.8
For the adjusted liquidity ratio to remain above 0 per cent	–38.0

Source: Bank of Lithuania calculations.

posits. However, the liquidity of banks is not homogeneous. If the amount of deposits with certain banks fell by 10 per cent, the average liquidity ratio would reach 32.8 per cent and three banks would marginally breach the liquidity requirement (see Chart 77 and Table 5). Even if the decrease in deposits were substantial (of 25%), neither of the banks would fully exhaust its liquid assets (the weighted average ratio would decrease to 18.6 per cent, and the adjusted weighed liquidity ratio – to 15.4%), and one bank would continue to meet the liquidity requirement.

The results of reverse liquidity risk testing show that the banking system would have sufficient liquid funds to withstand a decrease of deposits of up to 38.8 per cent. For some banks to fully exhaust their buffer of liquid assets, their customer deposits would have to shrink by between 31.9 per cent and 74.4 per cent (see Chart 78 and Table 6). If the amount of deposits in the entire banking industry suddenly fell by 13.3 per cent, the average liquidity ratio of the sector would still meet the 30 per cent criteria.

III. STRENGTHENING OF THE RESILIENCE OF THE FINANCIAL SYSTEM

MEMBERSHIP IN EURO AREA AND BANKING UNION

Lithuania seeks to become a member of the euro area and, simultaneously, part of the Banking Union in 2015. The creation of the Banking Union is an important strategic move, which will consolidate the European Economic and Monetary Union and help avoid future bank bail-outs. The Bank of Lithuania discussed this matter in its Financial Stability Review 2013. However, the years 2013 and 2014 saw the adoption of a number of significant agreements on the key pillars of the Banking Union, i.e. (i) the Single Supervisory Mechanism of European banks, within which the ECB will be endowed with the final supervisory authority over the EU's largest banks; (ii) cross-border harmonisation of bank resolution rules (Bank Recovery and Resolution Directive); and (iii) the Single Resolution Mechanism for troubled banks, which will provide a framework for centralised decision-making on the resolution of systemically important or cross-border banks tapping, where necessary, the single resolution fund. This section of the review addresses the implications of key changes in the financial sector's regulation for the stability of Lithuania's financial system after the country's accession to the euro area.

Single Supervisory Mechanism

In November 2014, the ECB will take over as supervisor of the euro area's largest banks and at least the three most significant banks in each euro area member country. The aim of centralised supervision is to ensure the application of uniform supervisory requirements across countries and to improve market confidence in the banking sector of the euro area. Moreover, measures to reinforce the supervisory mechanism and enhance transparency will help reduce the probability of bank failures stemming from interconnectedness between public finances and will enable timely and effective response to mitigate the emerging risks.

If Lithuania joins the euro area on 1 January 2015, the ECB will take over direct supervision of *AB SEB Bankas*, *Swedbank AB* and *AB DNB Bankas*. Other financial institutions will remain under supervision of the Bank of Lithuania. However, the ECB will also have the power to take over direct supervision of any of those banks, where necessary. The banks placed under the supervision of the ECB will be subject to an asset quality review and a stress test. All these measures taken together will help enhance transparency, improve confidence in the continuity of bank operations and the stability of the Lithuanian financial system. Supervision of the above-mentioned banks by the Bank of Lithuania entails close cooperation with the supervisory authorities of parent banks. The takeover of supervision by the ECB should facilitate this cooperation in particular as the ECB will act as a supervisor of Lithuania's banks in talks with the supervisory authorities of banking groups and the supervision of lenders will be exercised under uniform standards. Early in 2014, Lithuania launched preparations for participation in the Single Supervisory Mechanism.

Single Resolution Mechanism

Lithuania's accession to the euro area will both reinforce banking supervision and facilitate resolution of troubled banks. Each lender will have to work out a recovery plan, which shall be updated each year and shall set out measures to ensure the continuity of its operations in the event of unfavourable shocks in the market. At the same time, the resolution authorities, which must be established – both national (i.e. the Resolution Authority) and single (i.e. the Single Resolution Mechanism), will draw up bank resolution plans, which will have to be implemented if the recovery plan worked out by a bank fails to restore its operations to a credible level. Better advance preparations and the built-up pool of resources will help achieve a more effective reso-

lution of troubled large lenders.

An agreement on a directive, which should harmonise the minimum requirements for the resolution of banks across the EU, was reached late in 2013. The Bank Recovery and Resolution Directive (BRRD) is particularly relevant for Lithuania since foreign subsidiary banks comprise the bulk of the domestic banking system. Uniform rules will help accelerate decision-making on the resolution of individual lenders and the resolution plans set out in advance for the entire banking group (or individual banks) will both improve the efficiency of decision-making process and establish clearer arrangements for the sharing of potential costs. Unless otherwise provided in the resolution plan, the main cost-sharing criteria will include the risk-weighted assets, gross assets, as well as the amount of losses sustained and the benefits of resolution solutions for other countries. The existing Lithuanian framework for the resolution of financial institutions is efficient and effective. It also complies with many provisions of the Bank Recovery and Resolution Directive. Although the liabilities of active credit institutions cannot be written off or converted into equity now, the shareholders and uninsured creditors of an institution can cover its losses through the transfer of its assets, rights, transactions and liabilities to another financial institution. To a certain extent, *VĮ Indėlių ir Investicijų Draudimas* may act as a resolution fund and help ensure effective resolution of a distressed financial institution.

The Bank Recovery and Resolution Directive stipulates that, from 2015, each EU Member State shall appoint a national resolution authority to perform the functions and tasks in relation to the resolution of financial institutions. The main tasks ahead include the provision of information about cross-border lenders to the Single Resolution Board, which will draw up resolution plans for ECB-supervised cross-border credit institutions, as well as active contribution to the development of resolution plans by the Single Resolution Board. The national resolution authority will draw up resolution plans for smaller financial institutions (subject to CRD IV) at its own discretion, will update them regularly and will also weigh chances of successful resolution of those institutions without resorting to public financial support.

In order to ensure the resolution of failing banks through bail-in, in 2015, the Member States participating in the Banking Union will establish national resolution funds, which, starting from 2016, will be pooled into a Single Resolution Fund of EUR 55 billion within a transitional eight-year period. The general accumulation of funds is governed by the Intergovernmental Agreement on the Single Resolution Fund signed on 21 May 2014. In line with this agreement, 40 per cent of the resources accumulated in the national funds will be transferred to the Single Resolution Fund after the first year, another 20 per cent – after the second year, with the rest spread equally over the remaining six years. It means that the money required to resolve the banks' problems, if any, will first come from the national resolution fund, however, the proportion of funds received from the Single Resolution Fund will gradually increase. After the period of transition, all contributions will be paid to the Single Resolution Fund, which will bear the costs relating to the banks' resolution. Wider diversification of risks will enable the Fund to ease its financial burden and its possibility to tap the markets for funds will make it finally possible to draw a line between the need of funds for bank resolution, on the one hand, and the financing options available for the Member States, on the other hand.

When resolving a failing bank, losses will primarily have to be borne by its shareholders. If the shareholders' funds are insufficient, they will also have to be shared by other creditors. Shareholders and certain creditors will have to bear the losses equal to at least 8 per cent of the total liabilities before access to a resolution fund can be granted. Claim rights may be either written off or converted to equity so as to restore the bank's solvency. Liabilities may continue to be written down even if the bank continues as a going concern (in which case its shareholders and creditors will shoulder the losses but the bank's operations will not be disrupted). The Fund's resources

may be used to issue guarantees for the institution under resolution, to make loans, to purchase assets, to make contributions to a bridge institution, etc. In any case, the losses, which the bank's creditors may incur in its resolution, shall not exceed the losses, which they may suffer in the case of its bankruptcy. It will also be possible to use financial stabilisation measures at the national level, i.e. to purchase the bank's capital or to take over the provisional management of the bank, where necessary or where the state aid rules apply.

Access to the Eurosystem's liquidity management facilities

The adoption of the euro in Lithuania will open up new possibilities to manage liquidity for the credit institutions active in the country. Eligible credit institutions will acquire the right to participate in the Eurosystem's open market operations initiated by the ECB and to use standing facilities. They will also come under the minimum reserve requirements of the Eurosystem. For example, if Lithuania becomes a member of the euro area, the banks will be able to use their holdings of government securities of the Republic of Lithuania as collateral without any major restrictions if they need to increase their liquidity. The Bank of Lithuania will provide these monetary policy operations to the credit institutions active in Lithuania and will apply the requirements thereto, in compliance with the general rules of the Eurosystem's monetary policy instruments and procedures.

Open market operations play an important role in the monetary policy of the Eurosystem. They are used for the purposes of steering interest rates, managing the liquidity situation in the market and signalling the stance of monetary policy. With regard to their aims, regularity and procedures, the Eurosystem's open market operations can be divided into the following four categories: i) the main refinancing operations; ii) the longer-term refinancing operations; iii) fine-tuning operations; and iv) structural operations. The operations currently applied include the main refinancing operations (with a maturity of 7 days) and the longer-term refinancing operations (with a maturity of 1 or 3 months), which are intended to increase liquidity of the banking system, as well as the liquidity-absorbing fine-tuning operations (currently, in the form of 7-day time deposits with the national central banks of the Eurosystem). Credit institutions, on their own initiative, may also use two standing facilities, i.e. the marginal lending facility to obtain overnight liquidity against eligible collateral or the deposit facility to make overnight deposits with the Eurosystem. The Eurosystem requires the credit institutions active in the euro area to hold minimum reserves on accounts with the national central banks. The current reserve requirement ratio, which is applied to eligible liabilities included in a credit institution's reserve base, is 1 per cent.

NEW MACRO-PRUDENTIAL POLICY INSTRUMENTS

The Bank of Lithuania seeks to reinforce its existing powers to ensure financial stability with a new function of macro-prudential policy implementation. A respective draft amendment to the Law on the Bank of Lithuania, which was drawn up and endorsed by the Government of the Republic of Lithuania in 2013, is currently debated by the Seimas. The amendment proposes to put into law the responsibility of the Bank of Lithuania for the implementation of macro-prudential policy in Lithuania. The Bank of Lithuania would act on its own initiative or in response to the ESRB recommendations or warnings on systemic risks. It would also be able to consult the Finance Ministry of the Republic of Lithuania.

A new legislative act of the EU – the Fourth Capital Requirements Directive (CRD IV), which shall be transposed into national law – was adopted on 26 June 2013.[52] This directive governs new capital buffers, which are intended to mitigate structural risks,[53] as well as the buffers to address cy-

Table 7. Macro-prudential policy tools in Lithuania

New capital buffers	
Buffers for structural risks mitigation	**Buffers for cyclical risks mitigation**
A capital conservation buffer	A countercyclical capital buffer
A buffer for global systemically important institutions (G-SII)	
A buffer for other systemically important institutions (O-SII)	
A systemic risk buffer	
Existing macro-prudential instruments applied pursuant to the Responsible Lending Regulations	
Caps on loan-to-value (LTV) ratio	
Caps on debt-service-to-income (DSTI) ratio	

Source: Bank of Lithuania.

[52] This Directive will be transposed into Lithuanian law in the near future. For details about the Directive and its implications see the 2013 Financial Stability Review of the Bank of Lithuania.
[53] It is a dimension of explicit and implicit interrelations within a sector or between financial institutions. The Bank intends to monitor and assess concentration and balance indicators, possibilities of financial institution failures and their potential implications for systemic risks in order to reduce the risk of contagion.

clical risks[54] (see Table 7), establishes their rates and sets the deadlines for the implementation of those tools as well as a transitional period. The CRD IV allows EU Member States, where necessary, to introduce the buffers before the deadline, i.e. from the formal date of transposition of this directive into national law. In addition to new macro-prudential policy instruments provided in the CRD IV, the Bank of Lithuania has, since 2011, applied such measures as the loan-to-value (LTV) ratio and the debt-service-to-income (DSTI) ratio, as it pursues to curb excessive credit growth and excessive leverage, which is one of the main goals of macro-prudential policy.[55]

Capital buffers for the mitigation of structural risks

The capital conservation buffer is a mandatory micro-prudential policy instrument applied to banks in addition to the minimum capital adequacy ratio (8%). The aim of this buffer is to require the banks to accumulate additional capital to absorb unexpected losses. After the transitional period specified in legislation, i.e. from 2019, the capital conservation buffer will be applied to all EU banks at the same rate of 2.5 per cent of the total of risk-weighted assets of an institution. CRD IV provides for a gradual implementation of this buffer in a period from 1 January 2016 to 31 December 2018. However, supervisory authorities may also implement the buffer from the date of application of this directive or within a shorter transitional period.

In view of the option of early introduction of the capital conservation buffer, as established in the Capital Requirements Directive, and the necessity to ensure sufficient resilience of the banking sector against unfavourable developments, the capital conservation buffer is likely to be imposed on Lithuania's banks from the beginning of 2015 at the rate of 2.5 per cent. Therefore, starting from 1 January 2015, the capital adequacy ratio of 10.5 per cent will apply. If the banks are subject to other buffers or special capital adequacy ratios (e.g. under Pillar II), these ratios are applied on a cumulative basis. At present, capital adequacy indicators of Lithuanian banks are rather high. Hence, more stringent requirements should not have any major constraining effects on the activities of the banking system. The majority of other EU Member States plan to apply a shorter deadline for the introduction of capital conservation buffer as well.[56] It should be noted that the banks failing the capital conservation buffer requirement of 2.5 per cent would be subject to restrictions on discretionary distributions of profits, including dividend payments or other means of remuneration.

The global systemically important institutions (G-SII) buffer is a mandatory capital buffer applied to banks, which are considered systemically important on a global scale. It may range from 1 to 3.5 per cent and will be introduced in 2016. The rate of G-SII buffer will be established on the basis of the following criteria outlined in the CRD IV: size of the financial institution's group; interconnectedness of the group with the financial system; substitutability of the services or of the financial infrastructure provided by the group; complexity of the group; cross-border activity of the group. Based on these criteria, the G-SIIs will be divided into five sub-categories, which will each be assigned a specific buffer rate. Judging from G-SII identification criteria, the financial institutions currently active in Lithuania would not be classified among such institutions due to their small size. However, the main groups of Scandinavian banks, which pursue operations in the country, may be identified as G-SIIs.

The buffer for other systemically important institutions (O-SII) will enable competent authorities to impose an additional capital buffer requirement on domestic systemically important lenders, which are not identified as

[54] It is a dimension of time or cyclicality, which should be taken into account when comparing and monitoring different financial and economic indicators (such as the credit-to-GDP ratio, the leverage ratios of the financial, corporate and household sectors, asset prices), which may help assess emerging systemic risks.
[55] In one of its recommendations (Recommendation No ESRB/2013/1 of the European Systemic Risk Board of 4 April 2013 on intermediate objectives and instruments of macro-prudential policy), the ESRB outlines intermediate objectives of macro-prudential policy, which the countries will have to establish in their macro-prudential policy strategy. For a detailed description of intermediate objective of macro-prudential policy see the Financial Stability Review published by the Bank of Lithuania in 2013.
[56] For example, *Eesti Pank* has introduced the highest rate of capital conservation buffer (2.5 p. p.), which is applied from the date of transposition of CRD IV into Estonia's national law (19 May 2014).

G-SIIs. This buffer may reach up to 2 per cent of the total of the risk-weighted assets of a bank and it will be introduced in 2016. The European Banking Authority (EBA) is expected to publish standards specifying the criteria for the identification of domestic systemically-important banks early in 2015. **In accordance with these EBA guidelines, the Bank will identify other systemically important financial institutions (important at the national level) in the beginning of 2015. They are likely to be subject to an additional capital buffer from mid-2015 (with a one-year implementation period).**

The systemic risk buffer may be introduced for the entire financial sector or one or more subsets of that sector, in order to prevent or mitigate systemic risks in the long-term taking into account specificities of the national financial development. Although the rate of this buffer is not restricted, a Member State will need the European Commission's approval if it decides to set (as established in CRD IV, this power will come into effect on 1 January 2015) a systemic risk buffer rate of above 3 per cent to all exposures or a rate of above 5 per cent to the exposures in the Member State that sets that buffer and in third countries. The Commission will make the decision, taking into account the conclusion of the ESRB and the opinion of the EBA.

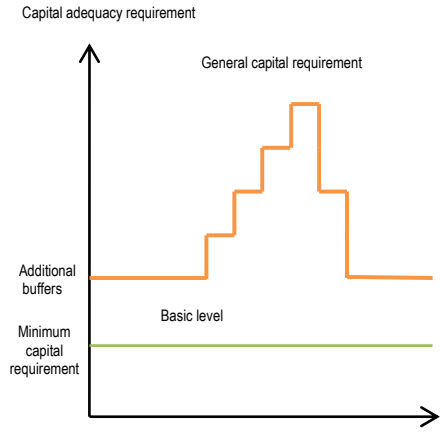
Modalities of countercyclical capital buffer application

The countercyclical capital buffer is one of the core macro-prudential policy instruments, which have been agreed across the EU as measures to contain the risks arising from the cyclicality of credit supply. Since 2011, this type of risks in Lithuania has been addressed through the application of abovementioned macro-prudential policy instruments, i.e. through caps on LTV and DSTI ratios. The countercyclical capital buffer (CCB) will be the first harmonised macro-prudential policy instrument, which will have to be actively applied by all EU Member States from 2016. In contrast to other measures outlined in the CRD IV, it will be applied to make sure that the banks build up an extra cushion during a period of unsustainable growth, which they could use to absorb potential downturn losses.

The purpose of the countercyclical capital buffer is to increase the resilience of the banking system against systemic risks arising from excessive credit growth. This instrument, which is an additional capital buffer consisting of Tier 1 capital, complements the capital conservation buffer. It can be adjusted to follow up the developments in systemic risks and credit, in order to reduce the pro-cyclicality of the banking sector. The capital buffer would be built up in periods of unsustainable credit growth.[57] This instrument would help mitigate the credit cycle through the tightening of lending supply or the increasing of lending costs. The required rate of this buffer would be lowered amid signs of a systemic crisis thus enabling the credit institutions to use this capital cushion to absorb losses and maintain credit supply and, simultaneously, to mitigate the effect of an economic downturn (see Charts 79 and 80).

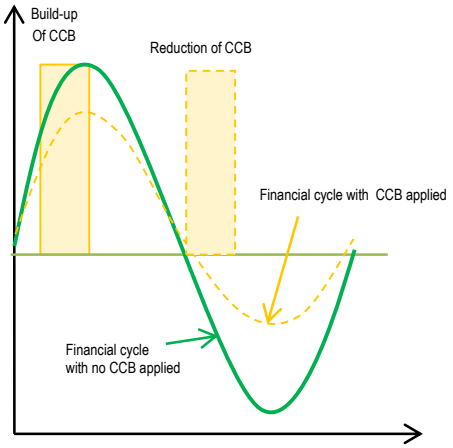
The Capital Requirements Directive requires the authority designated by each Member State to set, on a quarterly basis, an appropriate countercyclical buffer rate, which shall be published, together with a justification for that buffer rate, from 2016 at the latest.[58] The CCB rate would be established in the range of 0–2.5 per cent (it could exceed 2.5% in exceptional circumstances) and the banks would have 12 months from the date of the publication of the new CCB setting (or, in certain circumstances, a shorter period) to build up the CCB of the required level. In contrast to other capital buffers established by the CRD IV, the CCB will apply to the banks' exposures instead of the banks. It implies that the bank branches active in Lithuania and foreign banks extending loans to Lithuania's residents will fall in the scope of this instrument as well.[59] The level of CCB is expected to be set under a guided dis-

Chart 79. CCB application



Source: Bank of Lithuania.

Chart 80. CCB implications

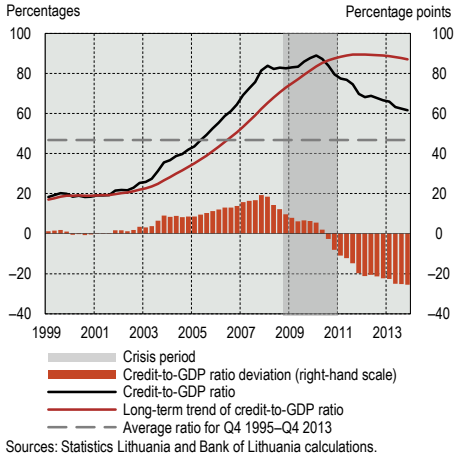


Source: Bank of Lithuania.

[57] Recommendation No ESRB/2013/1 of the European Systemic Risk Board of 4 April 2013 on intermediate objectives and instruments of macro-prudential policy.
[58] Article 136(7) of CRD IV.
[59] Article 136 of CRD IV; identification of jurisdictions will be governed by EBA guidelines (to be published soon).

Chart 81. Long-term trend of credit-to-GDP ratio and a deviation therefrom measured by the approach proposed by the BCBS

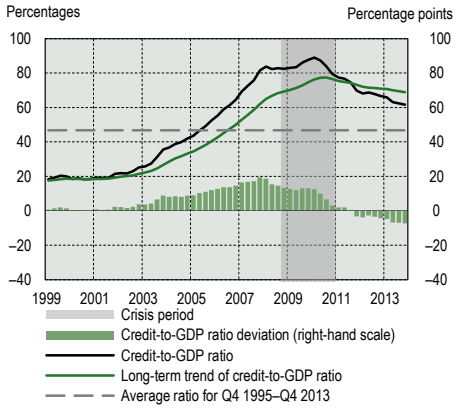
(Q1 1999–Q4 2013)



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.

Chart 82. Long-term trend of credit-to-GDP ratio and a deviation therefrom measured against the projected credit-to-GDP ratio

(Q1 1999–Q4 2013)



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 average.

cretion approach, i.e. a respective decision should be based on quantitative indicators, taking into account additional qualitative information and expert evaluation. The experience so far gained worldwide in CCB application is limited and the methods used to calculate excessive credit are still being developed, hence this approach towards the setting of CCB would be the most effective.

The primary task in setting countercyclical capital buffer rates is to measure the sustainability of credit[60] growth and to find out whether or not there are any signs suggesting that it may deviate from the sustainable path in the future. Many studieshave shown that the deviation of the credit-to-GDP ratio from its long-term trend is one of the most reliable indicators providing an early warning of a financial crisis triggered by excessive credit growth.[61] The CRD IV obliges all EU Member States to monitor this indicator, which has been recommended for application by the Basel Committee on Banking Supervision (BCBS). Moreover, this indicator correlates directly with the purpose of CCB application in particular as it may help determine whether or not the credit growth is in line with economic development (calculations of the credit-to-GDP ratio exclude the effects from growth in credit demand driven by economic growth). In the long-term, the credit-to-GDP ratio may increase due to the financial deepening processes, such as improvements in the efficiency of financial intermediation. However, the indicator's rise well above its long-term trend signals that the growth of credit may be deemed too rapid. In addition, this indicator relates with potential banking losses in downturn. In particular, a greater deviation of credit-to-GDP ratio from its long-term trend in boom periods translates into a larger fall in real GDP in bust periods, which may trigger losses for banks.[62]

The authority in charge of applying the countercyclical capital buffer will have to calculate for every quarter a buffer guide as a reference in setting the countercyclical buffer rate.[63] Pursuant to the CRD IV, this buffer guide should be based on the deviation of the ratio of credit-to-GDP from its long-term trend. The buffer guide for the countercyclical capital buffer shall be calculated as follows: i) calculate the aggregate private non-financial sector credit-to-GDP ratio; ii) calculate the gap, i.e. the deviation of the ratio from its estimated long-term trend; iii) tie the credit-to-GDP gap to the CCB guide rate. To ensure comparability between national estimates, the gap between credit-to-GDP ratio and its long-term trend might be calculated using the approach proposed by the BCBS. In addition, it would also be possible to apply a different approach, which would be more appropriate in the light of the data available to a country[64] (see Charts 81 and 82).

The buffer guide rate of the countercyclical capital buffer is set above 0, if the credit-to-GDP ratio deviates from its long-term trend by at least 2 p. p. It is set at the maximum rate where the gap is at least 10 p. p. When the deviation is between 2 and 10 p. p., the guide rate of the CCB is

[60] For CCB purposes, 'credit' is usually defined as the loans granted to private non-financial sector (non-financial corporations, households and non-profit institutions serving households) and debt securities issued by non-financial corporations, and 'creditors' are defined as all institutional sectors, including foreign lenders.

[61] See e.g.: Drehmann, M., Borio, C., Gambacorta, L., Jiménez, G., Truchart, C. *Countercyclical Capital Buffers: Exploring Options*. BIS Working Papers, No 317, July 2010; Drehmann, M., Juselius, M. *Evaluating Early Warning Indicators of Banking Crises: Satisfying Policy Requirements*. BIS Working Paper No 421, August 2013; Behn, M., Detken, C., Peltonen, T. A., Schudel, W. *Setting Countercyclical Capital Buffers Based on Early Warning Models: Would it Work?* ECB Working Paper No 1604, November 2013.

[62] See Jordà, O., Schularick, M., Taylor, T. *When Credit Bites Back.* Journal of Money, Credit and Banking, Blackwell Publishing, 2013, Vol. 45(s2), p. 3–28.

[63] The guide rate of the CCB is derived directly from the deviation of the credit-to-GDP ratio. The CCB rate, which the banks will have to apply to lending in Lithuania, will be established on the basis of this guide rate and other indicators.

[64] Basel Committee on Banking Supervision. *Guidance for National Authorities Operating the Countercyclical Capital Buffer*, 2010. In line with the approach proposed by the BCBS, the long-term trend is established using a one-sided Hodrick-Prescott (HP) filter with a smoothing parameter λ = 400 000. Although this approach would be sufficiently appropriate for Lithuania's data, the specific nature of the HP filter leads to a higher end-of-sample uncertainty, in particular at the passage from one phase of the cycle to another. This uncertainty in trend estimate does not necessarily render the credit-to-GDP gap less useful as a leading indicator. However, the estimates of the long-term trend and the gap should be as precise as possible from the very start so as to improve the credibility of macro-prudential policy decisions. This can be achieved through the use of the one-sided HP filter augmented with forecasts. For details about this approach see: Gerdrup, K., Kvinlog, A. B., Schaanning, E. *Key Indicators for a Countercyclical Capital Buffer in Norway – Trends and Uncertainty,* Norges Bank, Staff Memo No 13/2013, June 2013.

changed linearly so as to make sure that it reaches the maximum level 2–3 years before the financial crisis triggered by excessive credit growth. Individual countries may establish threshold credit-to-GDP ratios that are the most appropriate for their credit cycle. Quantitative methods have shown that the thresholds applied by the BCBS (the minimum threshold of 2 p. p. a d the maximum threshold of 10 p. p.) would be appropriate for Lithuania.

When setting the countercyclical capita buffer rate, additional indicators, supplementing the information about credit cycle provided by the credit-to-GDP ratio and its gap, should be taken into account. Such additional quantitative indicators should provide a generalised view on the sustainability of real estate market, bank financing and liquidity as well as the external sector and they should be good indicators signalling crises. The literature on financial crises triggered by excessive credit growth would show that these useful[65] additional indicators might be the following:

- a ratio of MFIs' loans to private non-financial sector to GDP;
- a housing price to household income ratio;
- a loan-to-deposit ratio;
- a current account deficit to GDP ratio.

These indicators would not affect calculations of the CCB buffer guide rate. However, they would help assess the scale of financial imbalances, their development and spill-over among sectors and would have a bearing on the final decision on CCB application.

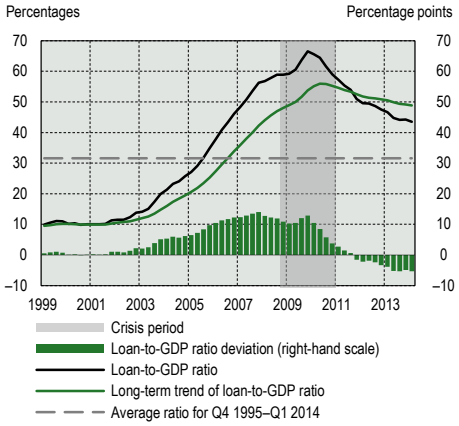
The ratio of MFIs' loans to private non-financial sector to GDP is a leading indicator for the trend of credit-to-GDP ratio. This indicator is useful, since it can be calculated at monthly frequency and with a certain lag (MFI statistics are published each month within 28 days from the end of the reference month, whereas Lithuania's financial accounts statistics, which are necessary to calculate the main indicators, are published within approximately 100 days after the end of the reference quarter). In addition, this indicator provides a clearer picture of lending developments in the banking sector, which will be subject to the CCB (see Chart 83).

The housing price to household income ratio provides general insights about the sustainability of property prices.[66] The interaction between credit and housing prices may trigger the emergence of imbalances in the credit market and the entire national economy. The growth of property prices provides access to larger credit amounts, since the value of collateral is growing, too. As far as the banks are concerned, an abrupt fall in property prices leads to both direct losses (as a result of collateral impairment) and indirect losses (as a result of increased unemployment, depressed demand and weaker economic activity). The deviation of this indicator from its long-term trend is also often mentioned as a useful early warning indicator for crises[67] (see Chart 84).

Non-deposit financing is often cheaper but less stable; it is related to foreign capital flows and its unbalanced growth is a sign of excessive credit.[68] The ratio of other MFIs' loans to deposits shows how much of the loans that have been issued by credit institutions in the domestic market have been financed by deposits. The largest banks active in Lithuania operate as subsidiaries or branches of foreign banks, and the financing, which may be provided by parent or owner institutions, is cheaper than the deposits taken in from savers in the domestic market, which may encourage unbalanced credit growth in the country. On the other hand, sudden adverse developments in the global financial markets may disrupt external financing (lead to a decrease in volume or a surge in price), which would trigger adverse changes in the domes-

Chart 83. Long-term trend of the ratio of MFIs' loans to private non-financial sector to GDP and a deviation therefrom

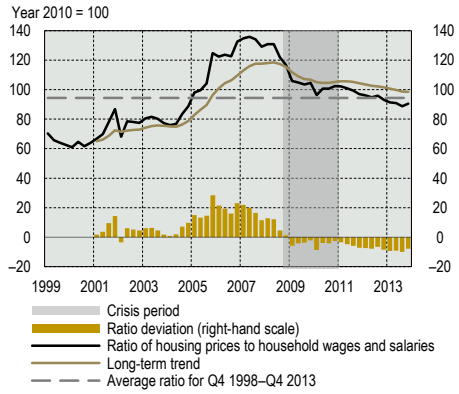
(Q1 1999–Q1 2014)



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 average.

Chart 84. Long-term trend of housing price to household income ratio and a deviation therefrom

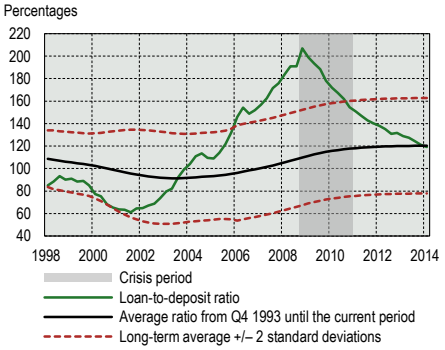
(Q1 1999–Q4 2013)



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 average.

Chart 85. Ratio of other MFIs' loans to private sector to private sector's deposits (seasonally-adjusted)

(Q1 1998–Q1 2014)



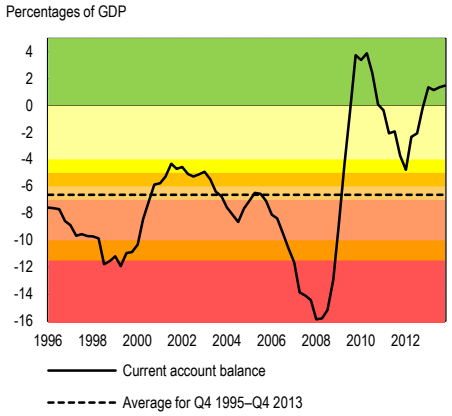
Source: Bank of Lithuania calculations.

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

[65] The usefulness of such indicators in Lithuania's context has been verified through the signals approach, which is usually applied in such cases, and other quantitative assessment methods.
[66] This indicator is fully based on housing prices, since the data for commercial property is less reliable, it is not made public and the data series is not long enough. This shortness of the data series makes it impossible to analyse the degree to which this indicator may be useful in predicting a crisis in Lithuania, based on the historical track record. It is also impossible to arrive at an objective value, which would show imbalances.
[67] Behn et al. *Ibid.*
[68] Behn et al. *Ibid.*

Chart 86. Lithuania's current account balance and the build-up of risks

(Q1 1996–Q4 2013, 4-quarter moving sum)



Sources: Statistics Lithuania and Bank of Lithuania calculations.
Note: the level of risk is measured based on Reinhart and Reinhart (2008).

tic credit market. Too high a ratio suggests that the growth of credit may be unsustainable. Conversely, too low a ratio shows the presence of liquidity constraints (see Chart 85).

The studies of financial crises[69] suggest that the current account deficit may also be related with the build-up of systemic risks. It may help avoid false crisis signals sent by the credit-to-GDP gap. Carmen M. Reinhart and Vincent R. Reinhart have studied 181 countries, divided them into income groups (low, middle and high) and analysed the developments in economic indicators of these countries in periods of abundant foreign capital inflows and in cases of their 'sudden stops'.[70] Building upon their insights into the trends in the current account deficit at the onset of the crisis and two years before the crisis, it is possible to establish six reference thresholds[71] which would help measure the sustainability of current account balance (see Chart 86).

The timeframe and the scale of reduction of the countercyclical capital buffer rate would depend on the nature of adjustment of financial imbalances. The above-described early warning indicators for the build-up of systemic risks would help track a gradual change in the financial cycle. However, the response of these indicators to a sudden adjustment of imbalances in the financial system may be too slow or there might be no response at all. It should be noted that in downturn, GDP may fall faster than credit; therefore, the credit-to-GDP gap may even increase at the peak of the crisis. Hence the indicators of growth, such as the pace of credit growth, the pace of growth in property prices, or the financial market indicators, such as CDS, interbank interest rates, etc., would be more helpful in establishing a turning point in the credit cycle than the relative indicators. Whenever the CCB rate is reduced, it is very important to make sure that the size of the buffer built up in the pre-crisis period is sufficient. The incentive effect of a reduced capital buffer, which is too small, may be insignificant, as a result, the purpose of the CCB would not be achieved.

The Capital Requirements Directive provides for automatic mutual recognition of the countercyclical capital buffer by the EU Member States where the rate of the buffer does not exceed 2.5 per cent. The purpose of this provision is to ensure the efficiency of CCBs applied in the Member States and a level playing field in terms of competition for local banks and foreign bank branches active in that market. If a Member State sets a CCB rate of up to 2.5 per cent, this rate will have to be applied to all exposures in that country, including the exposures of bank branches. It should be emphasised that the mutual recognition principle will only become fully operational after the end of the transitional period (from 1 January 2019).[72] If a Member State imposes a shorter transitional period and decides to introduce the CCB before the deadline established in the CRD IV, the automatic mutual recognition will not be mandatory. The Union's authorities in charge of CCB application will be able to set the CCB rate for third countries (which shall not be lower than the rate applied in a respective third country), which shall be duly justified.[73]

MITIGATION OF RISKS IN THE CREDIT UNION SECTOR

The Bank of Lithuania, which seeks to ensure the safety, reliability, transparency and competitiveness of the country's financial sector, has identified the proposal and implementation of a new and up-to-date operating model for credit unions as one of its strategic objectives for the

[69] E.g. Kaminsky, L. G., Reinhart, M. C. *The Twin Crises: The Causes of Banking and Balance-of-payment Problems*. American Economic Review, 1999, p. 473–500.
[70] Reinhart, C. M., Reinhart, V. R. *Capital Flow Bonanzas: An Encompassing of the Past and Present.* NBER Working Paper, No 14321, 2008.
[71] The thresholds are provided for reference only. The crossing of certain thresholds does not necessarily imply a substantial increase in risks.
[72] Article 160 of CRD IV.
[73] Article 139 of CRD IV.

years 2014–2016. As a contribution to this goal, an expert task group of the Bank of Lithuania carried out a study of the Lithuanian credit union system, which revealed the main culprits of the sector's instability and helped develop specific proposals on how to address these problems.[74] The study has shown that the biggest risks to the sustainability of the credit union sector's operations arise from the following factors: (i) insufficient quality of capital that can be used to absorb operating losses; (ii) inadequate incentives coming from the existing model of self-financing, and (iii) problems with the credit union's governance and internal control.

Although the capital of credit unions should be stable and mostly built from retained earnings, such capital in Lithuania is largely made up of unstable capital, which has limited loss-absorption capacity and is built from additional share contributions made by the members who have taken loans. Pursuant to the recommendations made by the World Council of Credit Unions (WOCCU),[75] capital, which can be withdrawn, cannot qualify as sustainable institutional capital. At present, the country's credit unions do not hold a sufficient buffer of institutional capital, which would be sustainable and capable of absorbing losses. The domestic credit union sector has a 1.5 per cent ratio of sustainable capital adequacy. However, it should reach 18.4 per cent in order to comply with existing regulations.

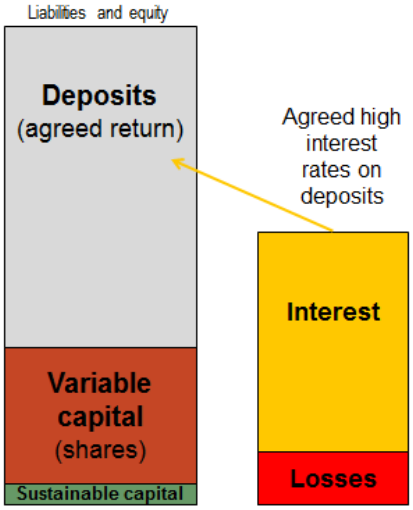
Insurable deposits, which pay high interest rates, comprise the bulk of credit unions' liabilities. As a result, most of the members of credit unions, i.e. their depositors, are basically only concerned about higher interest. Credit union members, who are also their owners, have no incentives to contribute to their management or seek to ensure the reliability of their operations since they bear no investment risks. Credit unions incur losses from their operations due to relatively high deposit interest rates, which deprive them of chances to build a sufficient capital buffer from operating earnings (see Chart 87).

Credit unions differ substantially from other credit institutions in terms of governance. With members not having a sufficient economic interest to participate in the governance of their credit union based on the democratic governance principle (one member, one vote), it is very difficult to ensure efficient control of the union's executives (the board). To find out more about the differences between credit unions and banks, read Box 6.

The experts of the Bank of Lithuania put forward a number of conceptual proposals at micro and systemic levels as they sought to address the problems identified.[76] The most important proposed change to the operating model of the country's credit unions related to the requirement to build sustainable capital from earnings. The process of capital formation from the unions' operating earnings is currently too slow and the credit unions do not have other sources to build sustainable capital from. As a result, operating losses sustained by a credit union cannot be duly and timely absorbed and they continue to build up until the credit union becomes insolvent.

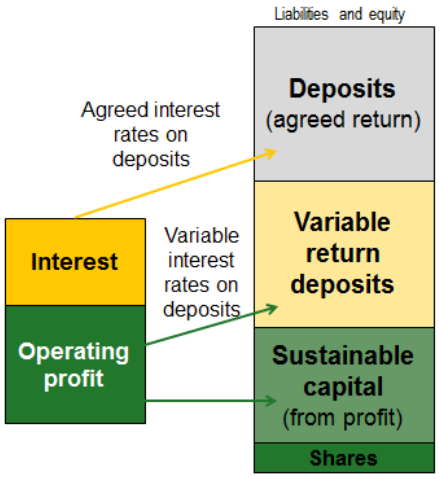
Another proposal deals with arrangements for gradual improvements in the existing structure of credit union liabilities through the development of financial incentives for credit unions' members to participate in their management. In the opinion of the experts of the Bank of Lithuania, variable return deposits – a new financial instrument – would help create proper incentives for members to control the operations of their credit unions and would also facilitate the planning of operating costs for the unions (see Chart 88). If the credit unions' liabilities were to include a substantial proportion of liabilities with a performance-linked return to members (and, simultaneously, the costs to the credit union), this would help reduce the interest burden of financially-troubled credit unions and would give room to improve the unions'

Chart 87. Current structure of credit unions' liabilities and equity



Source: Bank of Lithuania.

Chart 88. Potential structure of credit unions' liabilities and equity



Source: Bank of Lithuania.

[74] See the discussion paper 'Strengthening of the Credit Union Sector', 2014, available online at http://www.lb.lt/kredito_uniju_sektoriaus_stiprinimas.
[75] WOCCU is an association promoting the sustainable development of credit unions and other financial cooperatives around the world. WOCCU represents credit unions in cooperation with national governments, which has as its aim the improvement of legislation and the regulatory environment for credit unions.
[76] See 'Strengthening of the Credit Union Sector', 2014.

performance and to start building the buffer of sustainable capital. A clearly defined relationship between the unions' performance and personal return would promote more active participation of credit unions' members in the unions' management, which would enhance the internal control of such institutions and would help ease the overlap of interests[77] between the unions' executives and a narrow-interest group (certain members).

Yet another proposal – at a systemic level – calls to open up a possibility for credit unions to integrate into cooperative banks so as to strengthen individual institutions and to facilitate competition as well as the management of operating risks. Working together, credit unions would be better positioned to manage operating risks. Moreover, this would help develop an effective mutual assistance mechanism (credit unions that are part of a cooperative bank would guarantee each other's financial liabilities), while the economy of scale would lead to improvements in the efficiency of credit unions' operations and their expansion. Credit unions, which make a voluntary choice to integrate into cooperative banks, would improve their competitive edge against banks or other providers of payment and credit servces. A comprehensive asset quality review performed at the time of the merger would bolster confidence in the market and would eliminate the threats that may arise due to unexpected insolvencies in the credit union sector.

The development of a sustainable credit union sector in Lithuania requires active and concerted efforts from all stakeholders, as well as clear understanding of the differences between the activities of credit unions and those of banks or other financial institutions and of the ways to transform those differences into advantages in the context of the modern economy. The credit unions operating in the country have substantially deviated from the classic cooperative principles. Some credit unions, in particular those in cities, have very weak common bonds between members. The depositors who join a credit union as its members fail to perceive that they also become its owners who, *inter alia,* are responsible for the reliability of its operations. The majority of credit unions choose to issue more loans and accept more share contributions from borrowers whenever they need to raise capital. In case of a failure, such capital cannot serve as a buffer to absorb losses and to keep the credit union afloat as a going concern since it simply constitutes liabilities owed to the credit union's members.

Box 6. Differences between credit unions and banks

A credit union is a cooperative institution providing financial services. Credit unions offer their customers (members) a wide range of financial services, which are similar to those provided by banks or other financial institutions, however, these institutions are not identical. Operational challenges encountered by credit unions, as well as the need for special regulation, arise from differences in the unions' operating model. In fact, systemic problems of the credit union sector emerge due to disregard of these differences.

Credit unions shall generate a profit from their operations so as to be able to build sufficient buffers of institutional capital and replenish them from in-house resources. However, the purpose of credit unions is to serve the economic and social needs of their members, rather than to pursue the profit *per se*. Such a principle implies that some members of a credit union lend out their surplus savings to other members of the same union in exchange for a certain return and in full awareness of their borrowing needs and loan repayment capacity. Nevertheless, a substantial portion of operating profit generated by a credit union shall primarily be used to build its loss-absorbing capital buffer.

Membership of credit unions is only open and their services are only available to a certain group of individuals sharing a common bond. In contrast to banks, credit unions can only render services to members, i.e. to their owners. To be eligible for membership, individuals usually have to share common social or economic bonds, e.g. the bonds of an association, community, geographical location, etc. The nature of the common bond tying members of a credit union together translates into the strength of internal bonds within the union since the management of common information helps be more precise and more cost-effective in the assessment of risks of member lending. However, such an operating model can only be effective if the assets of a credit union are relatively small while the common bonds are very strong.

[77] Interests may overlap where the owners of a credit union are simultaneously its creditors. This results in a potential for a conflict of interest and inadequate management of related operating risks.

Each credit union member has a single vote, irrespective of the size of his or her share contribution. The principle of one vote ensures democratic governance of the institution but does not provide sufficient economic incentives to take a responsible approach to the management election and important strategic decision-making related to the union's governance. This system of democratic governance can only work where the executives are provided with adequate incentives to pursue long-term and reliable operations of their credit union. In a bank, the number of votes held by each shareholder relates directly to the amount of capital invested (the amount exposed to risk). As a result, the shareholders bearing higher operational risks enjoy greater decision-making powers and exert greater influence on the bank's governance.

All members of a credit union, including depositors and borrowers, are simultaneously its owners. In addition to being (insured) creditors of a credit union, the depositors of that institution are also its shareholders and, therefore, can participate in its management. Insufficient internal controls and self-regulation of a credit union may lead to problems with governance. In contrast to banks, which are subject to rigid controls on the part of demanding shareholders, credit unions have no such safeguards at their disposal. Credit union activities are founded on cooperation, which involves the alignment of interests between creditors and debtors. Those who want to acquire the right to use the services offered by a credit union shall first become its members and assume some of its operational risks. In this way, the operational risks of the credit union are shared among all stakeholders (creditors, debtors, borrowers). At the same time, the share contributions provide economic incentives for participation in the union's activities and thus help ensure the stability and longevity of operations.

ANNEXES

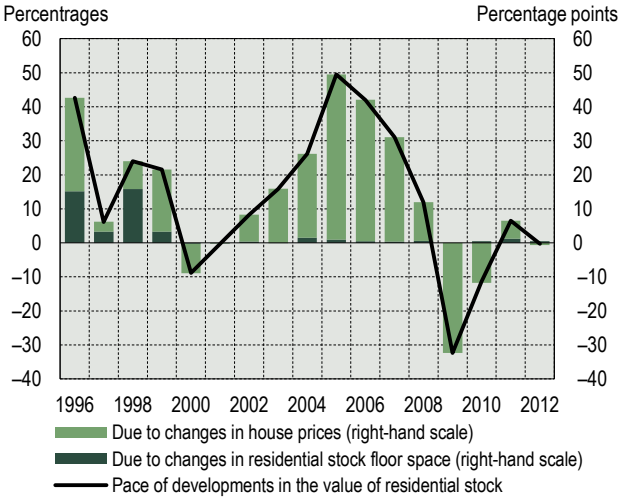
Annex 1. Net household assets

Financial liabilities of Lithuanian households increased at a fast pace from 2003 until the very start of economic downturn in 2008. Loans used for real estate purchases comprised the largest single item of household financial liabilities. This growth in financial liabilities was accompanied by a simultaneous increase in the financial assets of the household sector. Not including equity holdings in non-financial corporations, deposits with credit institutions comprised the bulk of financial assets of that period. Loans for house purchases account for one-third of the loans issued by the banking sector to households. The prevention of credit risks requires assessing the capacity of households to duly and timely fulfil their financial liabilities, as well as their ability to meet a liability with other assets – financial or real – available, if that capacity were to shrink. In most cases, residential properties purchased by debtors with housing loans are used as additional collateral to secure the respective liabilities.

The usual way to measure the financial health of the household sector is to assess the net wealth and thus estimate the excess, if any, of liabilities over household assets. The households, which, at any given time, see their financial liabilities exceed the assets, are defined in the finance literature as being underwater. The purpose of this annex is to measure net wealth holdings of the Lithuanian households, based on available data, and to review the characteristics inherent to such debtors.[78]

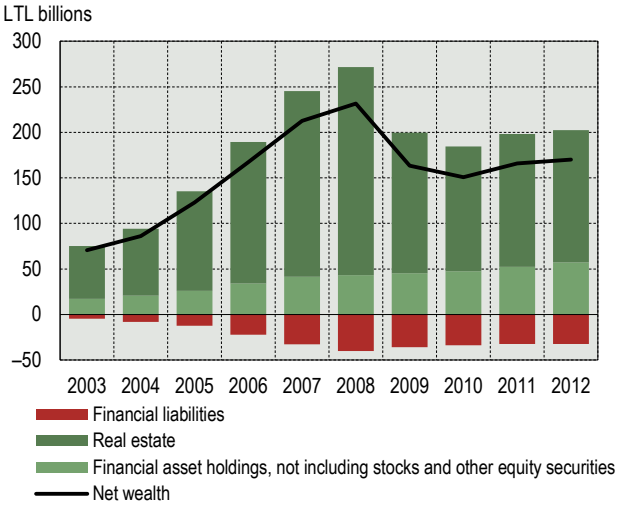
Depending on data availability, the households' net wealth can be considered from two perspectives: (i) a macro-level analysis (which involves the assessment of the total financial assets held by households, their financial liabilities and the value of residential property market) and (ii) the analysis of survey data (the data of the surveys of households with a housing loan previously conducted for the Bank of Lithuania) as well as information system data (the data of the Household Financial Monitoring Information System compiled by the Bank of Lithuania). The assessment inevitably involves certain objective limitations in particular as the total household real estate holdings used in the analysis are limited to residential stock (e.g. the holdings of land, other buildings are not included due to the shortage of data). Moreover, the assessment excludes other tangible assets (e.g. vehicles) due to data shortage. The data of the Household Financial Monitoring Information System is used restrictively as it lacks the detail required for this study (e.g. it does not specify the date of mortgaged property valuation).

Chart A. Factors affecting the developments in the value of household real estate holdings
(1996–2012)



Source: Bank of Lithuania calculations.

Chart B. Net household assets
(2003–2012)



Source: Bank of Lithuania calculations.

In 2012, the value of Lithuania's residential stock, which is expressed as the housing stock floor space (in square meters) multiplied by the average per-square-meter price of residential housing,[79] exceeded LTL 145 billion and accounted for 128 per cent of nominal GDP of that period. Compared to 2011, that value decreased by approximately LTL 0.4 billion and was well below the peak recorded in the history of observations (see Chart A). These changes in value reflect the developments in real estate prices, and not in residential stock volume (floor space) (see Chart B). These prices zoomed between 2004 and 2008, which inflated the value of privately-owned residential stock to LTL 228 billion in 2008. As the economic downturn took hold and the real estate prices fell, the pricing of residential stock plummeted by nearly LTL 74 billion in 2009. Between 2004 and 2008, household financial asset holdings (not including stocks and other equity securities) doubled in value, while the amount of financial liabilities, mainly long-term loans in the banking sector, soared fivefold. As the

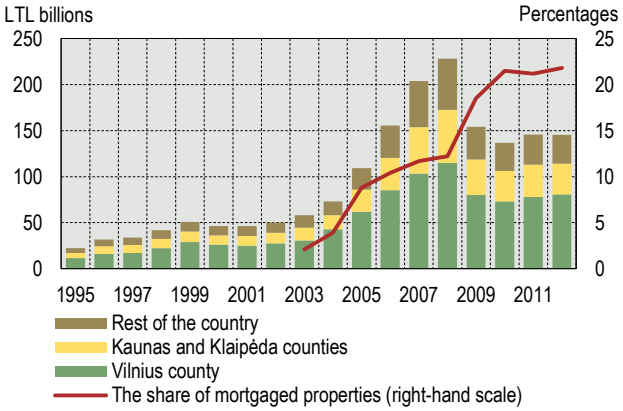
[78] In this annex, underwater households are those which owe more on their mortgage than the home is actually worth.
[79] Given the regional differences in real estate price developments in Lithuania, the country has been divided as follows in order to calculate the value of residential stock: (i) the region of Vilnius; (ii) the regions of Kaunas and Klaipėda; and (iii) the rest of the country. The value of residential stock of each region is based on respective regional statistics on real estate prices. Calculations are based on nominal value, unless specified otherwise.

economic downturn bit, the developments in household financial assets and financial liabilities diverged to different paths. In particular, the financial assets continued to grow after a slight setback in the fourth quarter of 2008, while the financial liabilities started decreasing. As a result of these changes, the net financial asset holdings of the household sector kept growing since 2008 until they reached LTL 25.2 billion at the end of the fourth quarter of 2013. The developments in household net wealth showed no clear trend due to changes in the value of residential housing, financial assets and liabilities. In particular, the growth in net wealth, which was observed until 2008, was followed by a decrease in 2009 and 2010 (basically due to changes in real estate prices), which, in turn, was followed by a gradual increase, which commenced in 2011 and was mainly driven by the growth of financial assets and the simultaneous decrease of financial liabilities as the real estate value remained virtually unchanged.

At the end of 2012, real estate accounted for 61.1 per cent of the total household assets. The evolution of this indicator was mainly driven by changes in real estate prices, i.e. their sharp fall after the economic downturn of 2008 and, subsequently, nearly four years of stability. These price movements have a substantial impact for households and their lenders (i.e. credit institutions) since real estate serves both as a place of residence and as a guarantor of solvency to creditors. Borrowers who have more assets are considered less risky by lenders and the surveys conducted by the Bank of Lithuania show that the lenders have become more careful in their assessment of the assets being pledged, in particular after the economic downturn.

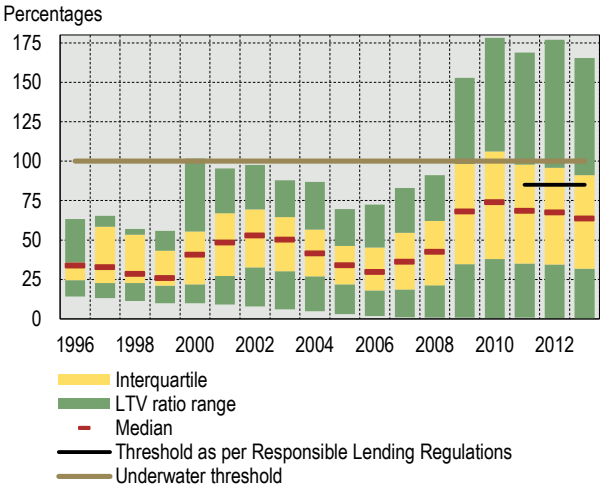
On the other hand, the households feel more confident in their borrowing decisions since the growth in the value of housing feeds into expectations that the proceeds from home sale in case of financial stress would suffice to both pay back the loan to the credit institution and generate additional income as a result of price differential. Moreover, in countries, which made the transition to the market economy in the early 1990s, the highly important role of real estate is also underpinned by its substantial share in the total household wealth portfolio.[80] At the end of 2012, household financial liabilities accounted for 16 per cent of their total wealth, not including stocks and other equity securities, or for 56.5 per cent with real estate excluded.

Chart C. Developments in the value of privately-owned residential stock in Lithuania
(1995–2012)



Sources: Statistics Lithuania, Household Financial Monitoring Information System, UAB Ober-Haus and Bank of Lithuania calculations.
Note: the share of mortgaged properties is computed as the ratio between the value of all properties mortgaged against housing loans and the value of residential stock.

Chart D. Evolution of LTV ratio range
(1996–2013)



Source: Bank of Lithuania calculations.

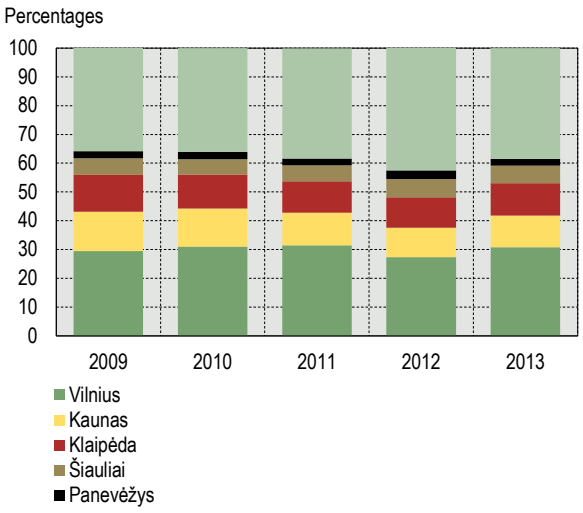
The estimates of loan-to-value ratios for mortgages, made on the basis of 2010–2012 surveys conducted for the Bank of Lithuania among households with a housing loan,[81] confirm that fluctuations in the value of private residential stock have a substantial impact on the quality of existing housing loans.[82] Until the economic downturn of 2008 and the collapse of real estate prices, the ratio between the value of loans issued by banks for house purchase and the value of real estate pledged as collateral against liabilities, i.e. the loan-to-value (LTV) ratio, never breached the level of 100 per cent (see Chart D). This means that the value of real estate holdings would be sufficient to meet financial liabilities if the banks' debtors were to run into difficulties with loan repayments. In the environment of fast growth of prices and expectations of their continued advance in the future, banks could finance the full price of a property under lower risks (without the down payment, i.e. with the LTV ratio of 100%). They could expect then that the mortgaged residential property of an insolvent-turned customer could be sold in an active and liquid real estate market without sustaining any losses.

A fall in real estate prices, which began in late 2008 and continued into the first half of 2010 (between 2008 and 2010, the average annual house price index plunged by 35.1%), led to inevitable changes in the ratio. Based on the as-

[80] Huynh-Olesen, D. T., Steiner, K., Hildebrandt, A., Wagner, K. *Residential Property Prices in Central, Eastern and Southeastern European Countries: The Role of Fundamentals and Transition-Specific Factors.* Focus on European Economic Integration, No Q2/13.
[81] Although these surveys have been conducted since 2007, the data of previous surveys cannot be used in calculations since those surveys did not give information about the value of LTV ratio at origination. Demographic and geographic distribution of 2,736 households sampled is representative of the population of Lithuanian households with a housing loan.
[82] In this annex, lower-quality loans are those with an LTV ratio of more than 100 per cent.

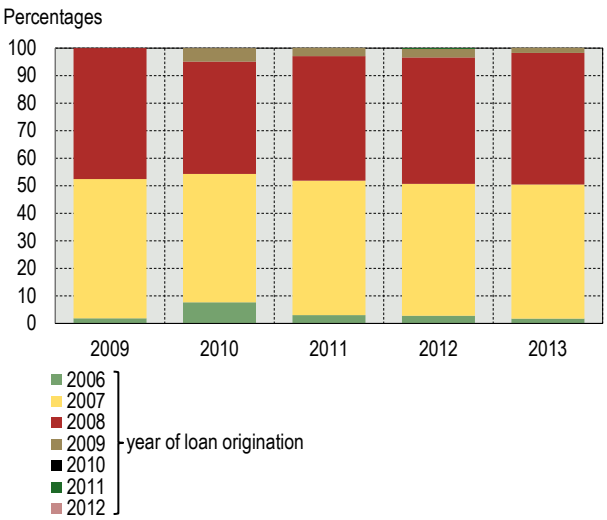
sumption that the effect of market trends in a respective region was identical for all types of housing, the estimations show that the proportion of housing loans with a credit balance exceeding the value of mortgaged properties rose slightly above 25 per cent in 2009. In other words, such borrowers found themselves underwater. If they were to face troubles repaying debt, the banking sector would suffer losses. With housing prices continuing to slide, the share of such loans widened to 30 per cent in 2010. In subsequent years, i.e. in 2011, 2012 and 2013 m., house prices were basically stable. Loan repayments and the introduction of Responsible Lending Regulations which oblige the borrower to make a down payment of at least 15 per cent to qualify for a housing loan led to improvements in the abovementioned ratio. In 2013, the share of such housing loans among debtors slightly exceeded 18 per cent.

Chart E. Underwater mortgages broken down by Lithuania's regions
(2009–2013)



Source: Bank of Lithuania calculations.

Chart F. Underwater mortgages broken down by the year of origination
(2009–2013)



Source: Bank of Lithuania calculations.

Deterioration in loan quality[83] often leads to credit crunches. A substantial fall in the prices of real estate or other property makes the banks realise that the previous assessment of the level of risks of their debtors was inadequate. In response, they tighten their lending standards abruptly.[84] This also happened in Lithuania late in 2008 and early in 2009. Such tightening usually occurs across the board, i.e. in credit crunches, credit becomes scarce for all sectors of the economy. This, in most cases, is accompanied by an accommodative monetary policy, i.e. the short-term interest rates are usually low, and tighter lending policies manifest themselves through non-price-related terms (e.g. heightened requirements for collateral, the stability of the borrower's income, guarantees, etc.), and not through the size of interest rates. Thus, the typical statistical correlation between low interest rates and simultaneous fast credit growth can no longer be observed. Statistical data for the Lithuanian credit institutions shows that the situation following the 2008 downturn exhibited the typical features of a credit crunch, i.e. the shrinkage of the banks' loan portfolio and deleveraging, despite low interest rates.[85] The statistical analysis of LTV ratios leads to the conclusion that unsustainable development of real estate market and lending for house purchases played a big role in causing the credit crunch.

Most of the debtors whose mortgages went underwater, i.e. whose LTV ratio exceeded 100 per cent, were concentrated in Lithuania's biggest cities. In 2009 through 2013, the loans obtained by such borrowers in the cities of Vilnius, Kaunas and Klaipėda accounted for slightly more than a half of such housing loans received across Lithuania. This concentration is proportionate to the size of population in these regions as the counties of Vilnius, Kaunas and Klaipėda accounted for slightly more than a half of Lithuania's population in that period.

The loans, whose balance came to exceed the value of underlying mortgaged properties after 2008, were almost entirely originated in 2007 and 2008, i.e. in the period of the most excessive credit growth and the most unsustainable developments in housing prices. That period witnessed the sharpest rise in real estate prices, which subsequently subsided. These two groups of housing loans, i.e. the loans issued in 2007 and in 2008, each account for approximately a half of all such loans outstanding in Lithuania. The balances of the loans granted before the end of 2006 remained below the value of mortgaged properties since the real estate prices came down close to the level of 2006 after the 2008 economic downturn. Moreover, the borrowers continued repaying their loans throughout that period. The borrowers whose loans were made after 2009 remained 'above water', supported by stabilisation of house prices and the introduction of higher down payment requirements at the end of 2011.

Real estate, which represents the single biggest item of household wealth in Lithuania, is vitally important for the country's financial stability. Loans extended to activities closely related with the real estate sector account for approximately a half of total loans granted by the banking sector. A variety of economic studies show that strong fluctuations in housing

[83] See footnote 82.
[84] See Simkovic, M. *Secret Liens and the Financial Crisis of 2008.* American Bankruptcy Law Journal, 2009, No 83, p. 253.
[85] Between the end of September 2008 and the end of February 2014, the balance of MFI loans to non-financial corporations and households decreased by 26.7 per cent and the weighted interest rates declined to 3 per cent, from 6.9 per cent.

prices undermine the creditors' ability to duly assess the risks of their household debtors and, simultaneously, distort the households' perception of their own capacity to meet financial commitments. If the economy was to go sour and the indebted households were to run into troubles, their creditor banks would suffer losses.[86] This translates into a more cautious approach to risk assessment, which, in its turn, leads to constraints in credit supply – even to the projects that should be considered promising. The analysis has shown that the rapid growth in house prices, which was observed between 2004 and 2008, and the ensuing fall, which lasted until 2010, had a substantial effect on the quality of housing loans.[87] In 2013, nearly one-fifth of outstanding loans had their balance exceed the value of underlying mortgaged property. The results of the analysis corroborate the need to establish an LTV threshold. If the banks had not had the option of financing 100 per cent (or more) of the house price in 2006–2008, the ranks of underwater borrowers after the 2008 economic downturn would have probably been thinner and, therefore, the lending criteria would have probably been less tight.

Annex 2. Macroeconomic stress testing at the Bank of Lithuania

The stability of the banking sector and the entire financial system has recently been a hot issue both among the central banks and other financial market players, as well as in the public at large. Although financial crises are not new phenomena, the central banks have only taken concern in the stability of the financial system in the past several decades. Financial crises are rare events. However, in most cases they are followed by an economic downturn, therefore the central banks and supervisors shall take measures to ensure the stability of the financial system.

A set of tools available for measuring financial stability includes macroeconomic stress testing which is one of the methods used to assess the resilience of the banking system to various risks that may arise in the near future. The global financial crisis has provided a strong impetus for the development and application of testing methodologies. Stress tests are carried out by commercial banks, supervisory authorities and central banks, as they seek to measure the resilience of a specific institution or the entire sector against adverse developments in the economy. In this respect, stress testing approaches can be divided into the following two categories: bottom-up and top-down. The bottom-up stress tests are conducted by the commercial banks, based on their own data and models. The central bank or the supervisory authority may impose certain restrictions on the modelling exercise of commercial banks (e.g. to define general scenarios, mandatory assumptions and methodological principles) and may use their in-house analytical tools to check or challenge the results obtained by commercial banks. The purpose of bottom-up stress tests is to measure the resilience of a specific bank against economic shocks, which makes them one of the tools of micro-prudential supervision. The top-down tests are carried out by the central banks, in most cases, without direct involvement of commercial banks. The rules, scenarios and modelling assumptions used in such stress tests are uniform for all banks subject to this exercise. Top-down testing is often used to provide a benchmark to compare the results of bottom-up stress tests. This approach helps identify important inconsistencies in the results of the tests carried out by commercial banks. Top-down testing is one of the macro-prudential supervisory instruments since it has as its aim the measurement of resilience against adverse economic shocks in the entire banking system.

The main purpose of stress testing carried out by the Bank of Lithuania is to quantify the resilience of the entire Lithuanian banking system and its constituent institutions against adverse economic shocks. The Bank of Lithuania uses different approaches for solvency (credit) and liquidity[88] risk stress testing. Solvency stress testing is focused on the assessment of the banks' capital adequacy under an adverse macroeconomic scenario. The exercise has a two-year time horizon and involves consistent modelling of items in the banks' profit and loss account on a quarterly basis.

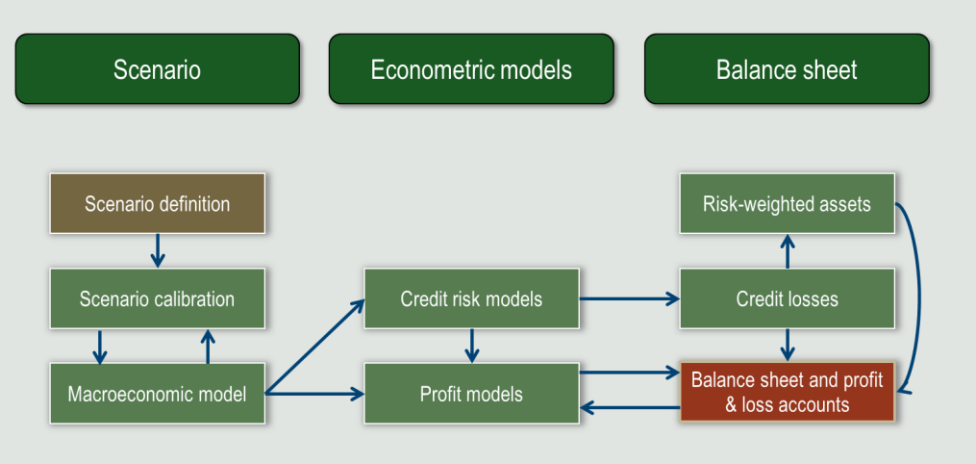
Modelling framework

The purpose of stress testing is to assess whether the capital buffers built up by the banks are sufficient to absorb the impairment losses on the loan book, which would arise due to adverse developments in macroeconomic environment. The macroeconomic stress testing procedure applied by the Bank of Lithuania consists of the following three main steps (for their components and interrelations see Chart A):

- Step 1 involves the construction of a macroeconomic scenario, which is then used as a framework for the assessment of the resilience of the banking system. The scenario is developed using the structural macroeconomic model for the Lithuanian economy, the statistical features of official macroeconomic indicators as well as expert judgement;
- Step 2 involves the application of econometric models, which help establish links between the dynamics of macroeconomic variables and the developments in a bank's credit risk and profitability. These models are of two types: the models of credit losses and the models of profitability (the latter are used to model the items of the next profit and loss account);
- finally, Step 3 involves the aggregation of modelling results obtained in different building blocks into a single profit and loss account and the simultaneous assessment of changes in capital and risk-weighted assets. These variables define the target variable of the exercise, i.e. the capital adequacy ratio, which is used to draw the main conclusions about the resilience of the bank. Other indicators modelled as part of the exercise can also provide additional insights about the characteristic aspects of the bank's operations.

[86] See the Financial Stability Review published by the Bank of Lithuania in 2009.
[87] See footnote 82.
[88] The description of the approach used by the Bank of Lithuania for liquidity risk stress testing is available online at http://www.lb.lt/stress_testing_of_liquidity_risk.

Chart A. Stress testing flowchart



Source: Bank of Lithuania.

Assumptions

The results obtained through stress testing are not forecasts. On the contrary, they represent the analysis of highly unlikely events and the conclusions made are tentative. The results should be interpreted with caution and with due regard to the assumptions made. The Bank of Lithuania carries out its stress tests under the following static balance sheet assumptions, which help make the calculations more specific and exclude unpredictable aspects:

- the structure of loan portfolio of the banks remains unchanged throughout the time horizon of the test;
- the natural amortization of the loan portfolio is offset by new loans, hence its gross value remains unchanged;
- any profit earned within the period covered by the test is used to increase capital;
- the banks do not pay any dividend and do not resort to any other means to raise capital;
- changes in risk-weighted assets may only result from changes in the quality of the loan portfolio;
- the banking supervisors and public authorities are assumed to take no measures to mitigate the consequences of an economic shock;
- the tests exclude the strategic decisions, which may be made by the banks, and their effects on the capital adequacy ratio.

Credit loss modelling

The biggest impact on the asset quality of commercial banks and, accordingly, on their capital adequacy ratio, comes from losses, which they sustain due to credit risk. Therefore, credit risk modelling is viewed as one of the key elements of macroeconomic stress testing as it helps assess potential solvency and stability of the banks involved. The exercise includes the modelling of potential credit losses of a specific bank in light of a hypothetical macroeconomic scenario constructed for the test, i.e. the analysis of the relationships between credit risk and macroeconomic variables. All macroeconomic variables are applied as exogenous model variables and, therefore, determine the results of stress testing.

Credit losses are modelled in several stages. The first stage deals with the examination of the relationships between credit losses in specific economic sectors and macroeconomic variables. Depending on the data quality, the entire loan portfolio of the banks is split into seven parts.[89] The losses assessed reflect the average contingent losses of the entire sector. The second stage involves the assessment of credit losses in light of the portfolio structure of a specific bank. The expected credit losses ($\overline{CL_{X,t}}$) are calculated as a weighted sum (where the weights are the proportions of loans to respective sectors in the loan portfolio). The third stage involves the assessment of risk appetite of an individual bank. If the risk appetite of the bank X is not too high, the actual losses ($CL_{X,t}$) should be close to the expected ones ($\overline{CL_{X,t}}$). If the risk appetite is actually present, the exercise continues with the estimation of credit losses of the bank X ($\widetilde{CL_{X,t}}$). The final result shows the potential credit losses, which are expressed using the following formula:

$$CL_{X,t} = \max\{\overline{CL_{X,t}}, \widetilde{CL_{X,t}}\}. \quad (1)$$

This formula is applied conservatively as it is not clear which of the credit loss estimates ($\overline{CL_{X,t}}$ or $\widetilde{CL_{X,t}}$) is more suitable to the hypothetical scenario. The purpose of stress testing is to assess the potential losses in the worst-case scenario. Therefore, it is important to make sure that credit losses are not underestimated for the sole reason of differences in the internal provisioning rules applied.

Profitability modelling

Operating profit generated by banks forms a very important part of the overall assessment since the profit can be used

[89] Loans to non-financial corporations are split into five parts: (i) industry; (ii) trade; (iii) financial intermediation; (iv) public sector; and (v) other loans. Loans to natural persons for house purchases as well as loans for consumption and other loans to natural persons are modelled separately.

to offset a substantial portion of credit losses and, thus, can have a significant impact on the final outcome of modelling. Due to this reason, the modelling of bank profitability is included in solvency stress testing. The operating profit of the banks was divided into the following six components: (i) net interest income; (ii) net fee and commission income; (iii) net investment income; (iv) other operating income; (v) operating expenses; and (vi) amortisation. Individual assessment of these items, rather than the assessment of the total operating profit in general, can help establish more precise interactions with the real economy. Moreover, it helps identify the items, a change in which has the greatest impact on the banks' profitability.

A dynamic panel data model, which helps assess the relationships, equally affecting the entire banking system, has been chosen for profitability modelling. This is important since the stress tests carried out are top-down, i.e. they involve the comparison of the results of tests run on individual banks. Moreover, the model includes bank-specific variables and the unobserved bank-specific effect, which help obtain comparable results. With the bank marked with index *i* and the quarter – with index *t*, profitability is generally modelled by the following equation:

$$Y_{i,t} = \alpha + \eta_i + \beta Y_{i,t-1} + \sum_{j=1}^{k} \gamma_j M_{j,t} + \sum_{s=1}^{l} \delta_s B_{s,i,t} + \varepsilon_{i,t}, \quad (2)$$

where: $Y_{i,t}$ means the item of the profit and loss account being modelled (net interest income, net fee and commission income or operating expenses); η_i means the unobserved bank-specific effect; $M_{j,t}$ stands for macroeconomic variables and $B_{s,i,t}$ – for bank-specific variables. The most recent value of 12-quarter moving average was used as a proxy for other operating income and amortisation in the period considered by the stress test.

Market risk assessment

The assessment of the banks' exposure to market risk takes into account the volatility of net investment income. The approach is calibrated in such a way that a higher volatility in banks' investment income results in higher losses under stressed conditions.

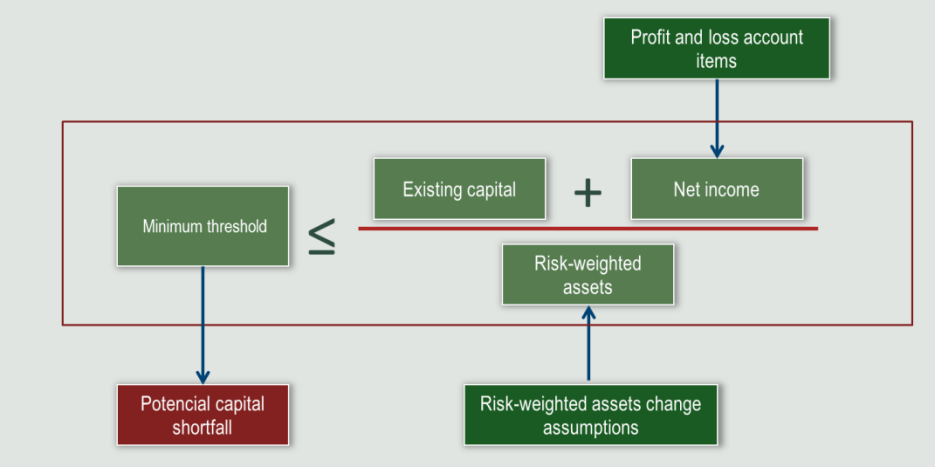
Under the baseline scenario, losses due to market risk are computed as 1 times the standard deviation with respect to investment income of the previous three-year period. These losses are distributed across the stress test horizon in the following way: 50 per cent of losses are attributed to the first year of the test and 30 per cent – to the second year. The value obtained by subtracting the losses thus attributed from the average investment income of the previous three years represents the banks' sensitivity to market risk under the baseline scenario.

Under the adverse scenario, losses due to market risk are estimated as 2 times the standard deviation with respect to investment income of the previous five-year period. These losses are distributed across the stress test horizon as follows: 50 per cent of losses are attributed to the first year of the test and 30 per cent – to the second year. The value obtained by subtracting the losses thus attributed from the average investment income of the previous three years shows the banks' sensitivity to market risk under the adverse scenario.

Aggregation of results

All econometrically-modelled estimates are entered in a simplified profit and loss account. The final variable of the profit and loss account is the net profit, which acts as the determinant factor of the ensuing changes in the bank's capital, which, in its turn, define the value of the capital adequacy ratio.

Chart B. Capital adequacy assessment



Source: Bank of Lithuania.

The capital adequacy ratio is a key variable, which is used to summarise the results of stress testing and to calculate the potential capital shortfall (see Chart B). This ratio can also be affected by changes in risk-weighted assets. These changes are not modelled directly. Instead, the developments in risk-weighted assets are defined by changes in loan portfolio quality, taking the assumptions into account.

STATISTICAL ANNEXES

Statistical annex 1. Key financial stability indicators

(2008–2013; percentages)

Financial stability indicators	2008	2009	2010	2011	2012	2013
Capital adequacy						
Capital adequacy[1, 2]	11.6	12.9	14.8	14.2	15.7	17.6
Tier 1 capital adequacy[1, 2]	9.1	9.3	10.8	12.0	14.6	17.1
Capital-to-assets ratio[1]	8.9	9.4	10.9	10.2	11.4	11.5
Asset quality						
Ratio of non-performing loans to total loans (not including interbank loans)[3]	4.7	19.7	20.0	16.6	13.6	11.0
o/w loans to businesses	4.2	26.7	25.8	21.1	16.9	13.4
o/w housing loans	2.1	5.9	8.3	8.6	8.0	7.0
o/w consumer loans	24.8	14.4	19.8	16.2	15.3	13.1
Ratio of impaired loans to total loans (not including interbank loans)[3]	3.4	15.7	16.7	14.0	11.4	8.5
o/w loans to businesses	2.8	22.0	22.5	18.6	14.9	10.7
o/w housing loans	1.3	3.9	5.7	6.0	5.6	4.9
o/w consumer loans	22.3	7.4	10.9	11.3	10.0	8.7
Ratio of non-impaired loans, more than 60 days overdue, to total loans (not including interbank loans) [3]:	1.3	3.9	3.3	2.5	2.2	2.5
o/w loans to businesses	1.4	4.7	3.3	2.4	2.0	2.8
o/w housing loans	0.8	2.0	2.6	2.6	2.4	2.0
o/w consumer loans	2.5	7.0	8.9	4.9	5.3	4.4
Ratio of loan impairment losses to total loans (not including inter-bank loans)[4,5]	1.3	6.7	8.0	7.0	5.6	4.2
o/w loans to businesses[5]	1.5	9.0	10.4	8.9	6.9	5.0
o/w housing loans[5]	0.4	1.8	3.0	3.3	3.1	2.6
o/w consumer loans[5]	2.3	7.6	11.7	11.4	9.8	7.9
Ratio of loan impairment losses to non-performing loans[2, 3, 4, 5]	26.8	33.9	40.2	42.2	40.8	37.9
Income and profitability						
Return on equity[1, 6]	11.8	-50.8	-3.9	15.8	7.7	8.9
Return on assets[6]	0.8	-3.8	-0.3	1.4	0.9	1.0
Ratio of net interest income to total income	64.4	50.6	49.0	58.7	53.7	49.9
Ratio of profit (loss) on trading and foreign exchange operations to total income	54.6	60.3	64.4	60.2	61.9	61.9
Ratio of staff costs to total non-interest expenses	0.9	13.5	8.1	4.0	9.1	8.8
Liquidity						
Liquidity ratio (ratio of liquid assets to current liabilities)[7]	...	...	43.8	44.1	41.2	41.2
Ratio of liquid assets to total assets[7]	...	...	23.8	23.7	25.1	27.0
Ratio of current liabilities to total liabilities[6]	...	...	58.5	58.8	67.7	73.1
Three-month VILIBOR and EURIBOR spread, basis points[8]	700	320	49	30	49	18
Ratio of deposits to total loans (not including interbank loans)	56.8	68.6	82.2	80.6	85.8	93.3
Ratio of short-term liabilities to banks to total liabilities to banks	...	...	42.3	35.4	48.9	43.8
Assets						
Ratio of loans (not including interbank loans) to assets	69.8	66.3	66.4	65.3	67.5	65.7
Ratio of loans to households to total loans (not including interbank loans)	41.1	44.3	43.8	44.4	44.9	44.7
Ratio of loans to non-financial corporations to total loans (not includ-ing interbank loans)	54.9	52.3	50.6	48.6	47.9	46.2
Ratio of debt securities to assets	6.5	8.2	9.1	6.6	6.9	10.2
Ratio of government debt securities to assets	3.3	5.4	6.5	4.4	4.7	6.8
Ratio of government debt securities to total debt securities	51.1	65.6	71.1	66.4	68.3	66.8

Financial stability indicators	2008	2009	2010	2011	2012	2013
Liabilities						
Ratio of liabilities to assets	93.1	94.4	92.9	91.2	90.2	89.7
Ratio of deposits to total liabilities	42.6	48.2	58.7	57.7	64.2	68.4
Ratio of resident deposits to total deposits	89.0	90.8	88.3	96.1	96.3	97.0
Ratio of household deposits to total deposits	62.7	61.3	57.6	58.5	55.9	58.9
Ratio of deposits of non-financial corporations to total deposits	28.9	27.7	29.4	33.2	34.0	33.7
Ratio of liabilities to banks to total liabilities	50.1	43.9	35.2	35.7	31.0	28.4
Ratio of liabilities to banks of the parent banking group to total liabilities to banks	...	...	92.9	94.9	95.5	96.6
Ratio of liabilities to banks of the parent banking group to total liabilities	...	...	32.7	33.9	29.6	27.5
Ratio of liabilities to banks of the parent banking group to total liabilities to non-residents	...	...	88.4	91.3	87.4	89.4
Assets and liabilities of non-residents						
Ratio of non-residents' liabilities to total assets	42.2	38.9	34.4	33.8	30.5	27.6
Foreign exchange rate risk						
Ratio of net open position in foreign currency to regulatory capital[1, 2]	0.97	1.01	0.54	0.62	0.29	0.44

Source: Bank of Lithuania calculations.

Notes: (i) 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; (ii) 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; (iii) 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-2008, non-performing loans include the loans with regular payments overdue for more than 60 days but not yet impaired as well as the impaired loans (loans with special provisions for losses). 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 1 of 29 January 2004 of the Board of the Bank of Lithuania.
[8] End-of-period data.

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

(1 January 2014; LTL 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	**974.3**	**860.5**	**409.2**	**452.9**	**31.7**	**110.0**	**86.2**	**2,924.9**	**1,876.3**	**4,801.2**
Cash balances with banks and other credit institutions	**3,655.5**	**2,574.0**	**926.5**	**96.1**	**11.9**	**35.1**	**16.3**	**7,315.4**	**2,060.9**	**9,376.4**
Loans	**15,171.4**	**12,488.6**	**8,854.2**	**2,356.6**	**643.5**	**435.2**	**53.3**	**40,002.7**	**10,433.4**	**50,436.1**
public authorities	387.8	921.5	763.5	284.8	1.2	–	–	2,358.8	572.0	2,930.8
state and municipal entities	261.3	558.3	177.8	13.5	1.1	2.5	–	1,014.4	12.1	1,026.4
financial institutions	0.4	24.3	0.0	0.0	1.6	14.9	3.1	44.3	466.0	510.2
private entities	7,969.4	4,593.7	3,805.3	1,837.0	269.9	359.6	41.6	18,876.5	4,304.7	23,181.2
natural persons	6,552.5	6,390.8	4,107.5	221.3	369.6	58.4	8.6	17,708.7	5,078.7	22,787.5
Debt securities	**1,174.0**	**2,131.4**	**976.3**	**1,801.5**	**323.2**	**161.3**	**247.7**	**6,815.4**	**662.2**	**7,477.6**
Equity securities	**25.2**	**5.3**	**4.5**	**56.3**	**0.1**	**–**	**0.5**	**91.9**	**57.0**	**148.9**
Other assets	**1,968.4**	**1,549.2**	**871.8**	**550.5**	**122.6**	**95.2**	**10.4**	**5,168.2**	**505.0**	**5,673.2**
Total assets	**22,968.9**	**19,609.1**	**12,042.4**	**5,314.0**	**1,133.0**	**836.9**	**414.4**	**62,318.5**	**15,594.8**	**77,913.4**
Debts to banks and other credit institutions	**6,661.3**	**505.5**	**4,161.7**	**49.2**	**153.1**	**2.0**	**1.5**	**11,534.2**	**8,133.7**	**19,667.9**
Deposits	**13,064.5**	**14,897.0**	**6,306.3**	**4,614.5**	**767.6**	**687.0**	**374.3**	**40,711.1**	**7,191.3**	**47,902.4**
public authorities	400.8	484.6	403.1	146.1	5.1	6.1	–	1,445.8	690.7	2,136.5
state and municipal entities	166.5	760.1	172.2	29.0	1.5	3.5	1.4	1,134.1	260.1	1,394.3
financial institutions	388.4	241.3	21.4	70.3	3.9	3.0	18.4	746.7	168.8	915.5
private entities	4,505.2	3,218.0	2,605.8	488.0	389.2	105.5	225.7	11,537.2	4,187.0	15,724.3
natural persons	7,603.6	10,193.0	3,103.8	3,881.1	367.8	569.0	128.9	25,847.2	1,884.7	27,731.9
Debt securities issued	**95.3**	**298.4**	**13.1**	**–**	**–**	**–**	**2.7**	**409.5**	**–**	**409.5**
Other liabilities	**591.5**	**540.2**	**112.5**	**307.4**	**56.1**	**69.8**	**16.3**	**1,693.7**	**257.9**	**1,951.6**
Total equity	**2,556.3**	**3,368.0**	**1,448.8**	**343.0**	**156.2**	**78.1**	**19.5**	**7,970.0**	**11.9**	**7,981.9**
profit (loss) of the current year	50.3	88.8	14.9	17.2	4.2	0.7	-0.3	175.7	7.5	183.2
Total liabilities and equity	**22,968.9**	**19,609.1**	**12,042.4**	**5,314.0**	**1,133.0**	**836.9**	**414.4**	**62,318.5**	**15,594.8**	**77,913.4**
Return on Assets (RoA), %[3]	**0.86**	**1.81**	**0.49**	**1.30**	**1.53**	**0.35**	**–0.3**	**1.12**	**0.20**	**0.94**
Return on Equity (RoE), %[4]	**7.79**	**10.69**	**4.09**	**20.69**	**10.73**	**3.76**	**–6.32**	**8.85**	**–**	**–**
Prudential Requirements										
Capital adequacy ratio[5, 5a]	**15.6**	**22.3**	**16.8**	**11.6**	**17.5**	**15.4**	**16.3**	**17.6**	**–**	**–**
Liquidity[6]	**35.1**	**38.7**	**40.1**	**57.1**	**46.2**	**50.0**	**92.7**	**39.8**	**46.6**	**41.1**
Maximum exposure to single borrower[7, 5a]	**18.9**	**18.1**	**13.8**	**19.4**	**20.5**	**17.8**	**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.

[5a] 31 December 2013 data. The indicators as of 31 March 2014 will be published in August 2014. Taking into account that Regulation (EU) No 575/2013 of the European Parliament and of the Council of 26 June 2013 on the prudential requirements for credit institutions and investment firms and amending Regulation (EU) No 648/2012 (OJ 2013 L 176, p. 1), became applicable on 1 January 2014, as well as the fact that this Regulation is a legislative act that shall be directly applicable in the European Union's Member States, the resolutions of the Bank of Lithuania containing provisions falling within the scope of this Regulation have been repealed. Due to these changes, the capital adequacy ratio and other capital-related indicators for the first quarter of 2014 will be submitted by banks within the term specified in the technical standards on supervisory reporting of the European Banking Authority.

[6] Liquidity ratio – bank's liquid assets and current liabilities may not be lower than 30 per cent.

[7] Indicators as of 31 December 2013. The maximum exposure to single borrower ratio requirement (from 1 January 2014 - the large exposure ratio; the maximum open position in foreign currencies and precious metals indicators as of 1 January 2014 are no longer calculated) – a bank's single borrower exposure may not be higher than 25 per cent of its capital. The amount of loans granted by the bank to its parent company, other subsidiary companies of this parent company or to its own subsidiary companies shall not exceed 75 per cent of the bank's capital per each borrower where the consolidated supervision of the whole financial group is carried out by the Bank of Lithuania. If the Bank of Lithuania does not supervise the entire financial group on a consolidated basis, the amount of loans granted by the bank to its parent company, other subsidiary companies of this parent company or to its own subsidiary companies shall not exceed 20 percent of the bank's capital per each borrower.

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

(2012–2013; 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	
	2012	2013	2012	2013	2012	2013	2012	2013	2012	2013	2012	2013
Forestry and fishing	6.8	11.6	66.6	71.5	29.0	27.0	319.8	365.7	4.7	5.0	2.3	2.8
Mining and quarrying	16.5	18.0	62.5	78.0	88.1	62.8	61.1	72.1	0.0	1.1	0.6	0.5
Manufacturing	3.3	2.3	67.1	69.4	95.4	96.5	54.0	45.6	3.3	2.8	18.3	18.0
Energy supply	3.1	3.5	50.1	51.2	51.4	52.5	73.1	68.9	0.3	1.3	6.8	7.6
Water supply	3.2	2.4	43.9	53.5	35.5	37.1	79.4	74.1	2.7	2.6	0.7	0.8
Construction	2.9	3.4	55.2	57.3	121.2	129.5	32.5	36.8	4.6	4.4	10.3	8.6
Wholesale and retail trade	2.7	3.9	66.4	69.4	145.3	137.2	46.5	64.9	2.4	2.7	19.7	19.3
Transport and logistics	5.7	5.1	67.1	67.7	55.4	66.6	90.9	83.2	2.2	3.1	4.0	5.7
Accommodation and catering	3.1	3.9	51.4	51.7	213.9	195.3	14.7	19.3	4.5	4.7	2.8	2.8
Information and communication	9.3	10.0	62.4	60.1	69.9	67.4	75.2	80.1	1.0	1.2	0.8	0.8
Real estate operations	21.5	23.0	58.0	64.6	133.3	113.6	12.0	13.5	1.8	0.7	27.8	28.3
Professional, scientific and technical activities	35.0	33.1	62.3	61.9	15.0	14.6	86.7	71.2	1.2	4.6	4.0	2.6
Education	-0.6	4.0	49.5	56.3	45.7	46.6	65.2	111.5	1.4	1.0	–	–
Total[7]	**4.3**	**4.5**	**62.1**	**64.1**	**74.9**	**72.4**	**45.8**	**48.7**	**2.6**	**2.7**	**45.8**	**44.8**

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

(end-of-2013 balance; the figure in brackets shows the change compared to the end-of-2012 balance; LTL billions)

	Net financial assets												
	Non-financial corporations	Central bank	Other MFIs	Other financial intermediaries	Financial auxiliaries	Insurance corporations[2]	Central government	Local government	Social security funds	Households	Non-profit institutions	Other parties	Total
Non-financial corporations		–4.0 (3.2)	13.1 (–2.9)	8.7 (1.4)	0.2 (0.0)	–0.4 (0.0)	11.8 (0.1)	2.5 (–0.4)	0.5 (0.0)	36.9 (1.7)	0.0 (–0.1)	28.5 (–0.2)	**97.7 (2.8)**
Central bank	4.0 (–3.2)		6.0 (0.1)	0.0 (0.0)	0.0 (0.0)		3.3 (–2.3)			6.9 (3.8)		–19.6 (1.2)	**0.7[4] (1.1)**
Other MFIs	–13.1 (2.9)	–6.0 (–0.1)		–3.2 (1.0)	4.5 (–0.1)	0.3 (–0.1)	–4.9 (–3.0)	–1.6 (–0.2)	–0.7 (0.2)	4.5 (1.3)	0.6 (0.0)	22.3 (–1.5)	**2.6 (0.5)**
Other financial intermediaries[1]	–8.7 (–1.4)	0.0 (0.0)	3.2 (–1.0)		0.0 (0.0)	0.2 (0.0)	–0.1 (0.0)	0.0 (0.0)		0.2 (0.4)	0.0 (0.0)	1.1 (0.8)	**–4.0 (–1.2)**
Financial auxiliaries	–0.2 (0.0)	0.0 (0.0)	–4.5 (0.1)	0.0 (0.0)		0.0 (0.0)	4.9 (0.9)			0.2 (0.0)		0.0 (0.0)	**0.4 (0.9)**
Insurance corporations[2]	0.4 (0.0)		–0.3 (0.1)	–0.2 (0.0)	0.0 (0.0)		–1.9 (0.1)		0.0 (0.0)	8.0 (0.7)	0.0 (0.0)	–5.3 (–0.6)	**0.6 (0.3)**
Central government	–11.8 (–0.1)	–3.3 (2.3)	4.9 (3.0)	0.1 (0.0)	–4.9 (–0.9)	1.9 (–0.1)		–0.3 (–0.1)	–9.9 (–1.4)	3.5 (0.1)	0.0 (0.0)	35.5 (5.0)	**15.9 (–2.2)**
Local government	–2.5 (0.4)		1.6 (0.2)	0.0 (0.0)			0.3 (0.1)		–0.1 (0.0)			0.2 (0.1)	**–0.5 (0.6)**
Social security funds	–0.5 (0.0)		0.7 (–0.2)			0.0 (0.0)	9.9 (1.4)	0.1 (0.0)		0.3 (–0.0)			**10.5 (1.2)**
Households	–36.9 (–1.7)	–6.9 (–3.8)	–4.5 (–1.3)	–0.3 (–0.4)	–0.2 (0.0)	–8.0 (–0.7)	–3.5 (–0.1)		–0.3 (0.0)			–3.1 (–1.3)	**–63.7 (–9.3)**
Non-profit institutions[3]	–0.0 (0.1)		–0.6 (0.0)	0.0 (0.0)		0.0 (0.0)	0.0 (0.0)					0.0 (0.0)	**–0.6 (0.0)**
Other parties	–28.5 (0.2)	19.6 (–1.2)	–22.3 (1.5)	–1.1 (–0.8)	0.0 (0.0)	5.3 (0.6)	–35.5 (5.0)	–0.2 (–0.1)		3.1 (1.3)	0.0 (0.0)		**–59.5 (6.5)**
Total	**–97.7 (–2.8)**	**–0.7[4] (–1.1)**	**–2.6 (–0.5)**	**4.0 (1.2)**	**–0.4 (–0.9)**	**–0.6 (–0.3)**	**–15.9 (2.2)**	**0.5 (–0.6)**	**–10.5 (–1.2)**	**63.7 (9.3)**	**0.6 (0.0)**	**59.5 (–6.5)**	

Source: Bank of Lithuania calculations.

[1] Other financial intermediaries, not including insurance corporations and pension funds.
[2] Insurance corporations and pension funds.
[3] Non-profit institutions serving households.
[4] Not including monetary gold and special drawing rights (SDRs).

Explanation: the table was compiled from Lithuania's financial accounts (see Methodological Notes to the Financial Accounts of Lithuania at http://www.lb.lt/notes_3). A positive figure in the table shows net financial assets (financial assets exceed financial liabilities) held by a subsector indicated in a respective column in a subsector indicated in a respective row, while the negative figure shows net financial liabilities (financial assets are lower than financial liabilities). For example, at the end of Q4 2013, the financial assets of households in other MFIs (basically, in commercial banks and credit unions) exceeded their liabilities to those MFIs by LTL 4.5 billion (i.e. they had net financial assets), while the net financial assets of non-financial corporations in other MFIs were a negative figure, i.e. the financial liabilities of corporations exceeded their financial assets in other MFIs.

Statistical annex 5. Financial system of Lithuania

(2010–2013)

	2010					2011					2012					2013				
	Number	Assets				Number	Assets				Number	Assets				Number	Assets			
		LTL millions	Share, %	Annual change, %	Compared to GDP, %		LTL millions	Share, %	Annual change, %	Compared to GDP, %		LTL millions	Share, %	Annual change, %	Compared to GDP, %		LTL millions	Share, %	Annual change, %	Compared to GDP, %
Banks* **	**20**	**81,707**	**82.9**	**–3.0**	**85.4**	**20**	**78,971**	**82.6**	**–3.4**	**73.9**	**20**	**74,259***	**80.5***	**–0.7***	**65.3***	**15**	**77,426**	**81.4**	**4.3**	**64.8**
Banks***, not including foreign bank branches	9	66,533	67.5	–3.7	69.5	8	63,542	66.5	–4.5	59.4	8	58,279*	63.2*	–1.8*	51.2*	7	62,599	65.8	7.4	52.4
Foreign bank branches***	11	15,174	15.4	0.0	15.9	12	15,429	16.1	1.7	14.4	12	15,979	17.3	3.6	14.1	8	14,828	15.6	–7.2	12.4
Credit unions	**68**	**1,277**	**1.3**	**36.9**	**1.3**	**74**	**1,629**	**1.7**	**27.5**	**1.5**	**77**	**2,056**	**2.2**	**26.2**	**1.8**	**76**	**2,144**	**2.3**	**4.3**	**1.8**
Lithuanian central credit union	**1**	**310**	**0.3**	**51.3**	**0.3**	**1**	**355**	**0.4**	**14.2**	**0.3**	**1**	**370**	**0.4**	**4.4**	**0.3**	**1**	**367**	**0.4**	**–1.0**	**0.3**
Leasing companies	**9**	**6,584**	**6.7**	**–22.0**	**6.9**	**10**	**6,035**	**6.3**	**–8.3**	**5.7**	**10**	**5,814**	**6.3**	**–3.7**	**5.1**	**9**	**4,588**	**4.8**	**–21.1**	**3.8**
Insurance market	**13**	**2,783**	**2.8**	**–16.7**	**2.9**	**11**	**2,768**	**2.9**	**–0.5**	**2.6**	**11**	**2,985**	**3.2**	**7.8**	**2.6**	**10**	**2,970**	**3.1**	**7.7****	**2.5**
Life insurance companies	5	1,277	1.3	–31.0	1.3	5	1,562	1.6	22.3	1.5	5	1,778	1.9	13.8	1.6	5	1,954	2.1	9.9	1.6
Non-life insurance companies	**8**	**1,506**	**1.5**	**1.1**	**1.6**	**6**	1,206	**1.3**	–19.9	1.1	**6**	**1,207**	**1.3**	**0**.1	**1.1**	5	1,017	1.1	3.6**	0.9
Capital market participants	**127**	**1,993**	**2.0**	**40.0**	**2.1**	**117**	**1,622**	**1.7**	**–18.6**	**1.5**	**122**	**1,842**	**2.0**	**13.6**	**1.6**	**110**	**2,065**	**2.2**	**12.1**	**1.7**
Financial brokerage companies	9	40	0.0	–3.4	0.0	10	29	0.0	–27.3	0.0	10	25	0.0	–14.0	0.0	7	21	0.0	–14.5	0.0
Management companies	12	83	0.1	6.9	0.1	14	76	0.1	–8.7	0.1	14	78	0.1	3.2	0.1	14	81	0.1	5.4	0.1
Lithuania-registered collective investment undertakings	38	601	0.6	34.6	0.6	30	512	0.5	–14.8	0.5	33	641	0.7	25.2	0.6	33	838	0.9	30.7	0.7
Foreign-registered collective investment undertakings	68	1,269	1.3	48.0	1.3	63	1,005	1.1	–20.8	0.9	65	1,098	1.2	9.3	1.0	56	1,123	1.2	2.3	0.9
Pension funds	**38**	**3,955**	**4.0**	**18.4**	**4.1**	**39**	**4,175**	**4.4**	**5.6**	**3.9**	**39**	**4,917**	**5.3**	**17.8**	**4.3**	**38**	**5,575**	**5.9**	**13.4**	**4.7**
2nd pillar pension funds	29	3,856	3.9	18.2	4.0	30	4,081	4.3	5.8	3.8	30	4,808	5.2	17.8	4.2	28	5,444	5.7	13.2	4.6
3rd pillar pension funds	9	99	0.1	24.8	0.1	9	94	0.1	–5.3	0.1	9	109	0.1	15.7	0.1	10	130	0.1	20.0	0.1
FINANCIAL SYSTEM	**276**	**98,610**	**100.0**	**–3.3**	**103.1**	**272**	**95,554**	**100.0**	**–3.1**	**89.4**	**280**	**92,242***	**100.0**	**0.9***	**81.1***	**259**	**95,134**	**100.0**	**3.4****	**79.6**
Securities market capitalisation	**–**	***18,816***	**–**	***26.2***	***19.7***	**–**	***15,462***	**–**	***–17.8***	***14.5***	**–**	***16,195***	**–**	***4.7***	***14.2***	**–**	***17,168***	**–**	***6.0***	***14.4***
Listed shares	–	*14,570*	–	*31.1*	*15.2*	–	*10,839*	–	*–25.6*	*10.1*	–	*10,329*	–	*–4.7*	*9.1*	–	***10,036***	–	*–2.8*	*8.4*
Listed debt securities	–	*4,246*	–	*12.0*	*4.4*	–	*4,623*	–	*8.9*	*4.3*	–	*5,865*	–	*26.9*	*5.2*	–	***7,132***	–	*21.6*	*6.0*

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.

* Not including data for *AB Ūkio Bankas*.

** Not including data for ERGO Lietuva.

*** Unconsolidated data.

GLOSSARY

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 a 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.

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 Lithuanian commercial banks are willing (ready) to lend funds in litas to other banks. 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.