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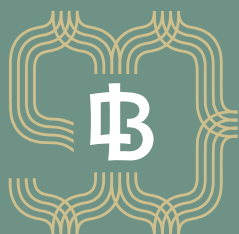
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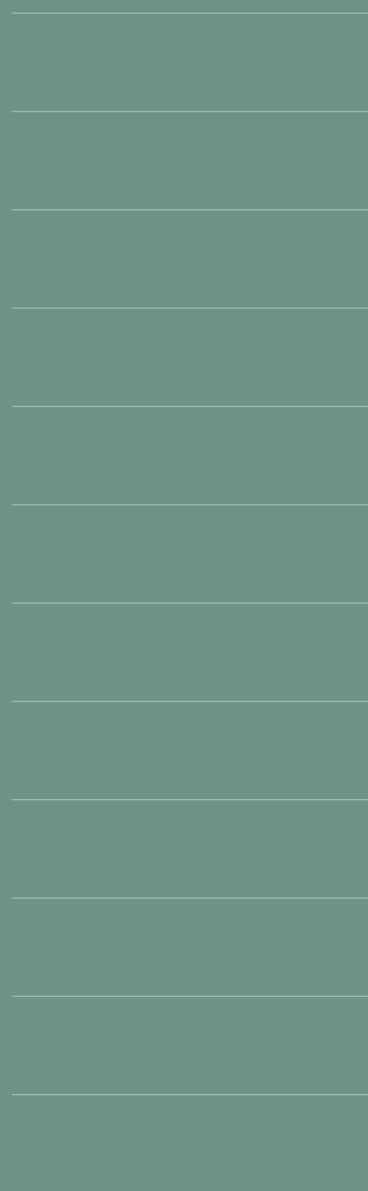
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LIETUVOS BANKAS

FINANCIAL STABILITY REVIEW

2012



Abbreviations

CDS	credit default swap
CIS	Commonwealth of Independent States
CSDL	Central Securities Depository of Lithuania
DTI	debt-to-income ratio
ECB	European Central Bank
ESRB	European Systemic Risk Board
EU	European Union
EUR	euro
FRS	Federal Reserve System
GDP	gross domestic product
IMF	International Monetary Fund
ISC	Insurance Supervisory Commission of the Republic of Lithuania
LGD	loss given default
LSC	Securities Commission of the Republic of Lithuania
LTL	Lithuanian litas
LTV	loan-to-value ratio
MFI	monetary financial institution
OPEC	Organization of the Petroleum Exporting Countries
PMI	Purchasing Managers' Index
p. p.	percentage points
psc.	pieces
RR	recovery rate
RoA	return on assets
RoE	return on equity
SSS	Securities Settlement System
UK	United Kingdom
US	United States

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Introduction

Financial system stability can be defined as a market condition in which its participants (banks, other financial institutions, market infrastructure) are capable of effective financial intermediation as well as withstanding various shocks and avoiding any major impact on the effective reallocation of financial resources. This helps to minimize the likelihood of financial sector's operational failures, which can have a strong negative influence on efficient use of financial resources for profitable projects.

The policy for safeguarding and strengthening financial stability is based on constant monitoring of the market situation and early identification and prevention of potential risks. The key objectives for ensuring financial stability include identifying systemic internal and external threats to financial sector, which arise due to inefficient reallocation of financial assets and inadequate risk pricing and control, also assessing the system's capability to withstand adverse internal and external shocks, foreseeing risk mitigation measures, and providing recommendations to market participants on how to manage the risks they face. Moreover, early identification and assessment of the sources of risks faced by the country's financial system help to reduce the likelihood of financial crises.

By publishing annual financial stability reviews, the Bank of Lithuania aims to promote awareness of potential risks to the financial system in Lithuania and identify the system's capabilities to minimize them, as well as encourage discussions among financial market participants and the public at large on financial stability issues. The Review analyses changes in the domestic financial system, the situation in the banking sector and its major debtors such as households and non-financial enterprises, and their ability to withstand changes in both external and internal macroeconomic environment.

The 2012 Review puts a lot of emphasis on the analysis of major sources of risks for the country's financial system and impact analysis with regard to the banking sector's ability to absorb extra losses that may arise due to lower foreign demand, higher risk premiums, and energy price shock. It should be noted, that tested risk sources and their impact show the most likely sequence of adverse shocks, if any, but they do not represent the major (forecast) scenario for the development of the Lithuanian economic and financial system.

The country's financial system is sufficiently resistant to function even under highly adverse circumstances, and therefore, it can be considered stable. This assessment is based not only on the simulation results of impact by adverse shocks to banks' capital and liquidity, but also on "a real stress test" for the banking sector last year, relating to the termination of the activities of the country's fifth largest bank by assets. The situation in the domestic banking sector has strengthened due to weighty profits in 2011.

In 2011, the Lithuanian financial system successfully withstood the insolvency and bankruptcy of AB bankas SNORAS and thus has proven to be resilient to adverse shocks. The operations of AB bankas SNORAS were restricted in November 2011, while bankruptcy proceedings were instituted against it in December. The said bank's loan portfolio had accounted for 6.2 per cent of the banking sector's portfolio, and its deposit holdings had accounted for 13.0 per cent of the banking deposits. Regardless of uncertainty in the financial system triggered by the bankruptcy of the bank with significant deposit holdings, doubts among depositors and deposit withdrawal from other banks appeared to have been short-lived, as they returned to the growth path after VĮ Indėlių ir investicijų draudimas, the deposit insurance fund, started paying out the insurance compensations for depositors. Banks had sufficient reserves to withstand the shock the simulation of which under stress test conditions was conducted earlier.

The recovery in demand for borrowing has been restricted due to uncertainty relating to the economic development outlook, low confidence and high volatility in financial markets in the euro area, and increased risk aversion among banks. The bank lending survey by the Bank of Lithuania revealed that commercial banks expected moderate growth in the value of gross loan portfolio both in 2012 and 2013, which seemed to be triggered mostly by lending to non-financial corporations. However, the loan portfolio forecasts by larger banks which have parent banks, and banks which do not have parent banks vary, as banks without parent institutions expect more rapid development of their loan portfolios in 2012 than the ones with parent banks.

The decrease in non-performing loans has been driven by rapidly improving quality of corporate loans, while the quality of housing loans has changed insignificantly. The recovery in the domestic and foreign economies was accompanied by rapidly improving operating results of non-financial corporations, decreasing number of initiated bankruptcy proceedings, and improving capabilities of businesses to repay loans contributing to the increase in the banking loan portfolio quality. Because of inertia, the household loan portfolio quality deteriorates at a slower pace than the quality of loans to other borrowers when an economic slowdown starts, and its recovery accelerates slowly after the start of economic upturn. However, the quality of the portfolio of housing loans to households has remained the best compared with other types of loans, notwithstanding a slight decrease in 2011 and the first quarter of 2012.

The main risks to the country's financial system are related to external factors: the continuing sovereign debt crisis in the euro area, a probable increase in energy prices, and a significant contraction in world trade. These risks may affect our country's financial system primarily because of shrinking exports, rising interest rates, and increasing energy prices. They would have a negative impact on the financial situation of the major borrowers of the domestic banking sector such as corporations and households, and lead to extra bank credit losses. An increase in interest rates if triggered by unfavourable factors in a short-term perspective may also lead to a decrease in net interest income, which may in its turn have negative effect on banks' profit and encumber the cash-flow management in banks.

The main concerns are linked with the euro area sovereign debt crisis which may intensify further and spill over to the real economy by triggering a serious and long-term economic downturn in euro area countries. Although the sovereign debt problems have had no direct effect on our country's financial system, the worsening situation in the euro area may hamper domestic export, affect expectations and confidence in general, and boost funding costs for financial institutions. It should be noted that European institutions have recently adopted a number of important decisions regarding the sovereign debt problems (e.g. the restructuring of Greece's debt, sustainable fiscal policy commitments, labour market reforms in Italy and Spain). However, a number of important decisions related to the reforms and necessary to ensure a long-term growth and integration of fiscal and financial supervision are yet to be made. It is also important for Lithuania to continue structural reforms with the focus on long-term growth.

The stress-testing results have revealed that the banking sector is capable of withstanding severe shocks, but some banks should boost their capital reserves. In case the adverse stress-testing scenario materialized (the Lithuanian export demand went down and risk premiums increased), the GDP at constant prices would decline in 2012 and 2013 respectively by 12.7 and 0.4 per cent (for comparison, in 2009, the Lithuanian GDP contracted by 14.8%). In this case, the weighted capital adequacy ratio of the banking sector would be 11.0 per cent at the end of 2013, i.e., by 4.3 p. p. lower than at the beginning of the first quarter in 2012, but above 8 per cent minimum ratio required by the Bank of Lithuania. According to the above scenario, for the minimum capital adequacy ratio in each bank to be maintained above 8 per cent set by the Bank of Lithuania, additional capital of LTL 260 millions should be attracted by the end of 2013.

The main challenges for the domestic financial system include boosting capital reserves while maintaining sustainable credit, improving the governance structure in its financial institutions to ensure that the resistance of the entire system is still higher. It is important for banks to increase their capital reserves further, use conservative approach when assessing different types of risks, and make required provisions to be able finally to solve the loan impairment problems that have emerged during the economic downturn. Larger capital reserves would increase banks' resilience to possible adverse shocks, improve market confidence, and create conditions for well-balanced credit development in future. The problems in AB bankas SNORAS have revealed that it is essential for banks to have a proper governance structure within the institution. The concentration of decision-making power in small and under-regulated organisational units may lead to violations of creditor interest.

The situation in global financial markets remains tense. In December 2011 and February 2012, the ECB conducted two three-year refinancing operations to alleviate funding difficulties for euro area banks (see Chart 1), but the need for reducing the financial leverage, i.e., for increasing equity or reducing assets, remains. Low market confidence and the need to strengthen the quality of banking assets hamper credit supply and demand and also restrain the economic expansion.

Market participants look favourably on the stability of the Lithuanian financial system. The suspension of the activities of the country's fifth largest bank by assets had only a short-lived impact on the financial system, while domestic risk premiums jumped up at the end of 2011 largely due to a complicated overall situation in foreign markets. The level of debt of Lithuanian non-financial corporations and households is among the lowest across the EU (see Chart 2), suggesting their higher resistance to potential risks and creating conditions for sustainable growth of the loan portfolio in future.

It is expected that a gradual increase in domestic consumption will be the main driver for the economic situation improvement in Lithuania in the near term. In 2011, the growth of private consumption was driven by consumer confidence and was higher than the average rate since the start of the series in 1995. While no improvement has been observed recently in the sentiments of economic agents, private consumption will remain an important contributor to the economic growth in 2012. Gross fixed capital formation has also contributed to the Lithuanian economy growth. Despite deteriorating growth prospects for the global economy, which led to the worsening of investment climate, additional non-residential investments and increased funding for the machinery and equipment repairs were observed. However, the businesses' confidence and determination regarding their own rapid development have remained low.

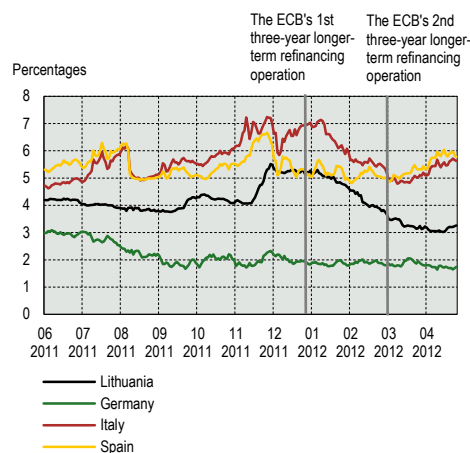
The growth rate of Lithuanian foreign trade has stabilised. The nominal value of export and import of goods grows by more than 10 per cent per year with export growth driven almost equally by both re-export and the export of goods of the Lithuanian origin. The growth of Lithuanian export has slightly outpaced the growth of import demand in the main foreign trade partners with the export market share of our country slightly expanding. The increase in foreign demand is expected to be relatively moderate in the near term, and hence, no acceleration in the Lithuanian export growth is expected.

Improving quality of corporate loan portfolio is the main driver behind the overall improvement in the quality of banking assets. The share of profitably operating companies surged by 20 p. p. in two years, and a lower debt-to-equity ratio makes it easier for non-financial corporations to fulfil their financial obligations. Although the financial situation of companies has improved in the majority of economic activities, they are cautiously optimistic so far because of uncertainty surrounding the economic development trends in their foreign trade partners. Worsening economic situation in the euro area countries would have a negative effect on corporate revenues. Moreover, the relatively low activity in the real estate market has restrained the improvement in the financial situation of corporations within this sector.

The prospects for household loan quality improvement are rather limited. Projected slow decline in unemployment rate and rather moderate economic development will affect job prospects and wage increase, and therefore, only minor improvements are expected in the household loan portfolio quality.

ECB liquidity support has appeased markets, but this solution is temporary.

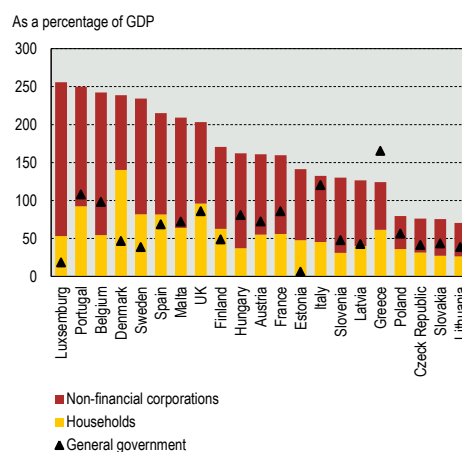
Chart 1. Ten-year sovereign bond yields



Sources: Bloomberg and Bank of Lithuania calculations.

Debt burden of Lithuanian non-financial corporations and households is among the lowest in the EU.

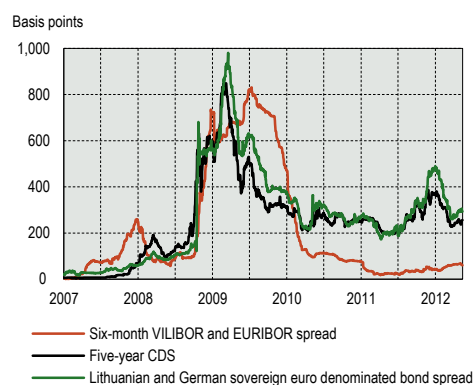
Chart 2. Overall debt of non-financial institutions



Sources: ECB, Eurostat, and Bank of Lithuania calculations.

Tensions in international markets led to a jump in risk premiums at the end of 2011, while interbank interest rates in Lithuania, regardless of challenges to its financial system, remained unchanged.

Chart 3. Dynamics of domestic risk indicators



Sources: Bloomberg and Bank of Lithuania calculations.

No big surprises are expected in the real estate market in 2012. Market participants forecast real estate prices to remain unchanged in the next 12 months and the rebound in the market to start at the end of 2013.

The main risks for the country's financial system are primarily related to external factors (each of these risks is discussed in detail in Part II of the Review):

- a) the euro area sovereign debt crisis;
- b) a hike in energy prices;
- c) the world trade contraction.

The intensification of the euro area debt crisis is the major threat for the country's financial system, although the banking sector's capital would still exceed the minimum requirement if this adverse scenario materialised.

Three risk scenarios which may have the largest negative effect on the domestic economy and financial system are analysed in the Financial Stability Review (see Chart 4). Risks, through various transmission channels, may lead to the deceleration of the domestic economic growth, contraction in export markets, and interest rate increase.

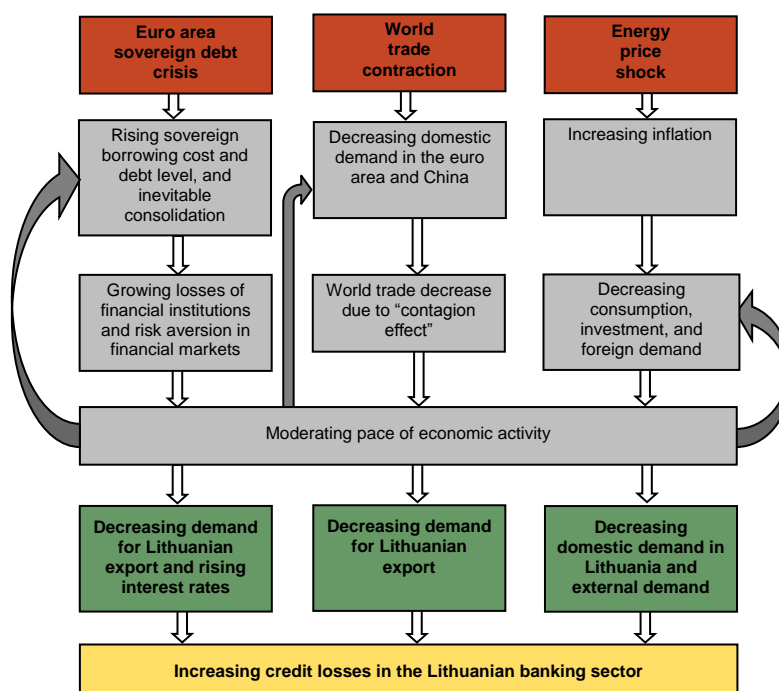
Adverse developments of the euro area debt crisis may lead to a decrease in the domestic export volumes and trigger an interest rate increase. A further intensification of the sovereign debt crisis may prompt losses in the financial sector and have negative effect on the development of the real sector. All this would inevitably affect the Lithuanian export volumes and interest rates.

A contraction in world trade volumes may curtail the demand for Lithuanian export and this may have direct impact on the domestic economy sectors focused on foreign trade. As the corporations which focus mostly on foreign trade produce almost two thirds of the value added of the entire domestic economy, a potential external demand shock may worsen the economic situation of their business partners which supply domestic consumption goods and services. This would have inevitable consequences for the financial situation of households in the country.

A decrease in the domestic and foreign demand for goods and services, if triggered by an energy price shock, would lead to a decline in corporate earnings and profits, and consequently to the downward pressure on wage funds. Wage corrections or staff cuts may worsen household sentiments and future expectations, and prompt even more active saving and shrinking consumption.

Main risk sources would affect the domestic financial sector via decreasing export, domestic and external demand, and rising interest rates.

Chart 4. Impact of the main risks on the Lithuanian financial system



Source: Bank of Lithuania.

I. SITUATION AND PROSPECTS OF THE FINANCIAL SYSTEM

In 2011, Lithuania's financial system successfully withstood the insolvency and bankruptcy of the fifth largest domestic bank by assets, having proven its resilience to highly adverse shocks. The operations of AB bankas SNORAS were restricted in November 2011, and in December bankruptcy proceedings were instituted against it. The said bank's loan portfolio accounted for 6.2 per cent of the banking sector's portfolio, and its deposit holdings accounted for 13.0 per cent. Regardless of uncertainty in the financial system, which was triggered by the bankruptcy of the bank with significant deposit holdings, doubts among depositors and deposit withdrawal from other banks appeared to be short-lived, as deposit holdings returned to the growth path after VĮ Indėlių ir investicijų draudimas, the deposit insurance fund, started to pay out the insurance compensations for depositors. The bankruptcy of one monetary financial institution did not have a significant systemic effect on the Lithuanian financial system as the negative consequences were short-lived and the reserves of liquid assets were sufficient to survive such a big shock.

BANKING SECTOR

Bank assets and funding

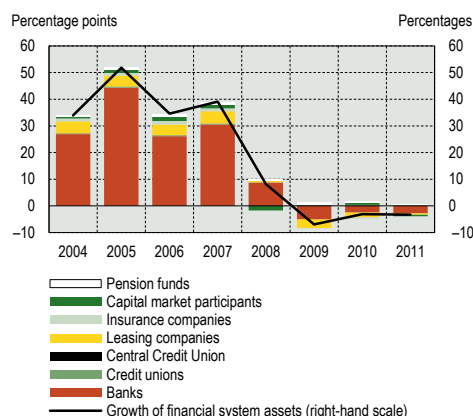
The Lithuanian banking sector's assets shrank after cancelling the licence of AB bankas SNORAS in 2011. After the assets of the banking sector in Lithuania hit the last few years bottom in the first quarter of 2011, an increase was observed in the second and third quarters. The asset decrease in the fourth quarter after instituting bankruptcy proceedings against AB bankas SNORAS was partly offset after VĮ Indėlių ir investicijų draudimas, a deposit insurance fund, started to pay out the insurance compensations for depositors. In 2011, a decline of 3.3 per cent (an increase of 1.1%, excluding AB bankas SNORAS and the insurance compensations by VĮ Indėlių ir investicijų draudimas) in the banking assets in Lithuania to LTL 79.0 billion was registered. The following decline of the banking sector assets to LTL 77.2 billion in the first quarter of 2012 (3.4% decrease year on year) was driven largely by one-time events.

A decrease in loan portfolio and security holdings by banks (basically due to the bankruptcy of AB bankas SNORAS) had the largest effect on changes in bank assets, while the fall in these groups of assets was partly offset by an increase in cash in circulation and funds held in the central bank (basically due to the ongoing compensation of insured deposits). The portfolio of loans to private sector, which makes up the largest share of the banking sector assets, grew slightly in mid-2011 due to improving situation of non-financial corporations (see Chart 6). Furthermore, these changes owed to easing of credit standards and relatively low interest rates.

Conservative expectations determined by external environment restrict consumption and investment plans of the private sector and also support a moderate recovery in borrowing demand. At the end of 2011, the loan portfolio of the banking sector was 7.6 per cent smaller than a year before (largely due to the exclusion of the data of AB bankas SNORAS which went bankrupt at the end of the year). The contraction of the banking sector's loan portfolio was driven mainly by a decrease in the portfolio of loans to the private sector, but it was in part compensated by the increase in lending to general government. The banking sector's loan portfolio continued to shrink in the first quarter of 2012 (except a slight increase in March), but the commercial banks, surveyed by the Bank of Lithuania, forecast the banking sector loan portfolio to grow by 2 to 6 per cent in 2012.

In 2011, the Lithuanian financial system's assets declined owing to changes in the banking sector.

Chart 5. Annual change in the assets of the Lithuanian financial system participants



Sources: ISC, LSC, Lithuanian Leasing Association, Banking Association of Lithuania, and Bank of Lithuania calculations.

Table 1. Contributors to the asset and liabilities development in the Lithuanian banking sector per period (LTL billion)

Balance sheet item*	2011	2011 Q4	2012 Q1
Cash	2.9 (3.8)	4.4 (4.8)	-3.7
Financial assets	-2.3 (-1.0)	-2.6 (-0.6)	0.7
Loans and receivables	-3.0 (1.8)	-4.8 (-0.2)	1.2
Investment	-0.2 (-0.1)	-0.6 (-0.3)	0.1
Other	-0.2 (0.4)	-0.6 (0.2)	0.0
Total assets	-2.7 (4.9)	-4.2 (3.9)	-1.8
Financial liabilities	1.0 (1.4)	-0.2 (0.5)	-0.6
Deposits of credit institutions	-3.3 (-3.0)	-2.1 (-1.7)	-0.7
Other deposits	-2.3 (4.0)	-2.7 (3.4)	0.1
Other	0.9 (0.9)	0.8 (0.9)	-0.7
Equity	0.9 (1.5)	0.0 (0.8)	0.1
Total liabilities and equity	-2.7 (4.9)	-4.2 (3.9)	-1.8

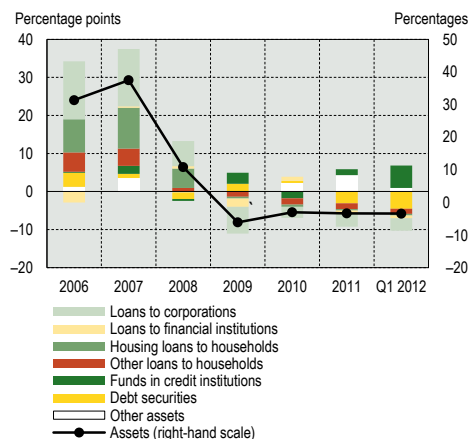
Source: Bank of Lithuania calculations.

* Some balance sheet item titles are abbreviated.

Note: the values in parentheses indicate the development of assets and liabilities excluding the data of AB bankas SNORAS.

The assets of the banking sector declined in 2011 following the bankruptcy of one of its participants, but the decline was partially offset by the asset increase in other banks.

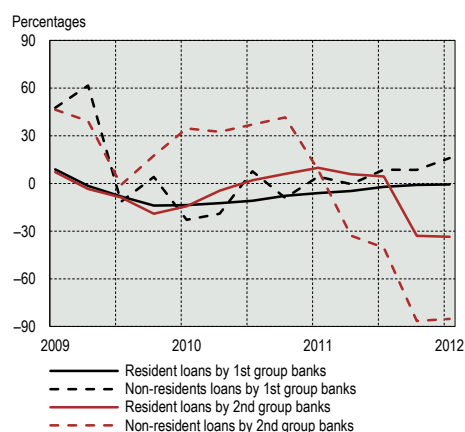
Chart 6. Contributors to the development of banks' assets



Source: Bank of Lithuania calculations.

Lending activity developments in individual bank groups diverged; however, excluding the data of AB bankas SNORAS, the decrease in the loan portfolio in 2011 was insignificant.

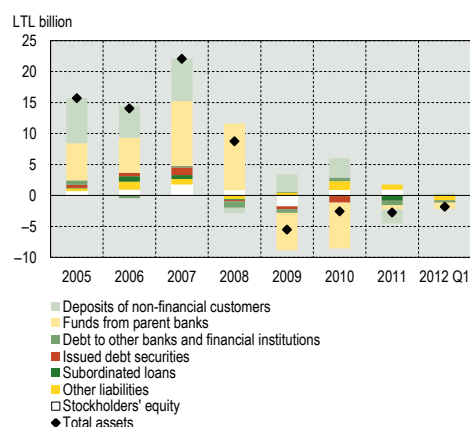
Chart 7. Development of loan portfolio per year



Source: Bank of Lithuania calculations.

Liabilities to parent banks decreased further, and the banking sector's assets were increased mainly by collecting deposits within the domestic market.

Chart 8. Dynamics of banks' assets funding sources per year



Source: Bank of Lithuania calculations.

The banks from the first¹ and the second² group have different plans for lending to economy: the second group banks expect the loan portfolio to develop more rapidly. The annual decrease rate of the first group banks' loan portfolio started decelerating at the beginning of 2010, and the loan portfolio came close to the previous year level in the first quarter of 2012 (see Chart 7). The second group banks used the first group's conservative lending policy when selecting the most promising business projects and households with good financing standing. They were more active in financing the increased needs of corporations. Excluding the data of AB bankas SNORAS, the second group banks' loan portfolio started to grow in mid-2011 and in the first quarter of 2012 was 10.3 per cent larger than a year before.

A gradually increasing proportion of liabilities of the Lithuanian banking sector has been financed with financial resources attracted domestically. The first group banks resort more frequently to the funds attracted domestically rather than financial resources of their parent banks (see Chart 8). In 2011, banks in this group collected deposits of up to LTL 4.4 billion (mostly the deposits compensated by VĮ Indėlių ir investicijų draudimas), while their liabilities to parent banks declined by LTL 0.7 billion. The decrease in the first group's liabilities to their parent banks became more intensive in the first quarter of 2012 and made up LTL 1.0 billion, while the amount of deposits attracted during the period declined significantly to LTL 46.2 million. The first group banks have continued to reduce their liabilities to parent banks and to increase asset holdings in them, i.e. net debt to parent banks has been shrinking more rapidly (see Box 1). A sufficient level of liquid funds in the banking sector is secured by continued borrowing by the general government in international markets and continued compensation of insured deposits by VĮ Indėlių ir investicijų draudimas. However, a more intensive deposit growth in the first group banks leads to a gradual increase in the cost of liquid funds, reducing the profit increase opportunities for the second group banks, given that deposits represent one of the main financing sources for the activities of the latter.

The concentration in the Lithuanian banking sector increased in 2011 and the first quarter of 2012 (particularly at the end of the year, after instituting bankruptcy proceedings against AB bankas SNORAS and a significant increase in assets of one of the three largest banks by assets, the infrastructure of which was used by VĮ Indėlių ir investicijų draudimas to pay out the insurance compensations for depositors). The market share of the three largest banks by assets made up 69.1 per cent in the first quarter of 2012, a year-on-year increase of 9.0 p. p. Higher concentration is also indicated by *Herfindahl-Hirschman* index³ (HHI), which is 1,966 points (a year-on-year increase of 401 points). The concentration in the Lithuanian banking sector has been decreasing for years, until a notable jump in the fourth quarter of 2011, owing basically to the bankruptcy of AB bankas SNORAS and a significant asset increase in one of the three largest Lithuanian banks after the repayment of deposit insurance benefits started.

The concentration of the banking sector's loan portfolio – the largest asset item – has been decreasing moderately in Lithuania during the last two years, but has remained strongly related to the real estate activities (loans to real estate corporations and housing loans to households accounted for one half of the banking sector's loan portfolio). The risk arising from the banking sector's portfolio dependence on one type of activity has been curtailed by both gradual improvements of indicators in corporations closely related to real estate activities and relatively high quality of housing loans to households.

¹ Banks with parent institutions.

² Banks that do not have parent banks.

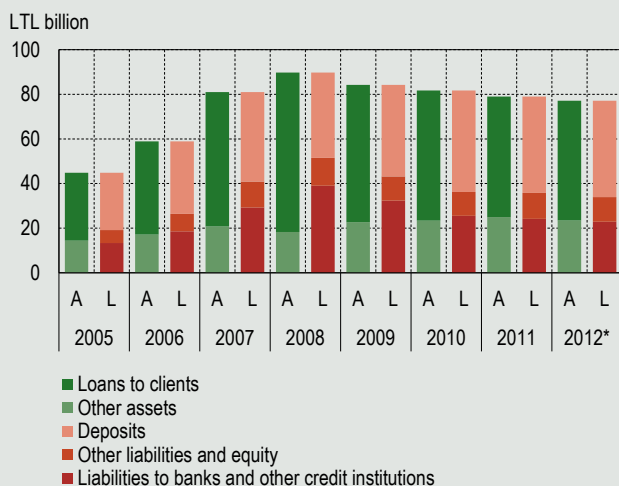
³ *Herfindahl-Hirschman* index is one of the most frequently used market concentration measures. This index is computed as follows: $HHI = \sum_{b=1}^B x_b^2$, where x_b is bank's b market share by assets, and B is the number of banks. The larger the value, the higher the concentration. In practice, the index value between 1,000 and 1,800 shows average concentration.

Box 1. Role of Northern European banks in Lithuanian banking sector

Regarding managed assets, the banking sector in Lithuania accounted for over 80 per cent of the entire financial system or three-quarters of nominal GDP in 2011. Bank credit, concentrated on households and businesses, certainly has a strong impact on the domestic economy development. Prior to the economic downturn, the development of assets (basically the loan portfolio) of the largest banks operating in Lithuania was financed by funds received from parent banks and deposits of non-financial customers. Domestic deposits and funds borrowed from parent banks in Scandinavian countries, owners of the major part of the banking share capital in the Baltic states, supported the rapid growth of the Lithuanian banking sector. However, the economic slowdown, declining demand and tightening of credit standards⁴ led to a subdued need for additional funding triggering changes in the banking sector financing structure. The purpose of this box is to assess the role of Scandinavian banks and potential trends for its development in the Lithuanian banking sector.

The share of the assets managed by Scandinavian bank groups has gradually decreased in recent years to four-fifth as other banks have started more active expansion in Lithuania after the economic recession. Swedish bank groups (*SEB* and *Swedbank*), investors from Norway (*DnB NOR Bank ASA*), Finland (*Nordea*), and Denmark (*Danske Bank*) were major investors in the Lithuanian banking sector. Moreover, the said banking groups had a significant share in the activities of other financial market participants (leasing, insurance companies, pension funds). Before the start of the economic downturn, funds from parent banks were used to finance nearly one half of the activities of the Lithuanian banking sector, while domestically attracted deposits were used to finance the other half. In October 2008, the Lithuanian banking sector faced the most massive deposit withdrawals during one month after 1994, triggered by elevated uncertainty over the prospects of the banking sector activities and sustainability of the national currency. Notwithstanding a notable decrease in the liquidity within international financial markets, where parent banks actively operate and raise some of their funds, the latter had not distanced themselves from funding difficulties in their subsidiaries in the Baltic states and fully compensated the deposit decline in Lithuania.

Chart A. Development of Lithuanian banking sector's assets and liabilities

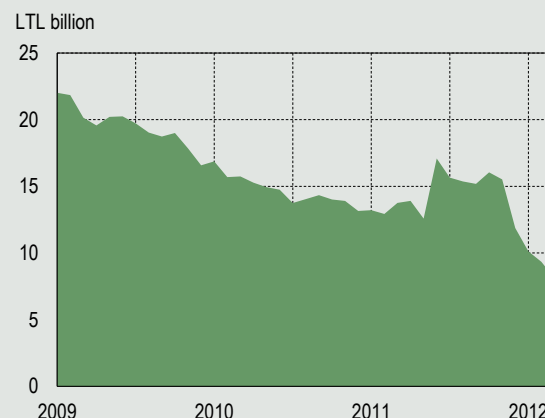


Source: Bank of Lithuania calculations.

* I quarter

Note: A – assets, L – liabilities.

Chart B. Development of Lithuanian banking sector's net debt to parent banks



Source: Bank of Lithuania calculations.

From 2009 to 2011, the loan portfolio (major asset component) of the Lithuanian banking sector was decreasing, while the financial funds repaid by borrowers were basically used to reduce banks' earlier obligations (mostly long-term obligations) to parent banks. The approach towards stability of funding resources after the economic downturn in both international markets and Scandinavian countries has changed, and the importance of domestic deposits as key sources of funding for the banking sector activities has increased. Retained access to funding, if necessary, from relatively high ratings holding parent banks (even when the situation in international financial markets is complicated) increases the resilience of the Lithuanian banking sector to adverse changes and stability of its activities. However, still high dependency of the domestic banking sector on parent banks, unfavourable situation in financial markets or/and adverse macroeconomic situation in Scandinavian countries may impair the access to financial resources for the Lithuanian banking sector and have negative effect on the financial system stability.

Macroeconomic and fiscal situation in Scandinavian countries remains among the best across the EU, as indicated by the highest sovereign credit ratings by international rating agencies and decreasing average yields of long-term government bonds in Scandinavian countries. Although the growth rates of real GDP went down, they still remain higher than the EU average. However, Scandinavian countries will not avoid the slowdown of economic growth expected in Europe and other economies, and their economic development is to decelerate in the coming years. Scandinavian countries also can boast of good fiscal situation: in 2011, the public debt-to-GDP ratio was 29.0 per cent in Norway,

⁴ See Financial Stability Review 2009, Annex 1.

38.4 per cent in Sweden, 48.6 per cent in Finland, 46.5 per cent in Denmark, as opposed to the euro area average of 87.4 per cent. A relatively strong financial situation in Scandinavian countries offers more possibilities for ensuring the stability of their financial systems, if needed, through various interventions.

At the end of 2011, Swedish banks controlled over half of the entire banking sector's assets in Lithuania. They are among the best capitalised banks in Europe. In the environment of increasing average maturity, the liquidity situation in these banks has also been improving since 2008. Moreover, in 2010, Swedish commercial banks fully repaid loans received from their central bank during the peak of the financial turmoil in international markets. Funds borrowed in domestic and international markets (two thirds of which were in foreign currency) represented half of the Swedish banks' liabilities in 2011, while deposits accounted for the other half. The short-term market financing of Swedish banks is mainly in US dollars from the USA money market funds. Lately, these funds have markedly reduced their lending due to the euro area sovereign debt problems, but the effect on Swedish banks was relatively low, as they had insignificant amounts of direct investments into the problem-ridden euro area countries, and therefore, their possibilities for borrowing from the mentioned funds remained relatively good. Asset-backed bonds make up another important source for long-term market financing of Swedish banks.

Chart C. Public debt-to-GDP ratio

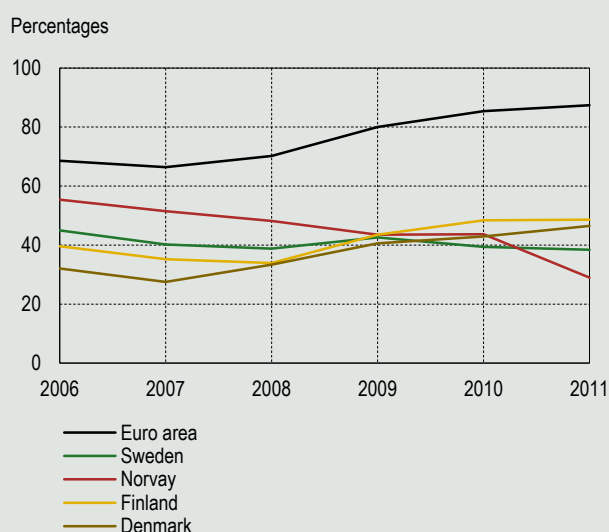
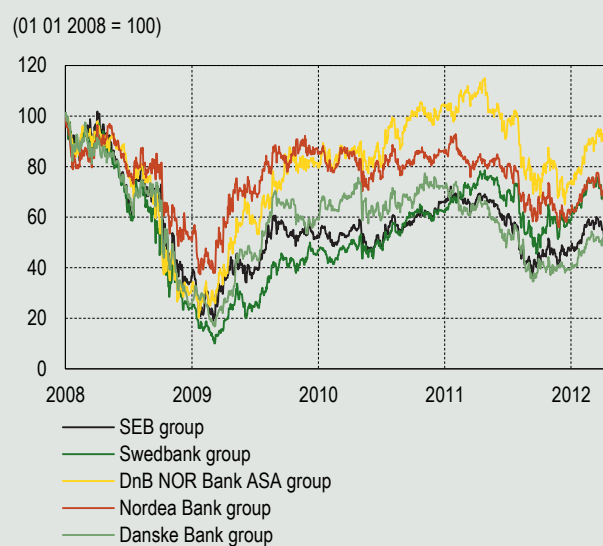


Chart D. Stock price indices of banking groups with parent banks in Scandinavian countries



Although a rapid increase in stock prices of banking groups in Northern Europe in 2010 was followed by a stock price correction in 2011, they started increasing again at the beginning of 2012. Moreover, relatively lower credit risk than in other European financial institutions show that investors are optimistic about the financial situation in banking groups of these countries and expect their operational results to improve. The improvement of operational results allowed the banking groups to preserve high capital adequacy ratios. Recovering macroeconomic situation in Scandinavian and Baltic countries and improving loan quality suggest that the largest losses associated with the recent economic downturn are already a thing of the past. A relatively good financial standing of the Scandinavian parent banks also means they are more resistant to adverse domestic and external shocks. Nonetheless, the shortage of sources of financing for parent banks continues to pose risk. First, Swedish banks are actively taping US money market funds for short-term financing, which may become complicated if the assessment of risks associated with attracting finances changes. Second, growing real estate prices and intensive lending by this market boosted the Swedish banks' vulnerability to price falls, as a decline in the value of pledged real estate may reduce possibilities for these banks to prevent losses resulting from customer insolvency.

The importance of Scandinavian banking groups within the banking sectors of Lithuania and other Baltic states remains high notwithstanding a significant decrease of loan flows from parent banks and the dependence of their subsidiaries after the economic downturn. Given the changes in the financial markets' approach towards financing of operational needs and further tightening of international standards, aimed at making financial sector more resistant to rapid and adverse changes within financial markets, the importance of deposits is to rise in the future. This will have an impact on the changes in the financing structure of the Lithuanian banking sector; however, liabilities to parent banks are expected to go down. Higher demand for deposits should raise their price and lead to an increase in loan interest rates, but because of a slow recovery of the loan demand in Lithuania it is not expected to have any significant impact on the economic growth or financial system stability in medium term. By contrast, the subsidiary banks' possibilities to raise additional financing from Scandinavian banks even in unfavourable circumstances within international financial markets may be seen as important support to the Lithuanian financial system.

Loan portfolio quality and financial standing of debtors

The loan portfolio quality of the banking sector continued to improve driven by a rapid growth of the domestic economy. At the end of the first quarter 2012, the ratio of non-performing loans to total loan portfolio of the banking sector was 15.9 per cent, i.e., decreased by 3.2 p. p. year on year (see Chart 9). The following two factors had the largest effect on the improvement of the banking sector's loan portfolio: first, improved debtors' ability to fulfil their obligations prompted by the economic growth and improvement in the borrowers' financial situation; and second, the bankruptcy of AB bankas SNORAS, the loan portfolio of which was of lower quality (the loan portfolio quality of the entire banking sector would have been 0.7 p. p. lower in 2011, if the data of this bank were included). Notwithstanding the expected economic slowdown, the banking sector's loan portfolio quality is expected to gradually improve.

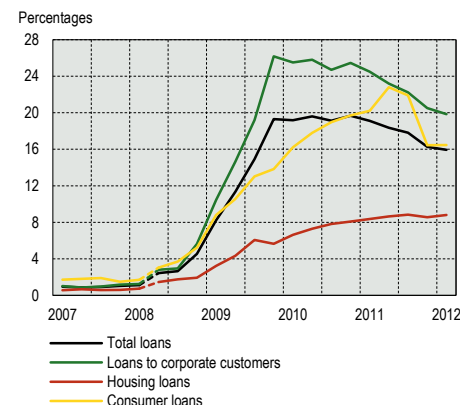
Non-performing loans were decreasing rapidly mainly due to the improving quality of corporate loans, while only insignificant changes were observed in the quality of housing loans. Because of inertia, the household loan portfolio quality (opposite to the corporate sector) deteriorated at a slower pace than the quality of loans to other borrowers at the beginning of the economic downturn. Thus, despite better financial standing of the population, no rapid improvement in this loan portfolio is expected. The quality of the portfolio of housing loans to households remains the best, although it deteriorated slightly in 2011 and the first quarter of 2012 (during the said period, an improvement was observed in other loans of the banking sector). The quality of business and household loans relate directly: deteriorating ability of the former to repay bank loans (declining demand and deteriorating financial standing) leads to deterioration in the financial standing of the latter (redundancy, wage cuts) after some time, and eventually to changes in the banking sector's loan portfolio quality. Provided there are no material events that may cause shocks to the Lithuanian economy and finances, the quality of loans to businesses should be improving further, and the housing loans quality should start improving as well.

In the first quarter of 2012, the ratio of non-performing housing loans to total housing loans was 8.8 per cent: the lowest compared with other types of loans, but had hiked slightly by 0.7 p. p. since the end of 2010. The quality of consumer loans was better in 2011 than in the previous year despite deteriorating slightly in the first quarter of 2012, largely due to the bankruptcy of AB bankas SNORAS: the ratio of non-performing consumer loans and total consumer loans would be 23.0 per cent, a year-on-year increase of 3.3 p. p., if the data of this bank were included. The financial standing of the business segment accounting for almost one half of total loan portfolio was rapidly improving triggered by a recovery in consumption and investment in domestic and foreign markets after the economic downturn, and leading to the growth in corporations' ability to repay loans and a decrease in settlement failures. The loan portfolio quality of the said segment, i.e., the ratio of non-performing to total loans, made up 19.8 per cent at the end of the first quarter of 2012, a year-on-year decline of 4.6 p. p.

Operations of non-financial corporations, the largest debtor of the banking sector in Lithuania, after having improved in 2010 and the first half of 2011, decelerated slightly in the second half of 2011. Because of uncertainty surrounding the further development of the main foreign trade partners, businesses were less optimistic about their future, and neither consumer confidence nor economic sentiments of corporations had indicated the domestic consumption recovery to speed up. However, after the losses incurred in 2009, non-financial corporations reported profit in 2010 and 2011 amid the rising sales, but a subdued growth in the number of employees and wage fund, which constitute the largest part of all expenditures. In 2011, around two-thirds of non-financial corporations were profitable, i.e. by 20 p. p. more than in 2009. Gradual improvement in non-

The banking sector's loan portfolio will improve gradually on the back of accelerating economic growth, although the quality of the household loan portfolio is to remain more inert.

Chart 9. Non-performing loans of the banking sector

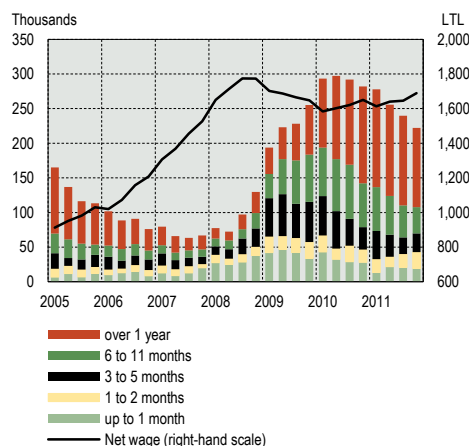


Source: Bank of Lithuania calculations.

Note: a break in the time series starting with mid-2008 occurred because of the changed non-performing loan definition.

Driven by improved financial standing of households, the quality of loans to this sector reached the breakthrough point at the end of the year...

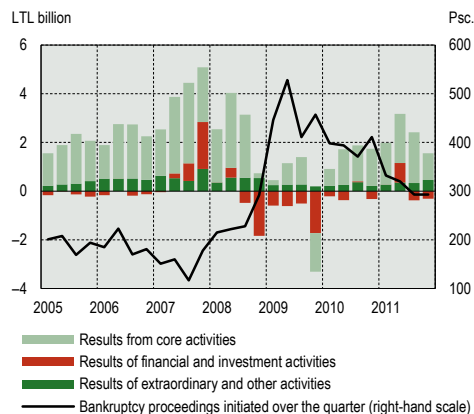
Chart 10. Development of the number of unemployed by duration of unemployment and wages



Source: Statistics Lithuania.

...while due to improving financial standing of non-financial corporations and their capabilities to repay loans...

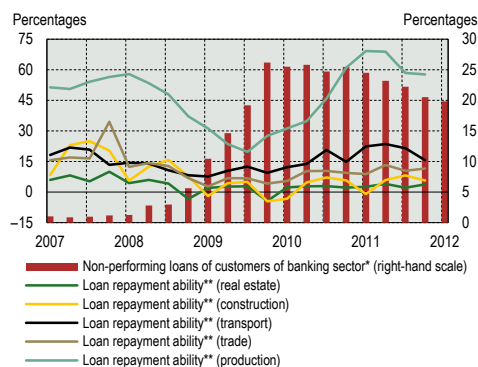
Chart 11. Contributors to the development of final operating results of non-financial corporations



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

... the quality of banking loans to business is improving for more than a year.

Chart 12. Debt repayment ability of the non-financial corporations and the quality of banks' loan portfolio to non-financial corporations



Sources: Statistics Lithuania and Bank of Lithuania calculations.

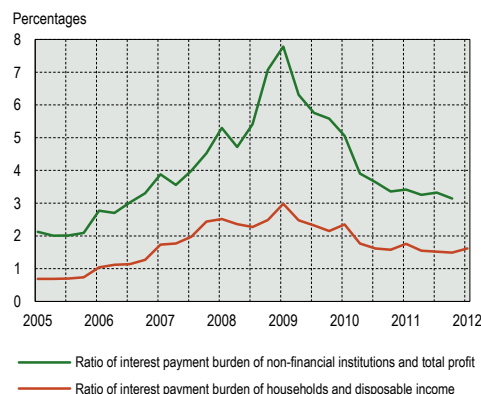
* As compared to total loan portfolio.

** Ratio of profit before taxes, amortization and depreciation to financial debts (all non-financial corporations).

Note: names of some economic activities are abbreviated.

Loan repayment ability of non-financial corporations and households has improved.

Chart 13. Ratio between the payment burden of interest on banking loans to the private sector and income of the private sector

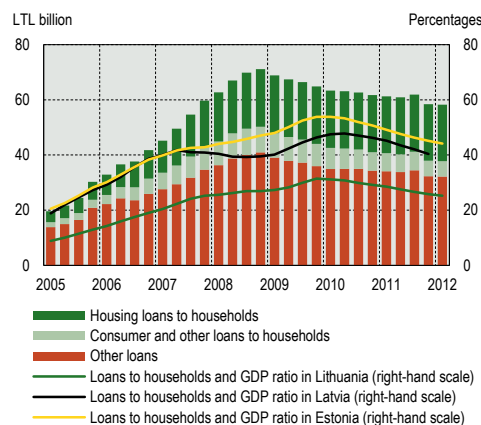


Sources: Statistics Lithuania and Bank of Lithuania calculations.

Note: data of total profit and disposable income are used irrespective of liabilities to banking sector.

Household loans account for a significant portion of the banking sector loan portfolio, but the debt of Lithuanian households is lower, compared to other Baltic states.

Chart 14. Development of banking loan portfolio and household debt level



Sources: ECB, Eurostat, and Bank of Lithuania calculations.

financial corporations' operating results and less of them facing financial difficulties led to the reduction in the number of initiated bankruptcy proceedings and an improvement in their debt repayment ability. Thus, the ratio of non-performing loans to businesses by the banking sector to total loans to businesses continued to decrease (see Chart 11).

Loans to companies engaged in industrial, trade, transport, construction and real estate activities made up the largest share of banking loans to non-financial corporations. The financial standing of many of them had significantly improved in 2011, leading to the strengthening of the ability to repay loans (see Chart 12). However, similar to previous periods, the growth of indicators of corporations closely related to real estate activities (e.g. construction, real estate operations) was subdued and the number of initiated bankruptcy proceedings remained high.

The share of corporations using their own funds has increased as the result of gradually increasing corporate profits and tough credit standards within the loan market. This was reflected in financial leverage indicator (debt-to-equity ratio), decreasing bank lending for financing non-financial corporations' tangible investments, and the results of the survey of non-financial corporations conducted by the Bank of Lithuania. The need for new investments has been gradually recovering from a drop after the economic downturn. After having sold their inventories, non-financial corporations are increasing utilisation of production capacity. Furthermore, as the survey by the Bank of Lithuania shows, domestic commercial banks expect an increase in credit demand by non-financial corporations in the future.

Uncertainty regarding the operations of non-financial corporations in the future still prevails: economic sentiment indicator in business sectors has been deteriorating since mid-2011. Uncertainty regarding further economic developments in major export markets in Europe was the major driving force for this. A decelerating growth of the European economy will lead to a decline in demand for output and/or services of non-financial corporations, consequently worsening of business operation indicators, a decrease in labour demand, and some deceleration of wage growth can be expected. This will weight upon the ability of both non-financial corporations and households to properly fulfil their obligations.

Risks to domestic financial system have decreased following the improvement in households' financial standing and lower households' debt to the banking sector in 2011 (see Chart 14). Improving economic indicators and operating results of corporations had positive effect on household sentiments and expectations, while a gradual growth in wages and decrease in unemployment rate since the beginning of 2011 have contributed to the improvement of the financial situation of households. All this had a positive impact on household assets which surged by more than one-tenth in 2011, although its structure remained broadly unchanged. Despite the fact that deposit interest rates were among the lowest in recent years, the portfolio of deposits of natural entities in the banking sector, including operating results of AB bankas SNORAS, decreased between early-2011 to March 2012 only by 3.4 per cent. At the same time, increasing income triggered the growth of household consumption expenditure in 2011, which had declined significantly from 2009 to 2010, which had an effect on the pace of economic recovery.

Moreover, a significant improvement was observed in both current and expected perception of loan repayment burden⁵. A decrease of 7 p. p. (down to 35%) was recorded in the number of households which reported that the housing loan was a very heavy burden for them, compared with the last year's survey results. The housing loan burden for households, primarily for low-income households, may have eased mainly due to low interbank interest rates. The survey of households with housing loans revealed that

⁵ Based on the data of 2012 survey of households with housing loans, which is available on the Bank of Lithuania website.

nearly nine out of ten respondents hold at least one saving instrument, and 38.0 per cent reported having liquidity buffers (savings held at home or a deposit with a bank). The available saving instruments and reserve holdings may ease the housing loan burden for households in case of unexpected developments and reduce risks for the banking sector.

Although banks have significantly tightened housing loan requirements⁶ during the last six months and are unwilling to ease them in the nearest future, they expect the demand for loans to households to grow. Bank lending survey in April 2012 revealed that banks expect the housing loan portfolio growth to be up to 3 per cent in 2012. Adequately conservative assessment of household risk and responsible lending are important contributors to the reliability of the banking sector and stability of the domestic financial system. However, significant lending restriction may manifest itself in the form of excessive deleveraging and thus contribute to the decrease in economic activity.

Still high unemployment rate and currently existing income decline and interest rate growth risk may have the largest negative impact on loan repayment ability of households. Near-term prospects for the financial situation of households remain conservative. Long-term and structural unemployment will remain an acute problem, and a cautious outlook for the economic growth will not be able to ensure a rapid growth in both residents' income and consumption.

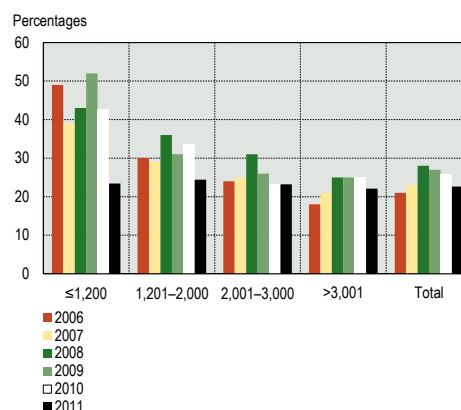
Households are sensitive to interest rate developments due to a large share of loans with initial interest rate fixed for a short period. The results of the survey of households with housing loans at the beginning of 2012 showed that an average share⁷ of household income dedicated for the repayment of a housing loan made up 22.6 per cent of disposable household income, a decrease of 3.3 p. p. compared with the results of the corresponding survey in 2011 (see Chart 15). However, according to the survey results, 52.9 per cent of households had housing loans with an initial interest rate fixation period of up to one year; consequently, upon the change in interest rates, many households' loan repayment expenses would increase within a year, which would likely have negative effects on household solvency. It should be noted that the difference of interest rates on loans with an initial rate fixation period of over one year and loans with initial rate fixation period of up to one year decreased prompting more borrowers to have their initial interest rate fixed for a longer than one-year period and reducing the short-term interest rate growth risk.

The development of discretionary income balance⁸ and the dynamics of loan portfolio show further improvement in household loan quality after reaching a breakthrough in the third quarter of 2011. Despite the gradual inflation growth and interest rates which are to start increasing from mid-2013 and thus lead to higher spending for essentials and loan repayment expenses of households, the number of households capable to pay periodical housing loan instalments will also increase as a result of gradually decreasing unemployment and higher income, leading to a decrease in non-performing loans.

As the loans received during the economic upturn account for a large share of housing loans to households, the value of pledged assets is often lower than liabilities, and some households hold negative equity. These households after encountering solvency problems and facing the need to sell pledged assets should be looking for additional resources to cover their financial obligations, as the value recovered from the sale of the pledged real estate would not be enough to cover their obligations.

Better financial standing of households leads to decrease of income share dedicated to loan repayment...

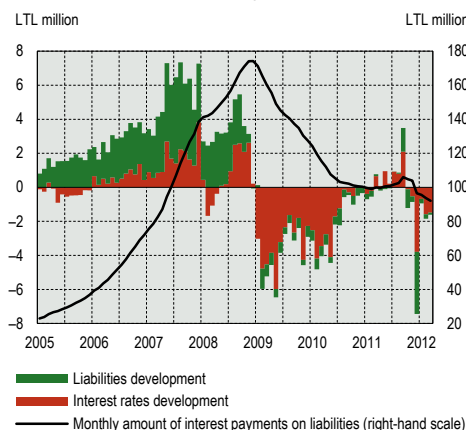
Chart 15. Developments of household income share dedicated to loan repayment



Source: Household survey by the Bank of Lithuania.

... which is significantly influenced by decreasing interest rates.

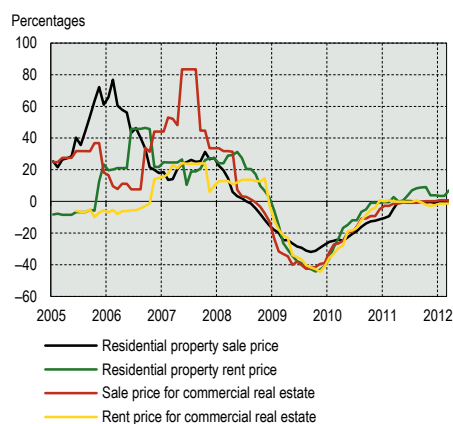
Chart 16. Contributors to the development of monthly interest payments on banking loans to households



Source: Bank of Lithuania calculations.

Slight changes in real estate prices recently...

Chart 17. Development of real estate prices



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

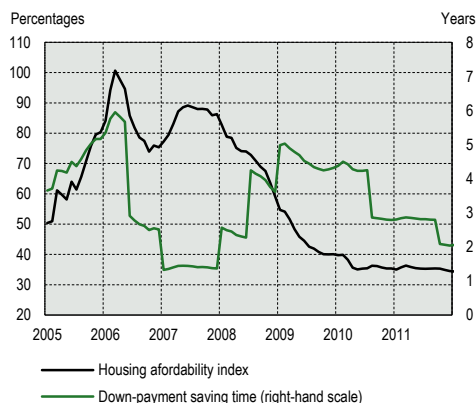
⁶ Based on the data of April 2012 bank lending survey, which is available on the Bank of Lithuania website.

⁷ Based on the data of 2012 survey of households with housing loans, which is available on the Bank of Lithuania website.

⁸ Discretionary income balance – the difference of the household's income and expenses (for loan repayment, subsistence, etc.), which shows the solvency of the household.

... had a positive effect on housing affordability.

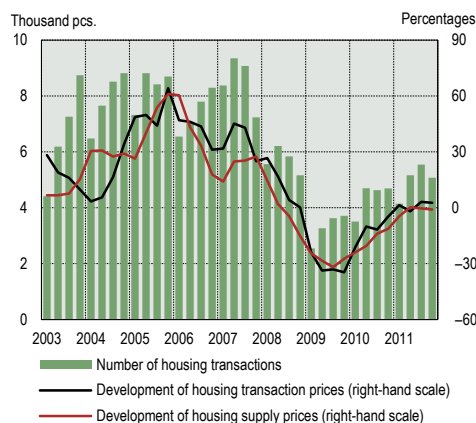
Chart 18. Residential property affordability indicators



Source: Bank of Lithuania calculations.

However, a relatively low market activity and rather conservative expectations of market participants...

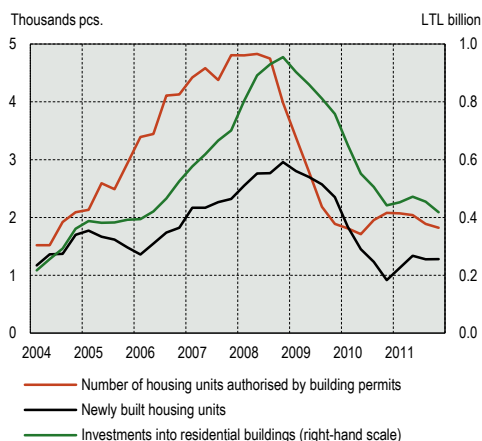
Chart 19. Development of housing prices and the number of transactions



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

... did not offer incentives for the recovery in the real estate market.

Chart 20. Development of indicators for residential property supply (four-quarter moving average)



Source: Statistics Lithuania.

Real estate prices which have remained broadly unchanged since the beginning of 2011 and low interest rates had a positive impact on the housing affordability. Prices for residential housing and commercial real estate have remained unchanged since the publication of the latest Financial Stability Review in 2011 (see Chart 17), with the exception of housing rent prices, which went up by almost one-tenth within three summer months, but decreased in subsequent months. Regarding the individual purchasing power, the average living space to be purchased for one average monthly wage (0.6 sq. m.) was among the largest since the beginning of 2000. Moreover, the possibilities of a household to buy housing, given the effective loan terms (as measured by calculating the housing affordability index), were also among the best since the start of the series in 2000 (see Chart 18). At the end of 2011, in order to purchase a typical 60 sq. m. housing unit at an average price, a household with two employed persons with average earnings, had to pay 35 per cent of their monthly income. The increase in the purchasing power of households was driven by a gradual increase in wages and historically low loan interest rates. However, because of conservative approach of the market participants the activity of the real estate market has remained low.

Improved affordability led to a moderate increase in the activity of the residential housing market. According to the State Enterprise Centre of Registers, in 2011, the number of housing purchase/sale contracts increased by 8 per cent compared with the corresponding period in 2010 (see Chart 19). The trends varied in different residential housing segments. Newly built residential housing was traded most actively (according to the State Enterprise Centre of Registers, a site of no more than up to two years is considered new housing) as the number of contracts grew by over 15 per cent, year on year.

However, the expectations of market participants regarding the real estate prices and expected end of the stagnation in the market were rather conservative. In the surveys conducted by the Bank of Lithuania, banks and households reported they would expect real estate prices to remain unchanged in the next 12 months. It is important that respondents in both surveys were more optimistic about price developments of new residential housing and commercial premises, but did not expect the annual price developments within these segments to exceed 10 per cent limit. When asked about the prospects in the Lithuanian real estate market, banks significantly postponed the likely ending of the stagnation period in the real estate market. As mentioned in the previous Financial Stability Review in 2011, banks had expected the market recovery to start at the end of 2011, but towards the end of the year, the banking survey results were less optimistic and afterwards worsened even more, when in April 2012, banks reported they expected the recovery in the real estate market no earlier than at the end of 2013.

There were no incentives underlying the growth of the new residential housing supply in the market. The Statistics Lithuania data for housing units authorised by building permits and newly built housing units in the fourth quarter of 2011 suggest that the new housing unit supply in the market is to remain insignificant (see Chart 20). In 2011, the number of housing units authorised by building permits decreased by more than 12 per cent, year on year, but the number of newly built apartments soared by almost 40 per cent due to the completed construction of housing units started in previous periods. Also, due to low activity within the residential housing construction market the level of investments into residential buildings fell to a historically low level. The average volume of investments into residential housing per quarter in 2011 was as low as the volume observed in the third quarter of 2006.

Profitability and efficiency

Last year, the banking sector's profit (LTL 1.1 billion) was close to a record high (LTL 1.2 billion) profit earned by the banking sector during the economic upturn period in 2007. The total profit of the banking sector (LTL 1.2 billion) was earned by the first group banks, as the second group banks reported a loss of LTL 42.3 million. In contrary to the economic growth period, the main source of profit growth in 2011 was shrinking banking expenses rather than growing banking income.

Interest expenses which are incurred by banks when paying for deposits and other financing sources were among the major contributors to the profitability of banks. Net interest margin remained relatively stable in 2011 after its growth in 2010 (see Chart 21) accounting for 1.7 per cent on average. It dropped to 1.5 per cent in the first quarter of 2012 and remained 1.3 p. p. lower than before the economic downturn. However, despite a historically low level of interest rates, banks have managed to generate relatively stable net interest income.

Drastically reduced impairment expenses for the asset value calculated in the preceding periods significantly contributed to the improvement in banks' operating result. A profit of LTL 0.4 billion was reported due to an increase in the asset value (by comparison, banks suffered a loss of LTL 1.2 billion due to changes in their asset value in 2010, see Chart 22). The following factors contributed to the asset growth: first, the revaluation of investments into subsidiaries (LTL 226 million) due to their improved operating results; and second, an increase in the value of loans and amounts receivable (LTL 161 million). By contrast, extra asset impairment expenses led to the losses incurred by the second group banks. Moreover, the banking sector's asset value was moderately decreasing due to bank losses incurred after the sale of financial assets (LTL 3 million) and revaluation losses of held-to-maturity financial instruments (LTL 3 million).

The indicator of the banking sector's efficiency (the ratio of operating expenses to operating income from core activities) improved by 2.1 p. p. Operating expenses decreased by 2.5 p. p. due to a lower number of banks, but excluding AB bankas SNORAS, they increased by 8.6 per cent. This was mainly due to the administrative expenses the growth of which was driven by higher wages and benefits even though the number of employees decreased.

After cancelling the operational licence of AB bankas SNORAS which had the lowest ratio of specific provisions to non-performing loans, the difference between this ratio of the first group banks and the second group banks diminished. The ratio of specific provisions to non-performing loans in the first and second group banks was respectively 42.5 and 44.9 per cent. It should be noted that conservative assessment of loans and robust capital base are key requirements for the sustainable development of the banking sector, which ensure the well-balanced lending to the domestic economy and raise investor confidence in banks.

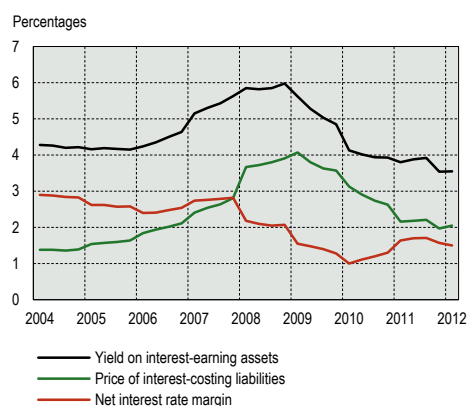
According to commercial banks' data as of 1 January 2012, net interest income of banks were sensitive only to changes in euro interest rates, while interest rates in litas and other currencies had only a moderate impact on banks' profitability. The structure of asset and liabilities in litas and other currencies was relatively well balanced. The growth of euro interest rates on loans would have positive effects on net interest income of the entire banking sector with the largest effect on net interest income in the country's largest banks.

Capital adequacy

The banking sector has formed sufficient capital reserves, and the dispersion of the indicator has considerably narrowed. Also, in Lithuania, the adequacy ratio of higher quality Tier I capital (used during bank stress-testing in Europe) grew from 11.7 to 13.4 per cent with the

Net interest margin of the banking sector has been slowly recovering.

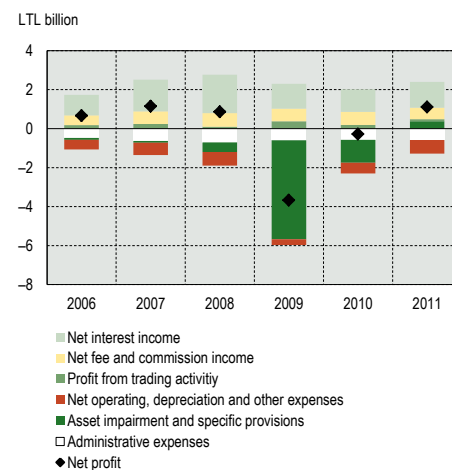
Chart 21. Development of net interest margin



Source: Bank of Lithuania calculations.

The income growth was determined by stable interest, net fee and commission income and overpriced costs for specific provisions of previous years.

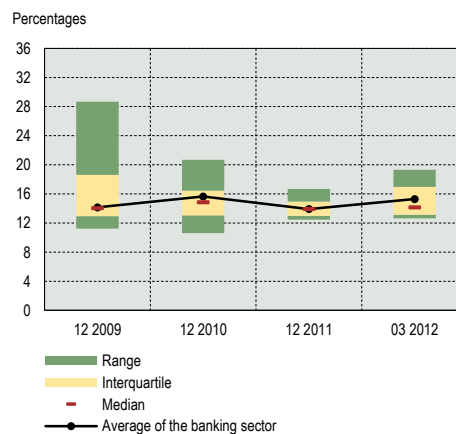
Chart 22. Composition of income and expenses of the banking sector



Source: Bank of Lithuania calculations.

The capital adequacy ratio of the banking sector continued to be substantially larger than the required minimum; also, its range has narrowed...

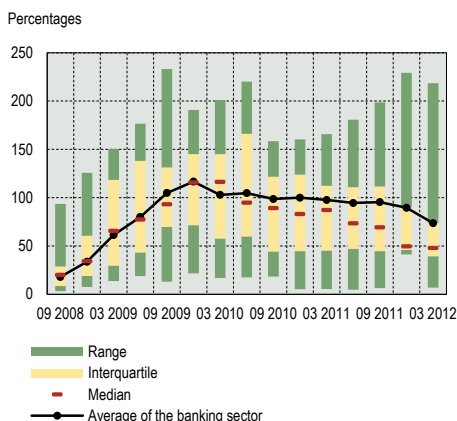
Chart 23. Development of banking capital adequacy ratio



Source: Bank of Lithuania calculations.

... however, strengthening of capital base in separate banks continues to be important.

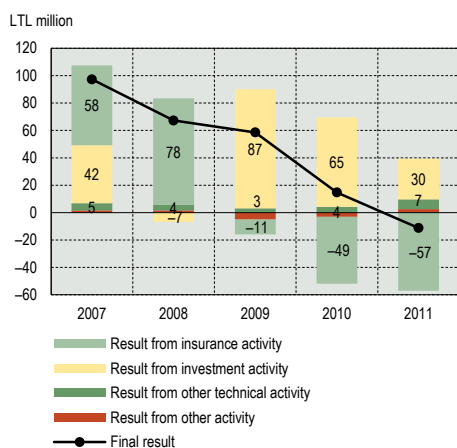
Chart 24. Development of the ratio of the difference between non-performing loans and specific provisions to capital



Source: Bank of Lithuania calculations.

Insurance operating results were the worst during the last five-year period, but the market is still seen as financially stable.

Chart 25. Operating results of insurance market



Source: Bank of Lithuania calculations.

adequacy of Tier I capital in separate banks fluctuating between 8.3 and 19.3 per cent. After cancelling the operating licence of AB bankas SNORAS, the bank with the lowest capital adequacy ratio for a long time has been removed from the banking sector. The dispersion range of the capital adequacy ratio significantly narrowed in 2011 (see Chart 23), but increased slightly again in the first quarter of 2012 as a result of higher capital adequacy ratios in some of the banks. Now the capital adequacy ratio fluctuates between 12.64 and 19.31 per cent (in 2010 the range was 10.61 to 20.69 per cent) and is well above the 8 per cent minimum requirement set by the Bank of Lithuania.

Capital amount allocated to absorb credit risk decreased over the year by 8.8 p. p., while capital allocated to absorb market risk grew by 9.9 p. p. This increase owed to higher capital charges for foreign exchange rate risk. Capital charges for credit risk went down by 1.5 p. p. after AB bankas SNORAS was excluded from the group of active banks.

Banks with no parent institution (the second group) were gradually boosting their authorised capital (LTL 90 million) in 2011, however, it has to increase further in order to improve bank losses absorption potential. The indicator showing outstanding credit losses (the ratio of the difference between non-performing loans and specific provisions to capital) still ranges widely in individual banks (see Chart 24). A decline in median by almost 39.3 p. p. suggests that the banking sector has strengthened its capital base and improved its loss absorption potential. However, possibilities to absorb loan impairment losses vary across banks, and strengthening of the capital base is still an urgent issue in separate banks.

INSURANCE MARKET

Increasing volume of operations by smaller market participants led to lower concentration in the Lithuanian insurance market. At the end of 2011, there were 11 insurance undertakings registered and licensed in Lithuania (5 of them were providing life and 6 non-life insurance coverage) and 14 branches of EU insurance undertakings.

In 2011, after a three-year break, the Lithuanian insurance market returned to growth triggered by the development in other EU countries and recovery in the non-life insurance market. Written premiums grew by 14 per cent, assets of insurance undertakings surged by 8.7 per cent, and equity went up by 6.8 per cent. After *ERGO Life Insurance SE* was founded (by merging of three life insurance undertakings in Lithuania, Latvia, and Estonia) assets of life-insurance undertakings grew by 22.3 per cent; however, negative operating results curtailed the assets of non-life insurance undertakings by 5 per cent. Technical reserves of non-life insurance undertakings went up by 5.8 per cent and those of life-insurance undertakings increased by 60 per cent (excluding the impact of *Ergo Life Insurance SE*, technical reserves of life insurance undertakings would have increased by only 1.6 per cent).

Although the insurance market has stabilised in terms of the value of written premiums, the losses of insurance undertakings reached a record high of the last five-year period in 2011 due to high operating losses of UAB Būsto paskolų draudimas, loss-making auto insurance activities, and poor results of investment activities. Losses incurred by insurance undertakings totaled LTL 11.2 million (see Chart 25). Life-insurance undertakings earned profit, while non-life insurance undertakings suffered a loss of LTL 69.4 million from insurance activities, which formed mainly because of the credit losses (LTL 53.8 million) of UAB Būsto paskolų draudimas and increased insurance benefits related to CASCO and motor third party liability.

Statutory requirements to diversify investment portfolios and restrictions to invest in riskier assets led to a shift to fixed investments and often low-yield investments (investments into sovereign bonds made up 66.5% of total investments, and investments into time deposits made up 7.9% of total investments), the reduced profitability of which and losses incurred due to writing off deposits held in AB bankas SNORAS were major reasons for the profit from investment activities to fall more than twofold. It is characteristic of insurance undertakings to build up lower reserves in case of shrinking insurance market, and thus improve current financial results; however, this inevitably generates losses of insurance activities in longer perspective. This trend can also be observed in recent years.

Insurance market is seen as financially stable. Although aggregate solvency ratio of insurance undertakings dropped to 2.67 during the year, the solvency ratio of all insurance undertakings was above the minimum level (1), and the insurance system has maintained sufficient reserves which exceed the required level. However, the cash flow imbalances that emerged as the result of a significant drop in the number of new credit insurance contracts and a prominent increase in the number of insurance benefits has led to higher losses incurred by UAB Būsto paskolų draudimas.

SECURITIES MARKET

In 2011, the activity in the securities market slowed down due to unfavourable international situation. The number of companies and issuers listed on AB NASDAQ OMX Vilnius has been gradually decreasing as the number of transactions fell by one-third, the turnover shrank by one-fifth, and the stock market capitalisation declined by one-fourth. It is likely that the number of companies on the trading list of AB NASDAQ OMX Vilnius will remain on the downward trend in 2012 as well. To boost or at least maintain the existing securities market volume and attract more large investors, additional measures are needed such as improving of regulatory legal framework for companies, reducing administrative burden for companies, increasing attractiveness of the taxation system and transparency of the companies listed in market.

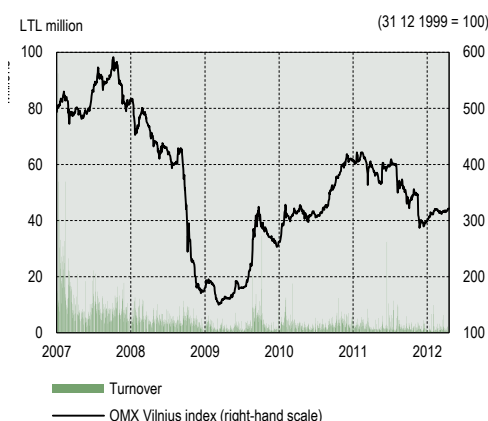
The euro area's debt crisis, on-going tensions and uncertainty in the global financial markets have prompted investors' wariness and a drop in key market indicators. All major indicators of AB NASDAQ OMX Vilnius declined in 2011 (see Chart 26). Trends in foreign financial markets are expected again to have the largest influence on key indicators of AB NASDAQ OMX Vilnius in 2012. Therefore, large fluctuations as well as investors' sensitivity to any negative news will persist.

During the reference period, the nominal value of the debt securities issued in the primary market was very close to the nominal value in the previous period despite decreasing number of issues, while investors showed larger interest in fixed-return securities. Despite a gradual improvement of companies' operating and financial indicators and increasing revenues, similar trends in raising capital within the primary market will remain in 2012, because of the lack of clarity in the European and global financial markets.

In 2011, the number of participants (1.8%) and the volume of assets (5.8%) of second pillar pension funds continued to grow, but this growth was significantly lower compared with previous periods due to the ageing population and negative return on investments (see Chart 27). The unit value of the second pillar pension funds fell on average by 2.9 per cent due to negative adjustments which took place in the global stock markets. Only funds with conservative investment strategy had positive return with their unit value up by 1.4 per cent on average. The pension funds' share of direct investments in Lithuanian sovereign bonds grew over the year to 64.5 per cent as a result of reduced investments into sovereign bonds of countries that are currently considered as being at risk.

The euro area's debt crisis, on-going tensions and uncertainty in global financial markets have prompted investors' wariness and a drop in key market indicators.

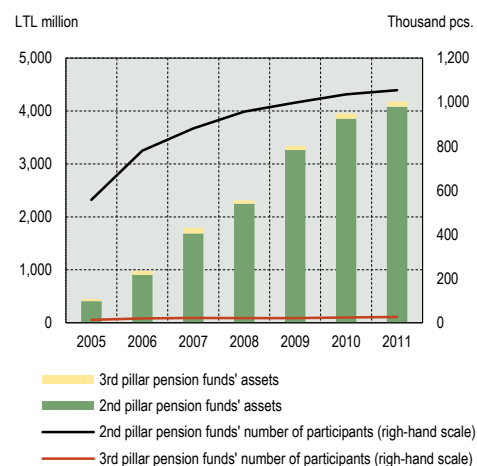
Chart 26. Changes of NASDAQ OMX Vilnius indicators



Sources: AB NASDAQ OMX Vilnius and Bank of Lithuania calculations.

In 2011, the number of participants in second and third pillar pension funds kept increasing, while the growth of assets was observed only in second pillar pension funds.

Chart 27. Changes in the number of pension funds' participants and assets



Source: Bank of Lithuania calculations.

Future decisions related to the size of the social security contribution part transferred to the second pillar pension funds, administrative fee rates and a possibility of voluntary withdrawal of the system participants and their return to the State Social Insurance Fund system may have huge influence on the number of participants in the second pillar pension funds and changes in volumes of these funds' assets. The decision of current and potential participants regarding their participation in or withdrawal from the second pillar pension funds will depend on how clearly the system is outlined, and particularly on the clear and long term strategy regarding the part of the state social insurance contribution to be transferred to the second pillar pension funds. In 2012, the contribution part transferred to the second pillar pension funds decreased from 2 to 1.5 per cent, but it is planned to increase it to 2.5 per cent in 2013.

Although the number of participants in the third pillar pension funds grew by 10.4 per cent, a negative return on investments, which was recorded due to negative adjustments in global stock markets, led to a 5.4 per cent decrease in the assets of these funds. Despite the growth in recent years, the accumulation of private pensions is still very low in Lithuania, compared with the West European countries, as the number of participants in these schemes make up less than 3 per cent of the participants in the second pillar pension funds. A rapid increase in the number of participants and assets is unlikely in the nearest future due to the tensions and uncertainties in the European and global financial markets and a slow growth of the average wage.

The number of participants in collective investment undertakings dropped nearly twofold because of negative expectations associated with sovereign debt problems in Europe and fund mergers at the beginning of 2011. These changes and a negative return on funds' investments (a fall of 11.4% on average in the unit value over the year) led to a 15.2 per cent decrease in the volume of assets. Similar trends were observed in the collective investment undertakings (CIUs) sold within the Lithuanian market through public offerings: in 2011, the volume of assets declined by 20.8 per cent and the number of participants decreased by 7.6 per cent.

Box 2. Lithuanian Government Securities Index calculated by the Bank of Lithuania

In financial markets, securities indices are calculated when preparing various reviews, analyses, also to compare various markets or assess investment results. Such indices help to foster investor confidence and market attractiveness. A huge diversity of debt securities indices can be found in global financial markets. The best-known indices are *Euro MTS* (EMTX) indices, *Markit iBoxx* indices, *FTSE*, *Barclays*, *JP Morgan*, *Bank of America / Merrill Lynch*, etc. Only securities that meet specified liquidity, rating, price quality, security types and similar requirements are included in indices. Indices are calculated based on regions, countries, rating, currency, maturity, etc.

From 1996 to 2001, Vilnius Stock Exchange used to publish the LITIN VVP index for the Lithuanian government securities market. To the knowledge of the Bank of Lithuania, no index for the Lithuanian government securities market is currently available in public. The Bank of Lithuania, therefore, has taken the lead to calculate the Lithuanian government securities index (hereinafter "the index"). The new index has been used in-house for the time being, but after the calculation methodology is streamlined and the data used for the calculation systemised, the index and its key indicators are expected to be published on the Bank of Lithuania's website.

The Index Rules

The index includes treasury notes and bonds of the Government of the Republic of Lithuania, denominated in litas and issued by the Government of the Republic of Lithuania via auction. No size and maturity requirements are applied to securities issues for including them into the index. In other words, the index is made of all government securities in litas, issued via a public offer.

To calculate the index value the average selling price in the market is used. The average selling price in the market is calculated based on the average value of the price quotations published by active participants in government securities auctions and securities market (7 banks at the present time). When adding a newly issued (or tapped) government security to the index, the latter is calculated based on the average price set during the government securities auction. Government securities are added to the index on the settlement day specified in the terms and conditions of the government securities auction, and deleted on the redemption day. Weights of government securities in the index are calculated at market value.

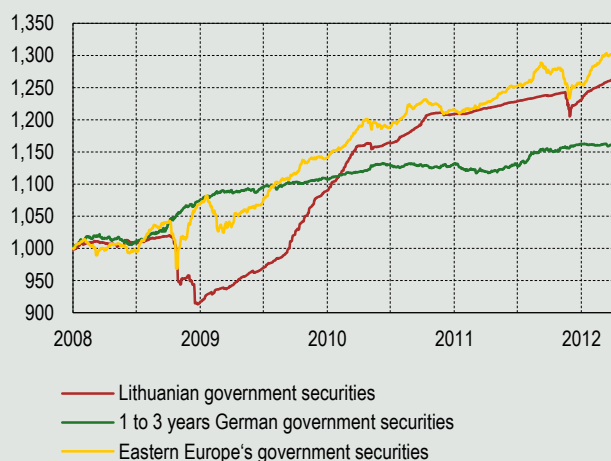
The index value is calculated every day starting with the base value of 1,000 on 1 January 2008.

Table A. Main indicators of the index

Date	Index value	Index market capitalisation, LTL mln.	Index nominal value, LTL mln.	Average life, in years	Average (Macaulay) duration, in years	Modified financial duration	Average weighted yield
01 01 2008	1,000.0	2,677.3	2,626.8	2.5	2.2	2.1	5.1
31 12 2008	916.9	2,338.0	2,633.6	2.2	1.6	1.4	11.5
31 12 2009	1,089.8	1,830.2	1,894.1	2.3	1.9	1.8	5.7
31 12 2010	1,209.1	3,089.7	2,994.1	2.0	1.8	1.8	3.0
31 12 2011	1,230.7	3,542.5	3,504.1	1.9	1.7	1.6	4.2
31 03 2012	1,263.0	4,133.0	4,054.7	1.9	1.7	1.7	3.1

Chart A. Index developments from 2008 to the first quarter of 2012; comparison with other indices

(01 01 2008 = 1000)



Sources: Bloomberg and Bank of Lithuania calculations.

II. THE RISKS AND OUTLOOK FOR THE FINANCIAL SYSTEM

THE EURO AREA SOVEREIGN DEBT CRISIS

Structural factors behind the euro area sovereign debt crisis

The euro area sovereign debt crisis is the consequence of **persistent widening of the economic and financial imbalances in the euro area and the global economy**. The crisis hit for the most part such countries as Greece, Ireland, Portugal, Spain and Italy, which recorded excessive private or public sector over-indebtedness during the last decade (see Charts 28 and 29). The over-indebtedness has formed against the background of the possibilities provided by euro area membership to gain access to cheap and abundant credit, a favourable global interest rate environment, overly optimistic expectations as well as other reasons. With the rise in domestic demand supported by borrowed funds, these countries could maintain unsustainable economic growth rates for years; however, in a number of instances, appreciation of the real effective exchange rate, widening current account deficit and growing unit labour costs pointed to the decline in international competitiveness and manufacturing efficiency. Nevertheless, the problems related to over-indebtedness are not only characteristic of the peripheral euro area countries – more or less serious debt problems are faced by most euro area as well as other advanced economies.

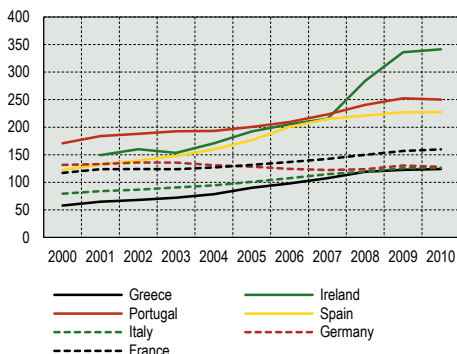
The economic and financial situation in each crisis-hit country is **individual, yet all of them have a common denominator – over-indebtedness**. Ireland, Spain and Portugal stand out for their massive private sector debt, whereas Greece and Italy for excessive public sector debt. A number of countries witnessed formation of a house price bubble in the last decade, however, for instance, in Italy and Portugal, the pick up in housing prices was less pronounced (see Chart 30). Despite individual economic and financial peculiarities, the long-term structural problems in all countries were exposed and aggravated by global financial and housing market turbulence and adverse foreign trade shocks in 2008. In addition, the crisis also had very negative effects on euro area public finances, as the decline in economic activity entailed the decline in budget revenue with a cyclical rise in expenditure at the same time. Some countries, especially the economically stronger euro area countries, undertook temporary fiscal stimulus measures, on account of which general government debt increased at a much stronger pace. In some countries, primarily Ireland and Belgium, the bail-out or take-over of systemically important banks facing solvency problems contributed markedly to the increase in general government debt.

There is a **negative feedback loop between the sovereign debt crisis and problems in the private financial sector**. Euro area commercial banks' investment in sovereign debt securities is among the most important channels of general government debt financing, thus countries are highly dependent on the smooth functioning of financial markets, whereas any failure in market functioning can have adverse effects on sovereign debt refinancing and management of public finances. The share of investment in sovereign debt securities on the balance sheets of euro area banks has in turn expanded greatly over a few recent years; thus, in the event of severe shocks in sovereign debt markets, a decline in the value of sovereign debt holdings might negatively contribute to the capital ratios of banks. It should be noted that banks are normally more willing to invest in the government debt securities of their domestic country, and the amounts borrowed by Portuguese, Spanish, Italian, and Greek banks to domestic governments generally vary between 60 and 100 per cent of the banks' own funds. Hence, a debt crisis in an individual country would inevitably lead to shocks to that country's banking sector as well. In the

All euro area countries hit by the crisis have been recording quite massive private sector debt...

Chart 28. Private sector debt in selected euro area countries

As a percentage of GDP

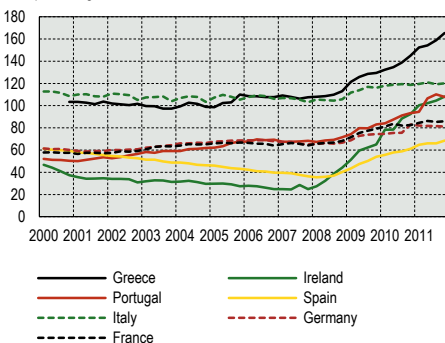


Source: Eurostat.

... and excessive public sector debt.

Chart 29. Public sector debt in selected euro area countries

As a percentage of GDP

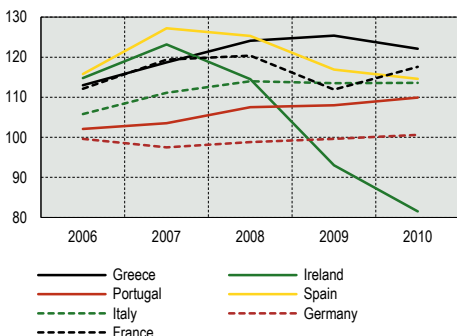


Source: Eurostat.

During the boom, housing price increases were not uniform, and the levels of price adjustments also varied significantly.

Chart 30. The house price index in selected euro area countries

(2005 = 100)



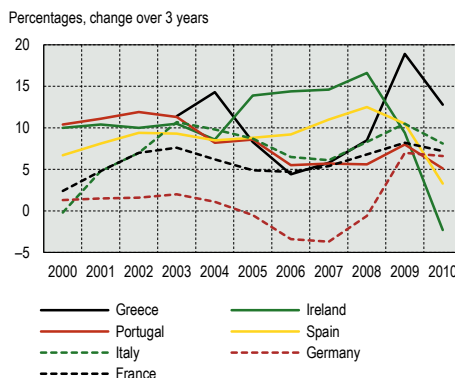
Source: Eurostat.

context of banks' significant exposure to general government debt risk, insufficiently robust balance sheets of banks and rising financial market tensions, in recent years banks faced increasing challenges related to the attraction of financial resources on wholesale markets.

The cross-border dimension of the euro area sovereign debt crisis and systemic risk showed up in recent years. At the initial stages of the euro area debt crisis, the prevailing view was that many countries were facing individual crises which were driven by common global and country-specific shocks. Nevertheless, over time, and last year in particular, some signs of a systemic euro area debt crisis emerged amid increased tensions in euro area financial markets. It should be noted that towards the end of 2011 the public debt of the most troubled euro area peripheral countries alone amounted to EUR 3.5 trillion (about 36% of euro area GDP), a significant figure for the whole euro area economy. Banks in more resilient countries have invested much in the general government debt securities of peripheral countries, and have assumed related risk. Overall, with closely integrated euro area economies and financial systems, it is not only the direct effects of shocks in individual countries on other countries (e.g. via bank losses) that matter but also shocks in the form of changes in investor risk appetite, credit controls or financial panic. It should also be noted that this crisis is partly the consequence of persistent trade imbalances between the southern euro area countries which had borrowed and consumed massively and the strong industrial "core" (above all, Germany): strong adjustment of these trade imbalances and the related decline in the demand for the output of the exporting countries weighs down on the stronger industrial economies of the euro area (see Chart 31). Without much doubt, the accumulated problems of competitiveness, international trade imbalances, over-indebtedness, public finance and the banking sector should not be attributed solely to individual countries but should rather be seen as the economic and financial problem of the whole euro area (see Charts 32 and 33). By the same token, it has been the most serious test for the euro as the single currency since its adoption.

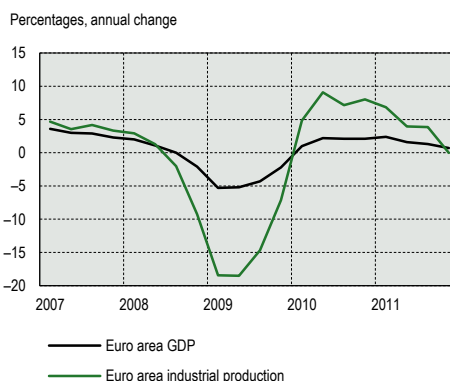
Labour costs rose strongly in a number of countries facing challenges, however, internal devaluation took place only in a few countries.

Chart 31. Development of unit labour costs in selected euro area countries



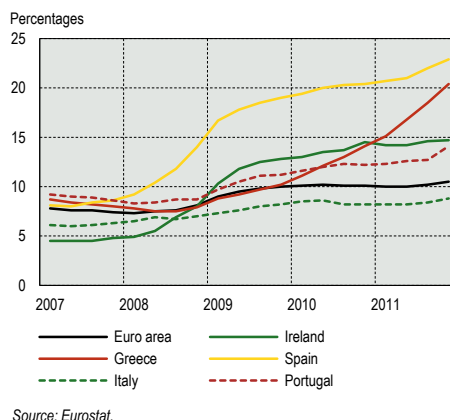
It is no longer the economic crisis of isolated countries – the euro area economy as a whole is stagnating.

Chart 32. Euro area GDP and industrial production developments



Unemployment has been on the rise in the euro area again, especially in the troubled euro area peripheral countries.

Chart 33. Development of the unemployment rate in selected euro area countries



Box 3. International financial assistance and economic reform programmes under implementation in the euro area

International financial assistance and economic reform programmes are currently under implementation in three euro area countries. In an environment of the monetary union, whereby countries have no possibility to conduct independent monetary or exchange rate policies, a few countries that were most affected by the crisis were incapable of individually withstanding financial and economic challenges and had to ask for international assistance. Presently, international financial assistance programmes are under implementation in Greece, Ireland and Portugal. They are aimed at restoring the competitiveness of the countries and sustainability of their public finances through internal devaluation and structural reforms, ensuring government borrowing under favourable conditions and protecting the countries from financial market turbulence during the medium term at the same time.

Greece was in need of two financial assistance and economic reform programmes, yet they are being conducted insufficiently smoothly. The first international lending and economic reform programme amounting to EUR 110 billion was embarked in Greece in May 2010, when Greece basically lost its access to the market funding after publishing data about the unacceptably wide general government deficit and high levels of debt. Greece undertook to implement a policy of tight public finance consolidation and ambitious structural reform. While Greece has succeeded in achieving a certain fiscal consolidation, different setbacks such as political instability, social unrest, the burden of debts and deep economic recession prevented from implementing these programmes with sufficient smoothness. In 2011, the growing risk premia on Greek debt securities pointed to the increasingly greater probability of restructuring of the Greek sovereign debt. With rising bond yields, it became obvious that Greece would not succeed to resume borrowing in financial markets in 2012 as previously planned.

A second assistance programme was signed in February 2012. Under it, it is intended to lend to Greece additionally EUR 130 billion in 2012–2014. It was also agreed with private sector investors in March 2012 on debt exchange (voluntary restructuring of debt), by which the nominal value of the private sector holdings of Greek government debt securities was reduced by 53 per cent (about EUR 100 billion), and the real reduction of private sector debt, given the changed terms of payments and interest rates, should stand at about 74 per cent. Implementing a new borrowing programme and having written part of current debts off, the Greek general government debt is expected to initially decline very little, to peak in 2013 (at 167% of GDP) and then to decrease moderately to 116 per cent of GDP in 2020. Such easing of the debt burden which is projected in the official forecasts for the implementation of the programme is nevertheless only possible with a favourable turn in the economic and political circumstances in Greece, and in the absence of serious economic and financial shocks in the euro area. These forecasts are based on optimistic assumptions about the recovery of economic development already from 2013 and an attainable primary surplus of general government budget. Given the still significant economic contraction (in 2011 the economy shrank by 6.9%), the high and increasing unemployment rate (above 20%), particularly high youth unemployment, very low consumer and business confidence, high increases in the amounts of banks' non-performing loans, a contraction in the volume of deposits with banks by a quarter from their peak levels, as well as the projected further reduction of general government expenditure and the further lay-offs of public sector employees, it may be extremely difficult for Greece to achieve the targets set under the programme.

In Ireland and Portugal, the official financial assistance and economic reform programmes have been implemented with considerably greater success. After initiating an international lending programme to Ireland in the amount of EUR 67 billion in November 2010, it was aimed above all at providing financial assistance to the Irish government who was determined to rescue the domestic banking sector, which incurred huge losses after the burst of the real estate price bubble. Ireland has been conducting its fiscal consolidation programme; Irish banks have been deleveraging quite smoothly. Internal devaluation has enabled cutting prices, labour costs, and increasing competitiveness. Growing exports led to the end of recession and moderate economic growth in 2011 (though in early 2012 the economy stagnated again). Nevertheless, a more than double increase in the unemployment rate (to 14%) since the start of the crisis has been a great challenge. General government debt has doubled over the last few years too and stood at above 105 per cent of GDP in late 2011. Hence, while the government has been reducing structural deficit quite successfully, the public debt servicing burden is rather heavy, and the public debt-to-GDP ratio will be increasing strongly in the next few years.

The crucial problems for the Portuguese economy in recent years related to huge private sector debt, brewing banking sector problems, the country's large foreign debt, quite significant general government deficit and the inefficient structure of public and state enterprises. Owing to the emergence of financial market tensions related to the problems in other peripheral countries, in 2011 the Portuguese economy and financial system became vulnerable too: the country's credit ratings were downgraded, the risk premia on the public debt dangerously increased, banks faced growing liquidity problems. An international programme of lending to Portugal amounting to EUR 78 billion was approved in May 2011. Portugal has been implementing economic reforms quite smoothly, yet the objectives set for 2011 to restore competitiveness were not very ambitious. While the unemployment rate rose strongly in recent years (up to 14%), unit labour costs remained almost unchanged and the problems of competitiveness were not solved efficiently enough. Further projecting higher internal devaluation and fiscal consolidation and considering negative changes in the external economic environment, the economic recession in Portugal is expected to deepen this year (according to IMF estimates, the economy is expected to shrink by more than 3% this year). Thus, the economic and financial situation in Portugal remains tense, which is confirmed by the still relatively high risk premia on government bonds.

Increased tensions in the euro area financial market and economic policy response

In the second half of 2011, euro area financial markets faced considerable tensions and increased risks to financial stability in the euro area. This relates to some of the most important risk channels: with the return of economic stagnation to the euro area, public finance problems and bank balance sheet problems aggravated one another; confidence within the banking sector was draining; it became more difficult for banks to attract financing in the market; the risk of constraining bank credits to the private sector increased and, finally, the risk of disorderly adjustment of global economic imbalances remains high. Under these unfavourable conditions, in 2011 there were sharp increases in sovereign debt risk premia, and the sovereign debt yields of such systemically important countries as Italy or Spain reached levels which are hardly compatible with sustainable development of their debt (see Charts 34 and 35). At the same time bank deleveraging processes, observed since 2008, have continued. Banks also reduced the share of foreign assets on their balance sheets, whereas banks of economically stronger euro area countries reduced their exposure to the sovereign debt of peripheral countries. Euro area banks (and refinancing of the sovereign debt of many euro area countries) became increasingly reliant on the ECB's liquidity loans, yet at the same time banks' unwillingness to lend in the interbank market led to the strongly increasing use of the ECB deposit facility by banks.

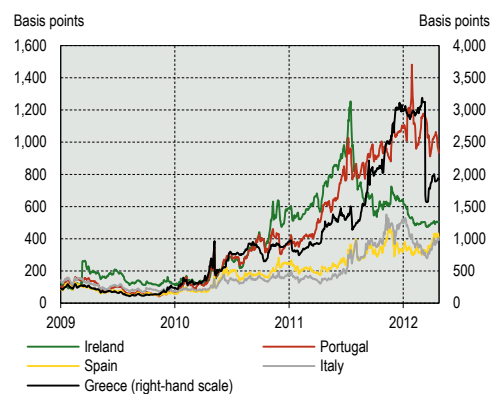
In response to growing challenges to financial stability and deteriorating economic outlook, the ECB mitigated its monetary policy stance and undertook non-standard measures. By the ECB Governing Council's decisions of November and December, the key interest rate was reduced twice by 0.25 p.p. and stood at 1 per cent (see Chart 36). At the same time, the reserve requirement was reduced from 2 per cent to 1 per cent and, also, the list of collaterals recognised as eligible for the ECB's liquidity loans was temporarily extended. As regards non-standard monetary policy measures, the ECB made sterilised interventions (bond purchases) in the secondary sovereign and private sector bond market and provided 3 years liquidity loans in the amount of over EUR 1 trillion for an interest rate of 1 per cent. These measures are aimed at ensuring liquidity in the insufficiently well functioning segments of the financial market, easing tensions with regard to the possibilities to refinance banks, and encouraging banks to finance sovereign debts.

The ECB's non-standard measures applied during the recent quarters helped significantly ease the tensions in the euro area financial market in the short term, yet their long-term effects were characterised by high uncertainty. With these measures undertaken, the risk premia of banks and sovereign debt risk premia declined; refinancing of sovereign debts was ensured; positive trends prevailed in equity markets. Nevertheless, a few months after the start of long-term refinancing operations, the yields of peripheral euro area government bonds returned to dangerously high levels. Providing additional liquidity gives the financial system more time and room for manoeuvre in addressing basic problems of banks' balance sheets (ensuring solvency) and the structural problems of sovereign economies, yet it is not the measure for durable and sustainable solution of problems by itself.

To overcome the euro area debt crisis, a package of economic measures coordinated at an individual country level and the EU level is needed in addition to monetary policy measures. During the meetings of heads of European states in December 2011 and March 2012, an important agreement on the strategy of overcoming the crisis was achieved. This strategy is based on sound fiscal consolidation programmes, the objective to ensure adequate protection from the spillover of banking sector problems and general government debt in the market internationally, enhancement of banks' capital, structural reforms for encouraging economic growth, and smoother coordination of economic and financial policies at the EU level.

The crisis deepened sharply in the second half of 2011 with the surge in Italy's and Spain's debt risk.

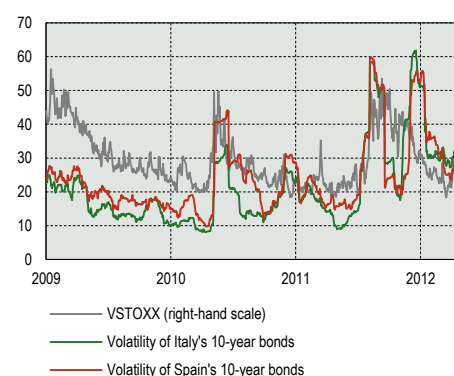
Chart 34. Yield spreads between 10-year sovereign bonds of selected euro area countries and German bonds



Source: Bloomberg.

The increased tensions were also reflected in the share and bond volatility indicators.

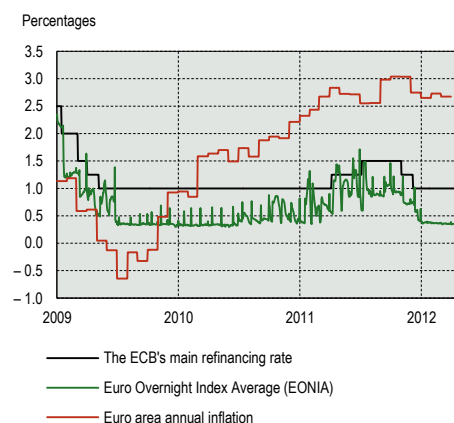
Chart 35. Share and bond markets volatility indicators



Source: Bloomberg.

The ECB cut its key interest rates and undertook non-standard measures.

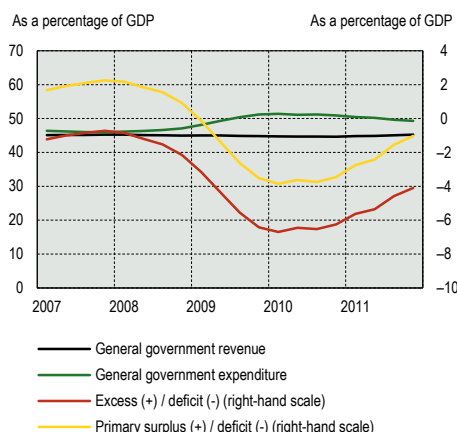
Chart 36. The interest rate environment and the inflation rate in the euro area



Sources: Bloomberg and Eurostat.

The euro area has been undergoing moderate fiscal consolidation and is approaching a primary surplus.

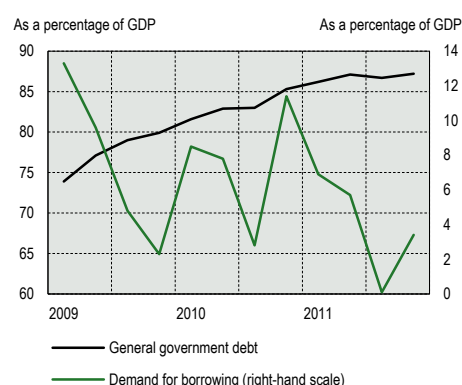
Chart 37. Development of euro area general government revenue and expenditure (four-quarter moving sum)



Source: ECB.

In recent years, general government debt level increased strongly but began stabilising.

Chart 38. Euro area general government debt and demand for borrowing



Source: ECB.

A consensus on the package of fiscal measures should be noted by which it will be sought to achieve annual sovereign structural deficits below 0.5 per cent of nominal GDP (unless under extraordinary circumstances), transposing these requirements to the national legislation and also establishing an automated deficit adjustment procedure. Moreover, it is intended to speed up the establishment of the European Stability Mechanism and the overall financial lending capacity of this Fund and of the temporarily functioning European Financial Stability Facility to EUR 700 billion.

Two very general scenarios for further development can be singled out: a scenario for relatively smooth overcoming of the euro area debt crisis and an unfavourable further development of the debt crisis. The strategy for overcoming the crisis in the euro area currently under implementation is based essentially on austere fiscal policies (see Charts 37 and 38), which are likely to strengthen fiscal positions and help sovereign debts to return to a sustainable trajectory, and on very accommodative monetary policy, which facilitates the functioning of the financial system and prevents bank and general government balance sheets from shrinking too abruptly and in a disorderly manner (in a form of the financial collapse).

Scenario for relatively smooth overcoming of the euro area debt crisis and the effects on the Lithuanian financial system

If the implementation of the strategy for overcoming the debt crisis were completely successful, the structural reforms enhancing public finance consolidation and competitiveness would still inevitably have suppressing effects on the domestic demand in the euro area, international trade, as well as on economic activity and employment overall in the medium-term. Internal devaluation, i.e. the decline in labour cost and easing of price pressures taking place in some of the euro area countries firstly negatively impacts on household income levels and employment, only in the longer run making room for a recovery in a country's international competitiveness, which at the same time depends on a number of other factors, for example, investment, manufacturing innovations, labour qualifications, etc. Moreover, as peripheral countries seek to reduce international trade imbalances and enhance their export potential, other countries can rely on export as the driver of economic growth to a lesser degree. It is also obvious that in many instances, especially in peripheral euro area countries, the generous model of social protection and the welfare state which had prevailed to date will have to be improved further in terms of efficiency, and these reforms are likely to increase social tensions in those countries. With economic activity stagnating or declining under conditions of internal devaluation and fiscal consolidation, the euro area private sector's relative debt burden may increase, which at the same time poses problems related to bank balance sheet quality in the medium term.

Even in the case of smooth overcoming of the euro area sovereign debt crisis, the financial environment in Lithuania may become more negative in the medium term; in the long run, however, positive developments could emerge with growing business, households' and banks' confidence. Due to very low investment by domestic banks in the debt securities of troubled countries or banks, the likely direct impact would be insignificant. In case the trends of the euro area banking sector's financial deleveraging were to intensify, the negative impact should be related to a likely decline in domestic banks' credit supply and hampered access to the financing of parent banks.

Economic stagnation in Europe would have a negative impact on Lithuanian exports. Negative shocks to export and production volumes as well as to households' real disposable income might return the risks of recession again. This would also have negative effects on the balance sheets of domestic banks. On the other hand, in case of efficient implementation of measures for addressing the euro area sovereign debt crisis, a positive reaction from financial markets would increase households' and business confidence in Europe, which eventually is likely to have a positive impact on the Lithuanian economy as well.

Scenario for unfavourable development of the euro area debt crisis and the effects on the Lithuanian financial system

There are various risks relating to the implementation of the strategy for overcoming the euro area sovereign debt crisis. Probably the most important risks relate to higher than expected write-offs of sovereign debts and a chain reaction to debt write-offs in other troubled countries, unilateral refusals by countries to meet their financial obligations, bankruptcies of systemically important banks or other serious shocks to the banking sector.

If saving takes place under conditions of recession and the structural reform of the economy is not sufficiently fast, it may give rise to a vicious circle of the debt burden, as in the context of contracting economy the actual debt burden would only increase despite the saving measures. In this regard, the case of Greece is very relevant and illustrative. A sizeable portion of support funds for Greece goes to servicing its current debt and, even with significant write-offs of sovereign debt to the private sector, it may be particularly difficult to ensure sustainable development of the private and public sector debts. Moreover, while carrying out fiscal consolidation, intensive saving within the public sector is projected for a foreseeable future, and such a harsh recessionary environment strongly increases social tensions.

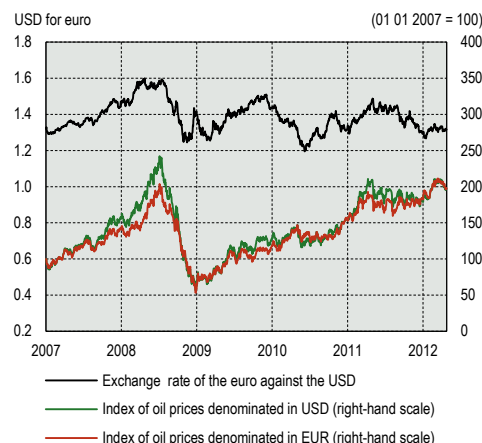
The banking sectors in some troubled countries are suffering from the still shrinking volumes of deposits, while banks are becoming increasingly dependent on the liquidity support from the ECB and its use of non-standard measures. As the ECB undertook refinancing operations of a non-standard long maturity, it might be complicated to reverse them without severe tensions in financial markets. At the same time it should be noted that the recently inflated balance sheet of the ECB and the provision of facilities for euro area banks to borrow from the ECB almost unlimited amounts may essentially stop the financial deleveraging processes in the banking sector, increasing tail risks of higher inflation or debt devaluation (see Charts 39 and 40).

Systemic financial shocks under such conditions may potentially be more dangerous than the fall of *Lehman Brothers* in 2008, as the balance sheets of both general government and central banks have considerably inflated since then, thus undertaking efficient accommodative economic policy measures would be much more difficult. It should also be noted that with real interest rates stabilising at very low or negative levels and excessive liquidity in a number of relatively less crisis-stricken countries since 2008, real estate prices kept increasing and signs of real estate price bubbles were surfacing. An essential change in the financial environment may trigger significant economic shocks, bursts of real estate price bubbles, deterioration of banks' loan portfolios, etc.

In the event of the unfavourable euro area debt crisis unfolding further, serious negative economic and financial shocks are possible in Lithuania as well, because the recent experience from 2008 showed that owing to close financial and economic integration Lithuania could not be safe if a deep economic or financial crisis were unfolding in the euro area. First of all, the Lithuanian economy would be negatively impacted through a fall in export volume and a rise in interest rates. In the event of a renewed economic crisis, banks would incur additional credit losses, fiscal problems would be likely to emerge again, and the borrowing requirement could rapidly extend. In this case, general government refinancing problems are likely to become more acute, as foreign investors may have a non-discriminating attitude towards the peripheral countries of the EU. Their negative attitude might be strengthened by the Lithuanian general government's quite intensive borrowing in recent years and the shock to the domestic banking sector in 2011. Under such circumstances, it is worthwhile ensuring fiscal discipline as strict as possible and seeking reforms to increase the competitiveness of the economy.

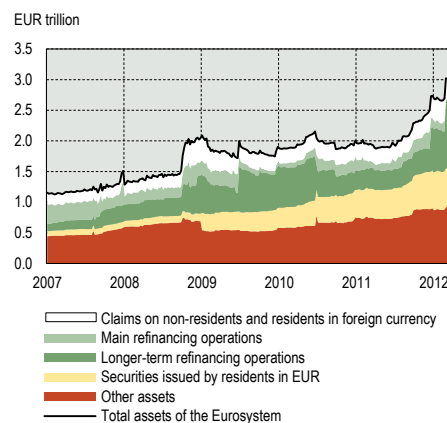
The prevailing accommodative monetary policy may have contributed to oil price increases; with depreciation of the euro, the rise in commodity prices might become stronger.

Chart 39. The exchange rate of the euro against the US dollar and oil prices



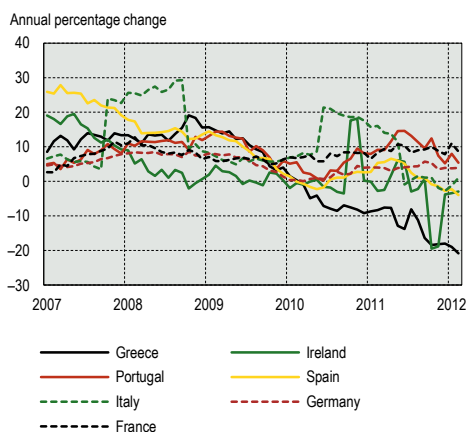
As the ECB undertook non-standard monetary policy measures, its balance sheet inflated considerably in recent quarters.

Chart 40. Development of the ECB's balance sheet



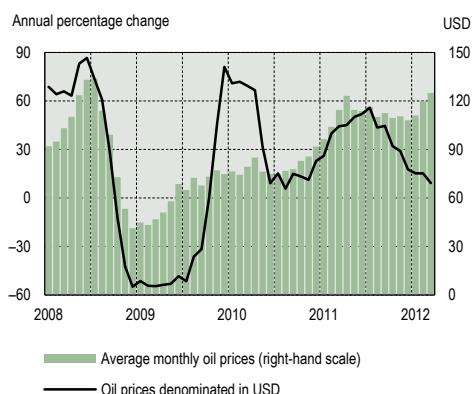
The crisis-stricken countries are characterised by unfavourable developments in bank deposits.

Chart 41. Developments in deposits with banks in selected euro area countries



Oil prices increased sharply at the beginning of 2012 on account of disruptions in oil supply and concerns about Iran's actions.

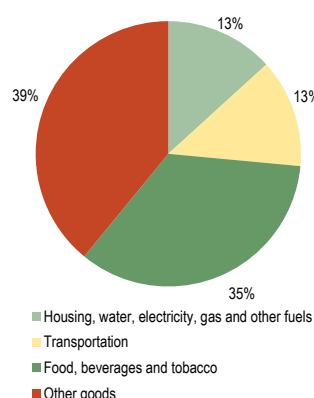
Chart 42. Oil prices and their developments



Sources: Bloomberg and Bank of Lithuania calculations.

Goods and services that are related to energy products account for about one-fourth of the households consumption basket.

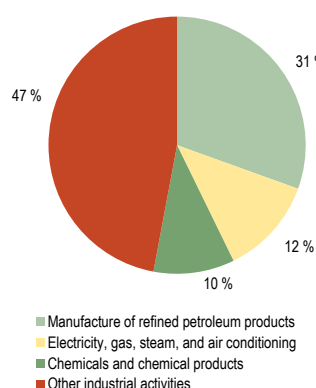
Chart 43. HICP composition by product group in 2012



Sources: Statistics Lithuania and Bank of Lithuania calculations.

Economic activities with high energy intensity compose a significant share of industry.

Chart 44. Composition of industrial sales in 2011 by economic activity



Sources: Statistics Lithuania and Bank of Lithuania calculations.

Deepening of the euro area sovereign debt crisis may affect access to the financing of domestic banks in a few ways. Parent Scandinavian banks could be more actively involved in financial deleveraging, which could lead to diverting excess liquidity from their subsidiaries. In recent years there emerged increasingly more signs of a real estate price bubble in Scandinavian countries, thus, if trends in real estate prices reversed and Scandinavian banks' balance sheet quality problems emerged, the financial deleverage processes might intensify. It should also be noted that the domestic banking sector cannot be totally resilient to a change in depositor sentiment in other countries (see Chart 41). If a systemically important euro area bank was to collapse or the retail deposit base was to shrink strongly in some countries in the context of the deepening euro area crisis, the spread of financial contagion and negative sentiment internationally even to relatively sound financial systems cannot be rejected. Volatility of the retail deposit base may be driven by the close to zero or even negative real interest rates on deposits – under such circumstances, the banking sector may easily lose access to funding on account of unfavourable economic, financial or psychological shocks.

A JUMP IN ENERGY PRICES

Energy prices are currently at historical heights, and an aggravation of the geopolitical situation would increase them even more. Oil prices, on which the prices for other energy resources (petroleum products, natural gas) depend, were very high in the first quarter of 2012 (around USD 119 per barrel, see Chart 42). The rise in oil prices was driven by renewed geopolitical tensions in the Middle East, which disrupted oil supplies. Turmoil in Southern Sudan, Syria and Yemen reduced oil supplies from these countries, with the contribution of lower supplies of oil extracted in the North Sea and Canada due to technical factors also adding to this. Nevertheless, not only a decline in supply but the threat of further decrease maintained oil prices high. The major cause for concern is the situation in Iran, the OPEC's second largest producer (after Saudi Arabia), and this country's likely actions that would disrupt oil supplies – in response to the sanctions imposed internationally Iran threatens to disrupt oil supplies via the Strait of Hormuz.

With the unfavourable turn in the economic and political situation encouraging disruptions in oil supplies, oil prices are likely to rise further amid growing demand for it. According to the International Energy Agency's March estimate, global demand for oil will increase in 2012: while in Europe, part of which is still being troubled by the debt crisis, and in Northern America oil demand will decline, the impact of this on global demand will be outweighed by the developments in other regions, Asia above all. Higher demand in Asia will determine more than 80 per cent of entire growth in oil demand (nearly half by China alone). Demand is also likely to rise in Africa, Latin America, and the Middle East.

The rise in energy prices would primarily entail an increase in inflation and a drop in consumption in Lithuania. Energy prices relate to quite a sizeable portion of the consumption basket (see Chart 43), hence a lengthier period of strong growth in energy prices will increase inflation significantly. Rising inflation on account of inflexible household demand for energy products in the short term would entail a downturn in real income gains for consumers and their purchasing power at the same time, reducing also their expectations and thus fuelling a decline in consumption.

With high energy prices remaining unchanged during a lengthy period, they would boost the operating expenses of enterprises. This would make enterprises increase the prices for the production they sell and the services they provide. Quite a sizeable portion of the Lithuanian economy consists of energy-consuming economic activities (see Chart 44). In addition to activities whose production prices are regulated by

the state and manufacture of refined petroleum products, a rather sizeable portion of the export of goods consists of fertilisers and other chemical products' manufacture of which natural gas represents one of the major raw materials. Another energy-consuming economic activity is transportation services generating about one-tenth of Lithuania's total GDP. In the composition of the costs of other economic activities, energy products account for a relatively small share, however significant growth in their prices would force enterprises engaged in these economic activities to increase the prices for the production they sell and the services they provide to a lower or higher extent. Due to higher energy intensity, prices of goods and services produced by Lithuanian enterprises would grow faster than in other countries resulting in decline in competitiveness and demand for goods and services in the domestic and foreign markets.

Such a shift in prices and costs would encourage enterprises to increase their investment in boosting energy efficiency; however, at the same time the pace of investment in the expansion of manufacture would become slower. With decreasing demand for enterprises' production and services, enterprises would give up projects related to increasing their volumes of production. Part of unused funds would most probably be used for investment in the modernization of production factors. The primary objective of this investment would be achieving higher energy efficiency in the manufacturing process; however, the impact of this investment on the creation of new jobs would be limited.

A drop in foreign demand driven by oil and other energy price increases would have an additional impact on the Lithuanian economy, especially export. Oil price increases would not only affect the Lithuanian economy but other countries' economies as well. With energy prices in these economies remaining high for a lengthy period, they would lower household and enterprise expectations for inflation and economic development, which would reduce consumption and investment incentives. Moreover, rising prices would reduce households' purchasing power, which would suppress the demand for goods manufactured both domestically and imported, as well as for services. Thus Lithuania's foreign demand would diminish.

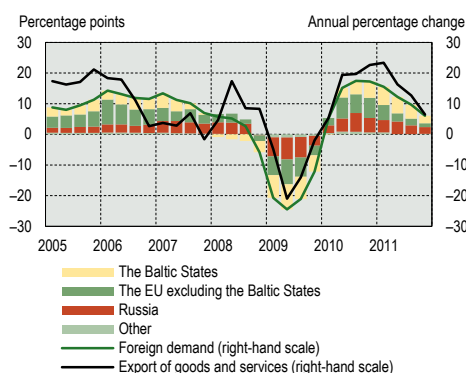
Diminishing demand would negatively affect enterprises' performance indicators, the labour market, expectations, all this leading to extra losses for banks. A drop in the demand for goods and services of enterprises in the domestic and foreign markets would lead to lower corporate revenues, which would decrease corporate profits or might make their business loss-incurring. Consequently, enterprises would fall under pressure to reduce their wage funds through the adjustment of wages and/or dismissal of employees. The above factors would worsen household sentiment and expectations for the future, which would encourage households to increase saving and reduce consumption even more. All this would lead to deterioration in the financial standing of bank borrowers and extra losses for the banking sector.

WORLD TRADE CONTRACTION

The expansion of international trade is a basic factor which has determined integration between world economies during the last few decades. Therefore, in the present stage of development of the global economy, changes in the trade structure of major economies, particularly their domestic demand, determine the development of smaller players in world trade. Lithuania is an open economy: in 2011 its exports of goods and services accounted for three-fourths of the country's GDP, and this share has increased significantly over the last decade. Therefore, the Lithuanian economy and the financial welfare of its subjects have been increasingly influenced by the development of the global economy and the state of the economy in its major trade partner countries. Analysis of the impact of Lithuania's foreign demand on Lithuanian exports for 2008–2009 (see

The pattern of development of Lithuanian exports directly depends on the domestic demand in the country's major export partner countries.

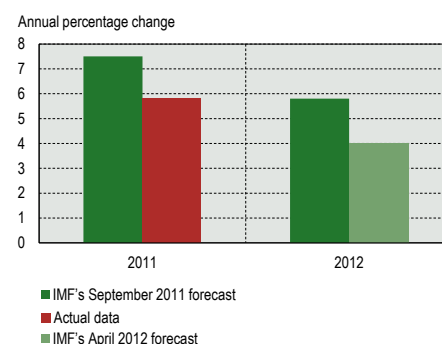
Chart 45. Development of demand for the export of Lithuanian goods and services



Sources: Eurostat, the Russian Federal State Statistics Service, Statistics Lithuania, and Bank of Lithuania calculations.
Note: due to limited reliable data availability Belarus, Kazakhstan, and Ukraine were excluded from estimation of Lithuanian foreign demand.

The year 2011 was below expectations for world trade, with downward revisions of the forecasts for the development of world trade in 2012 recently.

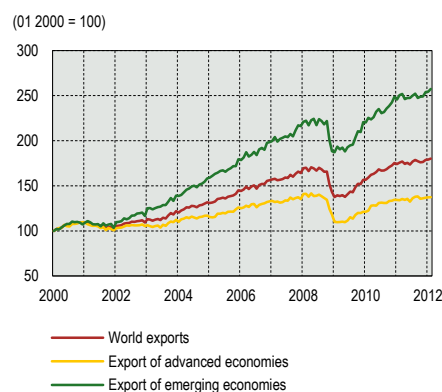
Chart 46. Forecasts for the development of the world trade in goods and services



Sources: Global Economic Reviews (IMF, September 2011 and April 2012).

The volumes of world exports of goods have been expanding, however mostly on account of growing exports of emerging economies, where China holds a significant share.

Chart 47. Development of the exports of goods in advanced and emerging economies



Sources: The CPB Netherlands Bureau for Economic Policy Analysis and Bank of Lithuania calculations.

Industrial development in China and in the euro area has been less pronounced since early 2011, while recently a slack in manufacture has been observed (especially in the euro area).

Chart 48. Industrial trends in China and in the euro area: PMI



Source: Bloomberg.

Note: when the index is 50, there is no change in the volume month on month (the index is seasonally adjusted).

Table 2. The importance of mainly foreign trade oriented economic activities for the Lithuanian economy (compared to all non-financial undertakings)

(percentages)

	2007	2008	2009	2010	2011
Value added (at factor cost)	59.2	58.5	58.0	n/a	n/a
Taxes paid	69.0	70.8	69.8	n/a	n/a
Income received	74.2	75.1	75.7	n/a	n/a
Number of employees	62.4	61.4	62.0	n/a	n/a
Personnel costs	60.5	59.9	61.7	n/a	n/a
Tangible investment	40.2	35.8	26.0	27.2	35.5
Liabilities to the banking sector	47.8	47.3	44.7	42.5	42.9*

Sources: Statistics Lithuania and Bank of Lithuania calculations.
Note: a lag of 3 years in the survey data of the key financial indicators of undertakings; n/a – not available; * – Q3.

Chart 45) suggests that the economic downturn in Lithuania is closely related to the falling demand for the production manufactured and the services provided by Lithuanian enterprises abroad.

The development of world trade was volatile in recent years – after a significant contraction in 2009 there followed a strong recovery, yet its growth was less pronounced. World trade increased by more than one-tenth in 2010; while in 2011 the pace of its growth became twice less strong. However, the IMF, the World Trade Organization (WTO) and some other organizations had significantly overestimated the potential for world trade growth in their forecasts – in 2011 actual growth was below expectations (see Chart 46). In its April 2012 forecasts, the IMF projects the growth to be weaker by nearly one-third than a year ago, noting that more grave scenarios are still likely. This pessimism stems from the persisting fundamental problems with the global economy.

The economic downturn in the euro area and weaker growth of the Chinese economy are the major risk factors behind world trade contraction. Domestic demand in the economies systemically important for world trade is related by endogenous causality. The EU accounts for over one-third of the world's total imports; hence the persisting turbulence in the euro area exerts significant influence on other countries. For instance, the fall in the Chinese sales in the EU (the country's major export market) led to worse trends in the economic indicators in the latter half of 2011. One of them, manufacturing PMI signals the slowing pace of industrial development (see Chart 48); moreover, with shrinking volumes of manufacturing, in the first two months of 2012 China's trade balance recorded a deficit. Further disorderly development of the Chinese economy may significantly shatter the global supply chain and contribute negatively to the volume of world trade at the same time. Domestic demand developments in the systemically important and large world economies, such as the EU, China or the USA, through direct or indirect channels determine the development of the demand for Lithuanian exports.

A downturn in world trade would spill over to Lithuania both directly through the trade with the EU and indirectly through the trade with its other trading partner countries. More than half of Lithuania's exports have been the EU-oriented (Germany, the UK and the Baltic States in particular) and a little less than one-third the CIS-oriented (mainly Russia). The significant contraction of world trade in 2009 exerted direct influence over the development of foreign demand in Lithuania. Thus Lithuania's trading partner countries are highly sensitive to world trade volume shocks. For instance, the neighbouring Baltic States to which one-fifth of Lithuania's exports are oriented would be hit by world trade contraction immediately through the trade with the euro area countries; hence the negative impact on foreign demand in Lithuania would be marked. In Russia, however, the impact of world trade contraction is likely to be mitigated by rising energy product prices, as this would maintain the domestic demand in this market which is important for Lithuania in terms of export.

A decline in Lithuania's exports would primarily be reflected in rather foreign trade-oriented economic activities, i.e. industry, mining, trade, transportation and agriculture. After some time, however, it would spill over to other economic activities less open to foreign trade. Export was a major factor of the recovery and growth of the Lithuanian economy in recent years – its strong development in 2010–2011 was basically driving GDP growth. Hence, the development of the demand for Lithuanian exports in the major foreign trading partner countries exerts significant influence over the domestic economy, the financial condition of non-financial undertakings and households, and the stability of banking activities. A drop in export income would deteriorate the financial indicators of businesses; aggravate their possibilities to repay debts, which in certain cases would increase the number of bankruptcy proceedings. In addition, non-financial undertakings, considering the fall in their sales volumes, would re-estimate

their manpower demand, perhaps their excessive staff costs, and seek to cut them through dismissal of less efficient staff or wage cuts. This would lead accordingly to the rise in the unemployment rate and/or the decline in household revenue, and aggravate the possibilities for the private sector to repay debts.

In Lithuania, two-thirds of the banking sector assets are loans which have been granted to non-financial undertakings and households. A contraction in the world trade would directly and indirectly reduce the demand for the exports of Lithuanian enterprises, aggravate financial indicators and the possibilities to repay debts. Consequently, this would increase instability in the operations of the largest participants in the Lithuanian financial system, banks, as this would lead accordingly to the deterioration of the quality of the loan portfolio, likely losses, and additional capital requirement. The sensitivity of the banking sector to a likely contraction in Lithuanian exports is assessed in greater detail in the chapter "Stress Testing".

STRESS TESTING

Credit risk stress testing

The main channels of the impact of the above risks on the Lithuanian economy include a decline in foreign demand, an increase in risk premia, and the influence of energy price developments on other prices. The financial condition of economic entities directly relates to the quality of bank loan portfolios; thus, in order to assess the sensitivity of credit institutions to the listed scenarios, three stress tests of the Lithuanian banking sector's credit risk were carried out (see Charts 49 and 50).

The results of any stress testing should not be treated as the forecast for the development of the Lithuanian banking sector but rather as an analysis of the sector's resilience to probable but unlikely events. The loss (profit) incurred due to credit risk, i.e. the need to form loan loss provisions, was estimated by simulation¹⁰ of bank loan portfolio quality developments during seven quarters to the end of 2013. While analysing the banks' assessment of benchmark asset risk, relatively less conservative assessments are identified and related additional losses are attributed to the second quarter of 2012. The risk-weighted assets of the banking sector were also recalculated in a conservative manner based on the changes in the critical values of the simulated loan loss distribution. While stress-testing, it is assumed that the growth of the banking sector's gross loan portfolio offsets the repayment of loans, and banks do not pay dividends while also undertaking no additional measures to strengthen their capital base. The assessment relies on banks' unaudited data for the first quarter of 2012; therefore, bank capital increases since April this year were not included in the calculations.

To assess the sensitivity to the described risk of the euro area sovereign debt crisis, the sensitivity to the shocks of export decline and of a jump in interest rates is estimated. An annual decline of 19.6 per cent in export volume from the levels recorded in 2011 is set, which corresponds to the export volume 22.6 per cent lower than the Bank of Lithuania's February forecasts. In addition, a long-term jump of 3.7 p. p. in weighted interest rates¹¹ above the futures level in February is set. As a result of these shocks, a decline in volume of 12.7 per cent of GDP is projected in 2012 and a decline in volume of 0.4 per cent of GDP in 2013 (or equivalently the GDP below the Bank of Lithuania's February forecasts by 14.6 per cent and 17.7 per cent respectively). For comparison, Lithuania's GDP shrank by 14.8 per cent during the crisis in 2009.

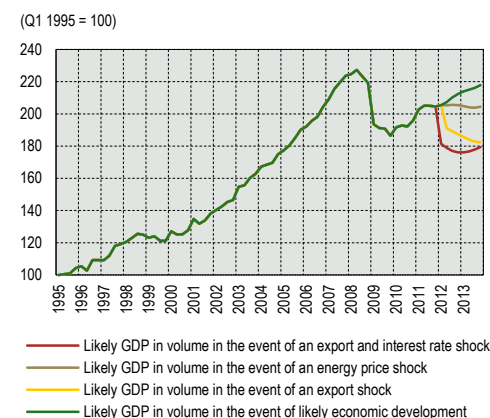
Table 3. Assumptions used during the stress testing (percentages)

Assumption	An export decline and a jump in interest rates shock	A jump in oil prices shock	An export decline shock	Likely development without shocks
Change in net interest rate income compared to 2011	2.4	4.7	1.5	7.4
Change in net commission income compared to 2011	-6.3	-1.8	-4.7	0.5
Change in administrative expenses compared to 2011	-11.4	-2.4	7.8	4.0
Change in risk-weighted assets compared to Q1 2012	5.4	4.5	2.2	0.6

Source: Bank of Lithuania calculations.

A sharp escalation of the euro area debt problems would probably be most detrimental to the Lithuanian economy.

Chart 49. Scenarios for the development of Lithuania's GDP in volume



Source: Bank of Lithuania calculations.

Table 4. Results of stress testing (percentages)

Result	An export decline and a jump in interest rates shock	A jump in oil prices shock	An export decline shock	Likely development without shocks
Weighted capital adequacy ratio of the banking sector in late 2013 (15.3% in early 2012)	11.0	16.6	16.2	19.2
The median of bank capital adequacy ratio in late 2013 (13.4% in early 2012)	9.2	15.1	13.4	18.0
Likely loan loss provisions ⁹ in late 2013 (7.2% of loan loss provisions had been formed in early 2012)	12.7	7.3	8.2	5.7
Value at risk in late 2013 with 5% probability (7.2% of loan loss provisions had been formed in early 2012)	20.4	14.5	14.6	11.3
Expected shortfall in late 2013 with 5% probability (7.2% of loan loss provisions had been formed in early 2012)	24.2	19.6	19.8	16.7

Source: Bank of Lithuania calculations.

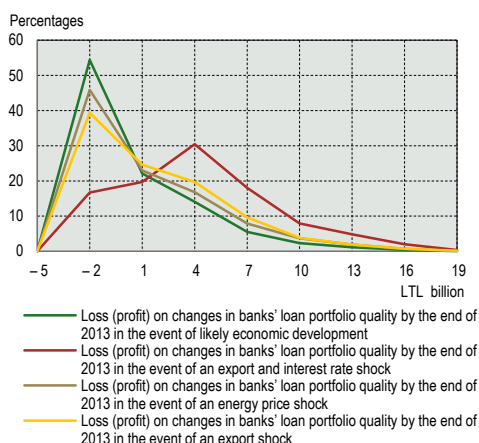
⁹ As a per cent of the loan portfolio gross value.

¹⁰ An econometric simulation model by Segoviano Basurto M. A., Padilla P. *Portfolio Credit Risk and Macroeconomic Shocks: Applications to Stress Testing Under Data-Restricted Environments* (January 2007). IMF Working Paper No. 06/283 is employed for stress testing. A detailed introduction to the model can be found in the *Financial Stability Review 2008*. The loss (profit) for each quarter was estimated using 100 thousand simulations.

¹¹ The weighted interest rate comprises 75% of euro rate and 25% of the litas rate.

The distribution of the banking sector's losses on loan portfolio quality developments is most sensitive to interest rates and least sensitive to inflation.

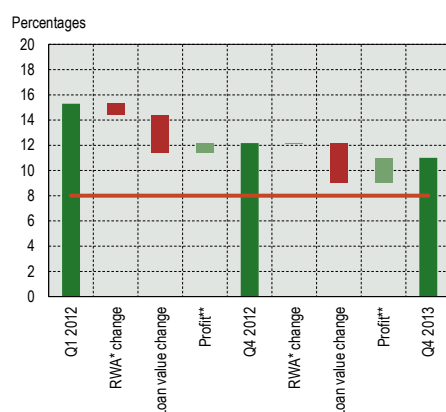
Chart 50. Scenarios for the distribution of loss on banks' loan portfolio



Source: Bank of Lithuania calculations.

Losses of the banking sector resulting from deterioration in the loan portfolio quality are mitigated by other income even in the most severe case of export and interest rate shocks.

Chart 51. Components of change in the capital adequacy of the banking sector



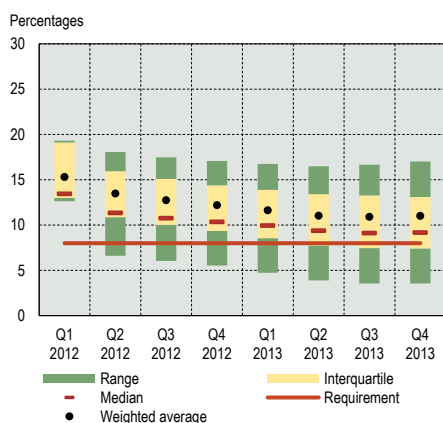
Sources: commercial bank data and Bank of Lithuania calculations.

* risk-weighted assets recalculated under conservative approach.

** net interest and commission income less operating expenses and taxes.

With a serious deterioration in the euro area situation, the Lithuanian banking sector would comply with the supervisory ratios, yet individual banks would have to supplement their capital buffers.

Chart 52. Development of banks' capital adequacy in the event of an export shock and an interest rate shock



Sources: commercial bank data and Bank of Lithuania calculations.

It was determined that the weighted average of the Lithuanian banking sector's capital adequacy ratio could be 8.2 p. p. lower than in the case of likely economic development (see Charts 51 and 52). This ratio might be 11.0 per cent, i.e. 4.3 p. p. lower in 2013 than at the end of the first quarter of 2012 but still higher than the Bank of Lithuania's required minimum of 8 per cent. Under such a scenario, in order to maintain a capital adequacy level above the Bank of Lithuania's minimum requirement of 8 per cent at each bank, LTL 260 million of additional capital should be attracted by the end of 2013. Willing to maintain capital adequacy with a reserve above the minimum as it was in early 2012, LTL 2.1 billion of additional capital should be attracted by the end of 2013.

As the euro area problems escalate, the heaviest losses for banks would stem from loans to economic entities whose operation requires sizeable capital investments and which are characterised by high levels of indebtedness. Spillover of heightened risk premia from international markets to the Lithuanian credit market would have the most detrimental effects on enterprises with a higher than medium financial leverage. Interest rate fluctuations increase the probability of default of these enterprises in particular. Additionally, a decline in demand for goods and services in the region would entail a decline in the value of assets typical to certain sectors of the economy (e.g. on account of declining exports, lower prices for vehicles could be expected). Thus, the collaterals of troubled enterprises would decrease in value and the likely losses for banks would increase. This scenario would most greatly affect credit institutions with a relatively larger share of credits to the economic activities like real estate, transportation, construction or trade in their portfolios.

To assess the sensitivity to the risk of a jump in energy prices described above, the sensitivity to the shock of a pick up in oil prices is estimated. A jump in an average oil price of 82.9 per cent over the year from the levels recorded in 2011 is set, which corresponds to oil prices 83.8 per cent higher than the futures prices in February. As a result of this shock, an increase of just 0.5 per cent of GDP in volume is projected in 2012 and of 0.6 per cent of GDP in volume in 2013 (or GDP lower than the Bank of Lithuania's forecasts in February by respectively 1.6 per cent and 5.3 per cent).

It was determined that the weighted average of the Lithuanian banking sector's capital adequacy ratio could be 2.6 p. p. lower than in the case of likely economic development (see Chart 53). While judging by the need for loan loss provisions, the quality of the banking sector's loan portfolio would deteriorate, the income from other banking services would allow banks to maintain a capital adequacy level above the Bank of Lithuania's established minimum requirement of 8 per cent. Willing to maintain a capital adequacy level with a reserve above the minimum as it was in early 2012, about LTL 0.3 billion may temporarily be needed; however, due to profitable banking activities, only some LTL 0.1 billion of additional capital would be needed by the end of 2013.

With energy prices hitting record heights, the heaviest losses for banks would stem from loans to households and economic entities whose operations are manufacture-oriented. The decline in the purchasing power of households on account of energy price increases would contribute negatively to their real disposable income. This in turn would aggravate their possibilities to meet financial obligations. At the same time, commodity price increases and a drop in consumption and investment demand would have a negative impact on the profitability of manufacture-oriented businesses. This scenario would affect for the most part credit institutions with a relatively larger share of loans to the economic activities of manufacturing or construction, or household consumer credits and mortgages.

To assess the sensitivity to the risk of world trade contraction described above, the sensitivity to the shock of export decline is estimated. The set decline in export volumes is close to the shock under the first scenario; however, an exogenous jump in risk premia is not applied. As a result of this shock, a decrease of 5.4 per cent of GDP in volume is projected in 2012 and of 5.0 per cent of GDP in volume in 2013 (or GDP lower than the Bank of Lithuania's February forecasts by 7.4 per cent and 14.9 per cent respectively).

It was determined that the weighted average of the Lithuanian banking sector's capital adequacy ratio could be 3.0 p. p. lower than in the case of likely economic development (see Chart 54). As a matter of fact, this difference would temporarily head up to 3.5 p. p., compared to the scenario of likely economic development; however, with banks paying no dividends and reinvesting their profits in their activities, their capital buffers would return to former levels. Judging by the need for loan loss provisions, the loan portfolio of the banking sector would nevertheless deteriorate in quality. Certain banks may temporarily be in need of up to LTL 30 million in order to maintain their capital adequacy levels above the Bank of Lithuania's established minimum requirement of 8 per cent, yet by the end of 2013 banks would be able to meet this capital requirement tapping their internal resources. Willing to maintain the capital adequacy level with a reserve above the minimum as it was in early 2012, about LTL 0.7 billion may temporarily be needed; however, by the end of 2013 only some LTL 190 million of additional capital would be needed.

With the decline in world trade volumes and the demand for Lithuanian exports, the heaviest losses for banks would stem from loans to economic entities with international trade-oriented activity or providing cyclical goods and services. The decreasing number of orders from foreign partners would take a toll on the entire chain of trade-related businesses: suppliers, producers, transportation services providers, etc. In addition, amid the faltering confidence of households and businesses, discretionary purchases and investments would be postponed. The falling income of enterprises engaged in cyclical activities would increase their probability of default, while the assets used in their production would depreciate in value on account of the emergence of excess capacity. With the worsening in the financial condition of borrowers and decreases in collateral, this scenario would have the greatest impact on credit institutions with a relatively more sizeable share of loans to economic activities like manufacturing, trade, transportation or real estate.

For comparison, while assessing the outlook for the development of the banking sector's capital adequacy considering the macroeconomic projections announced in February without exogenous shocks, it was determined that the weighted average of the capital adequacy ratio of the Lithuanian banking sector could be 3.9 per cent higher than at the beginning of 2012 (see Chart 55). However, willing to maintain capital adequacy with a reserve above the minimum as it was in early 2012 in each bank during the next seven quarters, about LTL 30 million of additional capital should be attracted by the end of 2013.

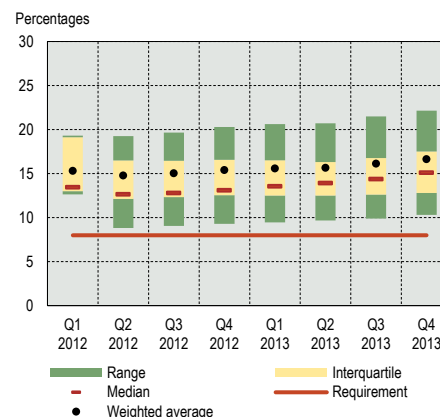
Liquidity risk stress testing

The banking sector has accumulated sufficient liquidity reserves to withstand a sizeable contraction in deposits.

In order to assess banks' resilience to negative liquidity shocks, i.e. an abrupt and sizeable decline in banks' financial resources, the Bank of Lithuania performed a liquidity risk stress testing. It covered all banks excluding those foreign bank branches that did not finance their activities through deposits, and banks for which financing through deposits is not significant in their operations¹².

With a surge in energy prices, deterioration in lending profitability would be covered from banks' other services and the Lithuanian banking sector would meet prudential standards.

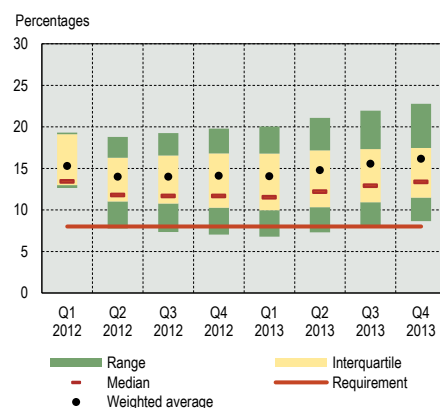
Chart 53. Development of banks' capital adequacy in the event of an energy price shock



Sources: commercial bank data and Bank of Lithuania calculations.

With the contraction of world trade, the reserve capital within the Lithuanian banking sector would shrink only temporarily, while the shortage would be covered from banks' internal resources in the long run.

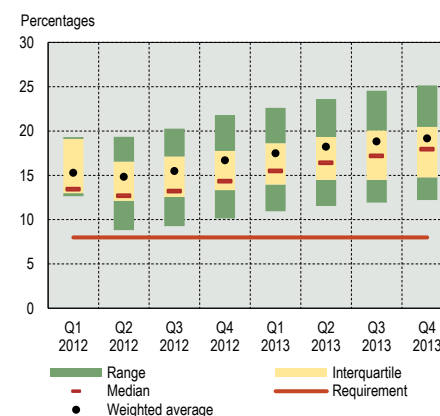
Chart 54. Development of banks' capital adequacy in the event of an export shock



Sources: commercial bank data and Bank of Lithuania calculations.

In the case of likely economic development, the banking sector will be able to use internal resources for further strengthening of balance sheets.

Chart 55. Development of banks' capital adequacy in the case of likely economic development

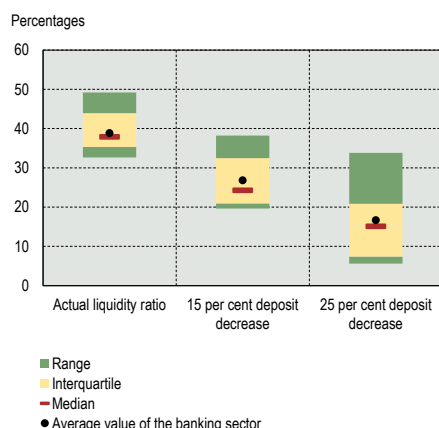


Sources: commercial bank data and Bank of Lithuania calculations.

¹² Allied Irish Banks, p.l.c. Lithuania branch, BIGBANK AS branch, MP Bank hf. branch in the Baltic States, Skandinaviska Enskilda Banken AB, Vilnius branch, Svenska Handelsbanken AB Lithuania branch, Scania Finans Aktiebolag Lithuania branch, AS "SMP Bank" Lithuania branch, AB bankas „FINASTA“, AS "UniCredit Bank" Lithuania branch.

The possibilities of the banking sector to absorb deposit shocks are strong; however the liquidity situation in individual banks varies.

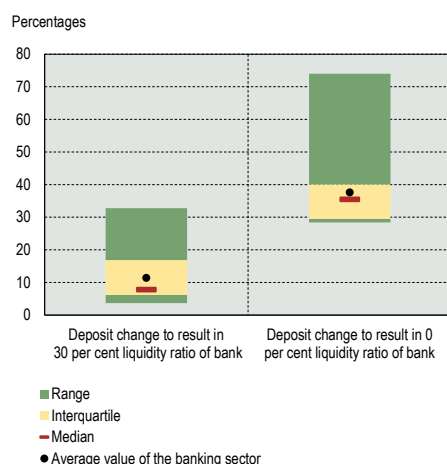
Chart 56. The range of the banking sectors' liquidity ratio in the event of different deposit shock scenarios



Source: Bank of Lithuania calculations.

The liquidity ratio of the banking sector would not breach the requirement of 30 per cent in case of a decline in deposits by 11.4 per cent.

Chart 57. Back-testing of liquidity risk



Source: Bank of Lithuania calculations.

While stress testing, it was assumed that when deposits are withdrawn, banks should sell their liquid assets. It was stated that the value of the most liquid assets (cash, funds held with the central bank, EU banks and banks in higher rated countries as well as with other credit institutions) would remain unchanged, foreign sovereign debt securities would be sold at a haircut of 10 per cent, while most other assets for sale (e.g. securities of the Government of the Republic of Lithuania) would have a haircut of 35 per cent. It is most likely that foreign parent banks would provide short-term financing and fully compensate deposit withdrawals. However, when performing the liquidity stress testing, this was not taken into account. Thereby it was aimed at testing the resilience of the banking sector operating on an isolated basis (without support from the parent banks) to extremely unfavourable market conditions.

Historical monthly deposit changes of the entire banking sector show that the highest decrease in deposits (excluding MFI deposits) of 6.3 per cent was recorded in October 2008, when uncertainty grew in financial markets and doubts arose about the financial standing of some Swedish banks operating in the Baltic region. However, considering the recent changes in the volume of deposits in individual banks (after the initiation of bankruptcy proceedings against AB bankas SNORAS), the fall in deposits by 15 per cent and by 25 per cent is assumed in the liquidity risk stress testing. In the event of a fall in deposits of non-financial institutions by 15 per cent, the average value of the liquidity ratio of the banking sector would decline to 26.8 per cent, and if the fall would be 25 per cent – to 16.7 per cent (see Chart 56). The wide range of the liquidity ratio stems from the existing gap between the first group banks with lower liquidity ratios, as liquidity risk is managed on a centralised basis on a group scale, and the second group banks with higher liquidity ratios.

Liquidity risk back-testing estimated the percentage by which deposits with each bank could decline, so that the liquidity ratio of an individual bank remained above the requirement of 30 per cent. The back-testing revealed that with an abrupt fall in deposits to 11.4 per cent, liquidity ratio of an individual banks remains above the requirement. It was also estimated how much deposits with banks would have to fall for all liquid assets of banks to have been utilised, i.e. the liquidity ratio to become 0 per cent. The results of the liquidity risk back-testing showed that, according to the data for the first quarter of 2012, liquid funds within the banking sector would be sufficient to withstand a particularly sizeable fall in deposits (37.6%) (see Chart 57). In different banks, deposits could shrink by 28 to 74 per cent for all liquid reserve assets of the bank to have been utilised.

III. STRENGTHENING THE RESILIENCE OF THE FINANCIAL SYSTEM

POSSIBILITIES TO ENHANCE THE DEPOSIT INSURANCE SYSTEM

The compensation of LTL 4.0 billion (3.8% of GDP) state-insured deposits of AB bankas SNORAS in December of 2011 proved that currently the deposit insurance system operating in Lithuania is not optimal in terms of the public sector. After the bankruptcy of the fifth by managed assets (third by accumulated deposits) bank, the state was confronted with an obligation to compensate 100 per cent of funds up to EUR 100,000 belonging to one depositor¹³ within a very short time span – 20 working days¹⁴ from the day of the insured event. The deposit insurance system currently operating in Lithuania (as in the majority of other EU states) was formed at the onset of the global financial crisis – autumn of 2008. At that time the main priority was to maintain the confidence of unprofessional depositors in financial institutions under conditions of unprecedented events¹⁵. By almost five times increased insured deposit amount¹⁶ performed its primary (initial) function successfully – the deposit shrinkage (6.7%) observed in the Lithuanian banking sector in the fourth quarter of 2008 was contained. However, at the same time the restructuring of the deposit insurance system by increasing the insured amount without changing the insurance premium substantially enlarged financial liabilities of the public insurance system in case of the insured event.

Research¹⁷ showed that a particularly favourable deposit insurance system increases moral hazard and at the same time weakens the market discipline because depositors are deprived of the incentives to assess investment risk – the main driver becomes the investment return. Correspondingly, banks tend to take additional asset risk because a supplementary state guarantee reduces the probability of the funding source instability¹⁸ and of the bank insolvency¹⁹. However, an attempt to accumulate a deposit insurance fund sufficient to compensate deposits of one of the larger banks within a rather short time span would not be optimal as well, because a large insurance premium would substantially augment the price of financial resources which would correspondingly be shifted to borrowers. A higher lending price would reduce credit to the country's economy.

Various countries in the world apply different deposit insurance systems: in some countries deposits are not covered at all, other countries (including Lithuania) use the so called flat-rate insurance system, while a third group of countries uses a risk-adjusted insurance system. The differentiation of the insurance premium according to the risk of the insured object is natural and logical in many insurance areas as in such a way the fairness and proportionality of the insurance system is increased. An advance explicit legal provision to include the private sector when the insurance compensation is in excess of the funds accumulated in the state insurance fund would also increase both the effectiveness of the insurance system itself and the symmetry of liabilities of the public and private sectors. The incorporation of these and other examples of the best international practices would also contribute to the effectiveness of the Lithuanian deposit insurance system.

¹³ Excluding uninsured depositors such as former owners of the bankrupt bank, top management, financial institutions, etc.

¹⁴ In case of extraordinary and justifiable circumstances, this term may be extended by another ten working days.

¹⁵ The year 2008 saw bankruptcies of several international financial institutions, some global financial institutions were taken over for the public needs, financial markets suffered a crunch and public authorities took unprecedented measures to support financial institutions.

¹⁶ As from 1 November 2008, the maximum insured deposit amount was raised from EUR 22 thousand to EUR 100 thousand, the ratio of compensation was increased to 100 per cent.

¹⁷ Asli Demirgüç-Kunt & Harry Huizinga, Hovakimian, Kane & Laeven and others.

¹⁸ Insured depositors tend to less analyse investments made by banks and funds held by them are more stable.

¹⁹ An additional financial burden to the state because of deposit insurance increases the likelihood of the state assistance to a bank confronting financial problems and at the same time diminishes incentives of shareholders and other creditors to control bank investments.

Risk-adjusted insurance system

Defining the insurance premium calculation method is one of the main challenges for an effective insurance system. When determining the optimal price (and the size of the insurance fund at the same time), first of all the benefit of insurance in mitigating the probability of depositors' panic and financial crises should be taken into account. The insurance system expenses that are incurred because of the risk control of banks and bank customers must also be evaluated. It is normal that a particularly large insurance tax and deposit insurance fund (exceeding deposit sums insured by large banks) may reduce the probability of depositors' panic, however, at the same time such a situation will raise the cost of credit and induce an unsustainable risk management of banks and depositors.

Another important aspect is the determination of the size of the insurance premium taking into account the risk of the insurance object. The process of establishing an exact price for the insurance becomes more strenuous due to the fact that in the majority of states the number of insurance objects (credit institutions) is sufficiently small and a number of observations of insured events – even smaller, compared to other types of insurance. Nevertheless, the risk-adjusted insurance premium system is operating in many states (e.g. Italy, France, Germany, Sweden, Finland, Poland, etc.)²⁰ Moreover, in the new directive on the deposit guarantee schemes presented in 2010 by European Commission, the risk-adjusted insurance system with the same understanding of risk in the entire EU is attributed to one of priorities²¹.

Most often the size (D_j) of a risk-adjusted insurance premium of a particular institution is calculated on the basis of three main criteria: base (B_j) of insured deposits, risk ratio (R_j) of a particular institution and ratio (α) reflecting the situation in the banking sector and indicating the insurance fund accumulation strategy, valid for all participants of the insurance system:

$$D_j = B_j R_j \alpha$$

A periodically reviewed ratio α is used for the adjustment of the size of premiums paid by all insurance system participants with regard to the situation in the market, phase of the economic cycle and the strategy of the collection of means to the insurance fund. It is natural that aiming at smaller pro-cyclicality, the value of α should be larger in good times because an increase of additional funding means would exercise a smaller impact on the development of financial intermediation market and would allow to accumulate a larger guarantee fund ensuring an effective resolution of problems in a downturn phase of the economic cycle. Such a ratio when economic cycles are taken into account is not very often applied in practice, but rather used in limiting the insurance fund accumulation after reaching a certain desirable fund size. An individual risk ratio (R_j) is primarily set according to the risk evaluation of every institution. Usually institutions are classified into separate risk categories on the basis of indicators showing the risk degree of institutions or according to supplementary supervisory information. In theory, the risk ratio has to indicate the insolvency probability of a financial institution and a systemic impact on other institutions in case of insolvency.

At the present time, the risk-adjusted insurance system is more and more frequently applied in various states. The implementation of the principle "polluter pays" ensures the fairness of the insurance system. It is reasonable that a riskier institution and the one with higher insolvency probability should pay larger insurance premiums. Furthermore, the risk-adjusted insurance system creates financial and reputation improvement incentives for banks to mitigate the assumed risk. One of the most important aspects of the risk-adjusted deposit insurance system is the determination of risk assessment criteria. Here two key alternatives are possible: assessment of the level of risk on the basis of public data or the assessment by including supplementary supervisory information. In the first case, the system transparency and simplicity is ensured, however, when applying this approach, it is complicated to select several public bank indicators comprehensively and precisely evaluating the risk scope of individual financial

²⁰ European Commission, 2008.

²¹ Proposal for a Directive of the European Parliament and of the Council on Deposit Guarantee Schemes, COM (2010) 368.

institutions. Having chosen this risk assessment approach, usually four categories of financial indicators are assessed: indicators of capital position (solvency), asset risk (concentration), liquidity and income (profitability). It should be pursued that these indicators are oriented to the future as much as possible. Non-public supervisory information used for the assessment of risk would increase the precision of risk assessment, however would raise the problem of the disclosure of this assessment. Legal acts state that supervisory information is not publicly disclosed. Moreover, the dissemination of such information might result in a negative and difficult to predict market reaction.

Optimal size of the Deposit Insurance Fund and funding methods

Considering the way of accumulation of the deposit insurance fund, *ex ante* (advance) and *ex post* (after the event) financing methods are distinguished. Currently, an increasing number of states apply the *ex ante* method to accumulate the deposit insurance fund. Practice has shown that the *ex post* financing approach has quite a lot of shortages which become especially evident in periods of financial crises and more frequent insured events. It is reasonable that in the case of a systemic crisis, financing the fund by the *ex post* approach increases the pro-cyclicality problem, i.e., financial institutions are confronted with additional financial liabilities during an unfavourable period. The deposit insurance fund accumulated in advance raises the insurance system reliability and acts as an additional capital surcharge – financial surcharge accumulated in advance increases confidence and reduces the insolvency probability of the insurance system itself. The *ex ante* financing approach substantially increases efficiency and effectiveness of the insurance contributions compensation mechanism, and this is particularly important in the light of a currently valid EU directive obligating to compensate the insured deposits within 20 working days (in the future this time span is planned to be shortened to 7 days). Moreover, the *ex ante* financing approach limits the moral hazard problem, compared to the *ex post* method, because all the banks and not only the financially stronger market players contribute to the accumulation of the fund (when the *ex post* approach is applied, a bankrupt bank does not participate in the formation of the insurance fund at all). It should be noted that in Lithuania the *ex ante* method is used, while some states (e.g. the Netherlands, Denmark) are preparing to substitute the *ex post* financing system with the *ex ante* method in the near future.

An immensely important feature of an effectively functioning deposit insurance system is the optimal size of the deposit insurance fund. Without a sufficient fund size, after the insured event, supplementary financial liabilities to the state arise, the borrowing price increases and confidence of depositors and financial markets drops. However, an excessively large deposit insurance fund may distort the optimal risk estimation of market participants because of the moral hazard effect. A case of an insufficient size fund is perfectly illustrated by the bankruptcy of AB bankas SNORAS in late 2011 when the amount of deposits to be compensated exceeded the accumulated insurance fund more than twice. The attainable size of the insurance fund indicated by EU is 1.5 per cent²² of the insured deposits. In the case of Lithuania, on 30 September 2011, the assets accumulated in the deposit insurance fund covered 4.4 per cent of the insured deposits, nevertheless the compensation of AB bankas SNORAS deposits was a fairly significant challenge in terms of the state cash flow management. A rather small attainable size of the deposit insurance fund in larger states is indicated due to the fact that such an amount was historically sufficient to cover up the insured deposits of bankrupt banks, also taking into account the value of the disposable assets of bankrupt banks. Considering a small number of operating banks in smaller states (including Lithuania), the attainable optimal size of the deposit insurance fund should be larger compared to the large EU states or the USA. However, cost with the aim to accumulate a sufficient deposit insurance fund dedicated to cover the

²² Proposal for a Directive of the European Parliament and of the Council on Deposit Guarantee Schemes, COM (2010), 368.

insured deposits of one of the five largest banks (in the case of AB bankas SNORAS, the deposit compensation made up 10.3 per cent of the total amount of insured deposits) within a rather short time limit would be too high. A more precise answer to the question about the optimal size of the deposit insurance fund will be available after the results of the AB bankas SNORAS assets sale and subsequently a recovered share of funds by the deposit insurance fund are known.

In order to settle the problems of the state cash flow management and the insurance premium being too high, an automated covering of insured deposits approach using financial resources of the private sector should be considered. An adjusted insurance system might allow that when the insured event compensation exceeds the funds accumulated in the fund, the covering of compensation shortfall would automatically (according to the market share) be shifted to commercial banks by allocating a respective size of government bonds to these banks. The process of the compensation of AB bankas SNORAS deposits suggests that the major share of deposits remains in the bank which distributes the compensation; therefore, such a system would not cause additional liquidity problems for banks assuming liabilities to cover the deposits. Furthermore, the share of the compensation liabilities to every bank would be covered by cash obtained from the sale of assets accumulated in the deposit insurance fund.

To sum-up, a risk-adjusted with automated covering rules, when the compensation exceeds the amount accumulated in the fund, deposit insurance system, would increase the effectiveness of the Lithuanian insurance system. Moreover, the integrity of the insurance system would be raised by applying the same size insurance premium to all credit institutions (including credit unions), more comprehensive information available to VĮ Indėlių ir investicijų draudimas on insured deposits, and a state-of-the-art insurance fund management by ensuring adequate liquidity and diversification of the fund.

MACROPRUDENTIAL MEASURES AND POSSIBILITIES TO USE THEM IN LITHUANIA

Core instruments selected by majority of EU members to mitigate risks in the financial system

Table 5. Core macroprudential instruments

Core instruments selected by majority of EU members:
1. Increasing resilience to excessive credit and leverage growth:
counter-cyclical capital buffer
sectoral capital requirements / risk weights
leverage ratio
LTV limits / DTI limits
2. Reducing maturity mismatch/ liquidity & funding risk:
liquidity coverage ratio (LCR)
net stable funding ratio (NSFR)
3. Revealing exposures:
increased public disclosure
4. Limiting expectations of a bailout:
capital surcharges for systemically important financial institutions
recovery/resolution plans/regime

Source: ESRB Instruments Working Group.

Supervision of financial markets is performed at two separate, however, at the same time very closely intertwined levels. Primarily, the Bank of Lithuania supervises banks at the micro-level so that every credit, payment, insurance and financial markets institution could carry out its activities in a sound and safe way. In addition to this, a wider macro-level oversight is aimed at increasing resilience to arising external and internal threats to financial system as a whole thus forming conditions for sustainable economic development.

Coordination of macro-prudential supervision and policy at international level has begun in late 2010 when an independent European Systemic Risk Board (ESRB) commenced its activities in the EU. The ESRB will be able to exploit high-level competence of the Advisory Scientific Committee, and while assessing financial stability issues will closely cooperate with the International Monetary Fund and the Financial Stability Board. These institutions will assist in an earlier identification of risks posed by international macro-level threats.

The ESRB is responsible for monitoring risks of all EU countries financial systems and provides recommendations on how to reduce an identified emerging imbalance. Having taken into account the peculiarities of the national financial system, each country has to choose either to apply the measures dedicated to mitigate identified threats or to provide a comprehensive justification why the observed risk is insignificant and the application of measures is unnecessary.

Policy of macro-prudential supervision is coordinated at an international level, therefore, no later than 1 July of 2013, an institution responsible for the analysis of the economic development and reduction of potential imbalances should be appointed in Lithuania as well. Considering the financial system-wide supervision made by the Bank of Lithuania, expertise gained in the area of ensuring financial stability, institutional decision-making independence and reporting to the Seimas of the Republic of Lithuania, the most optimal way would be to entitle the Bank of Lithuania the rights and related responsibility of macro-prudential supervision. Within the range of its competence, the Bank of Lithuania would monitor potential imbalances reflecting indicators such as trends of the credit and GDP growth, systemic risk indicators, payment systems indicators, developments in the financial market, risk indicators of individual institutions. Financial market participants would notify the Bank of Lithuania about emerging risks during regular expert meetings (e.g. during the preparation of the Financial Stability Review). Also, much information is obtained from a semi-annual survey of banks and enterprises, survey on risks to the Lithuanian financial system, as well as the annual survey of households with a housing loan which in the nearest future will be substituted by the information system for indebted household financial monitoring. Having summarised the obtained data and assessed general developments of the country's economy and financial sector, the Economic and Financial Stability Service would twice a year submit to the Board of the Bank of Lithuania the assessment of risk developments at the macro level and proposals on the application, tightening, easing or revocation of macroprudential policy measures. Once the Board of the Bank of Lithuania takes a decision, the ESRB would be notified thereon. Also, if it does not raise threats to the financial stability, a public presentation and substantiation to the chosen macroprudential policy would be given.

When forming macroprudential policy, a constructive cooperation with the Ministry of Finance of the Republic of Lithuania, which is responsible for the coverage of potential expenses during crises, must be maintained. However, the concept of cooperation must be regulated in a manner not to breach the principle of the independent decision-making by the Bank of Lithuania.

Importance and expertise of the macro-prudential policy application in Lithuania

The experience of many countries, including Lithuania, demonstrated that the absence of explicit authorisation and dedication of responsibilities for macroprudential policy was one of the reasons behind the emerged crisis. Undefined in the law functions enabled institutions to shift their responsibility to each other and not undertake important and obligatory but unpopular measures. A particularly evident example is the emergence of the real estate price bubble in many countries in the environment of an immensely buoyant economic growth, whose swelling would have been curtailed by the application of the LTV ratio or other responsible lending principles.

Macroprudential management is a world-wide initiative, therefore, a lot of supervisory requirements will see daylight at the EU level considering the Basel Committee proposals when implementing the Capital Requirements Directive (CRD IV). Among envisaged measures there are counter-cyclical capital buffers, capital surcharge for systemically important institutions, limit on equity to bank assets ratio, a more detailed liquidity risk regulation procedure.

In the EU, macro-level risk is intended to be limited by the application of key measures whose potential impact on the real economy and financial sector has been researched in more detail and which have already been used in some countries and it is possible to rely on the experience of those countries. The Catalogue of policy instruments prepared by the ESRB in 2011 covers over 30 different measures aimed at strengthening the resilience of banks, insurance undertakings, financial markets and financial infrastructures. In the future, having determined the impact of specialised measures and assessed their impact, the list of appropriate and effective measures to mitigate risk will be enlarged.

Certain macroprudential measures have already been applied in Lithuania. In 2011 the Bank of Lithuania was among the first institutions in Europe which in the Responsible Lending Regulations defined the mandatory limit on LTV and DTI ratios. At the end of 2011, adopted legal acts have provided a possibility (by the method recommended by the US Federal Deposit Insurance Corporation and the IMF) to effectively solve problems of banks raising threats to the system-wide stability, by establishing a “bridge” bank. This method was presented in detail in Annex 2: “The banking system rescue expertise and prospects” of the Financial Stability Review 2010.

Implementing the Bank of Lithuania organisational structure reform, a new Financial Stability Department comprising more analytical capacities has been operating since May 2012. Therefore, from now onwards, more attention will be focussed on the analysis of systemic risks and on the assessment of their impact. Considering this, in the future it will be possible to quicker identify systemic risks and to propose more effective measures to hamper their occurrence.

INCREASING THE EFFECTIVENESS OF THE AB NASDAQ OMX VILNIUS GUARANTEE FUND

Smooth activities of the stock market and of its infrastructure stand among important conditions for an effective distribution of capital resources. In Lithuania this infrastructure covers the stock exchange (hereinafter – stock exchange), which is managed by the regulated stock market operator AB NASDAQ OMX Vilnius, and the Securities Settlement System (SSS) managed by AB Central Securities Depository of Lithuania (CSDL). Transactions in securities originate by conducting them on the stock exchange and finished by making settlements for them in the Securities Settlement System.

In the stock exchange, transactions are concluded in two ways: by placing orders to buy or sell securities into the trading system or by agreeing on transaction conditions between counterparties and notifying the stock exchange about the transaction. The former transactions are called automatically matched trades and the latter – negotiated deals. When concluding a negotiated deal, the stock exchange member knows its counterparty and can manage counterparty risk. However, when a member of the stock exchange places an order to buy or sell securities into the trading system, it does not know its counterparty. Thus, it is deprived of the possibility to manage counterparty risk. This results in an uncertainty that the counterparty may not make settlements according to the concluded deal. To this end, the stock exchange operator AB NASDAQ OMX Vilnius has founded and is managing a Guarantee Fund aimed at mitigating risk of default of settlements for automatically matched trades concluded in the stock exchange.

Trades concluded in the stock exchange are settled in SSS managed by CSDL. Not all members of the stock exchange are SSS participants, therefore, non-participants of SSS use the services of the participants of SSS. Then one SSS participant can service several stock exchange members, which may get into trouble if that participant fails to make settlements in due time or cannot make settlements in SSS at all. In the event the SSS participant rendering settlement services to the stock exchange member does not make settlements for automatically matched trade in due time, i.e., does not provide to its counterparty the securities or funds according to the deal, the stock exchange operator buys on behalf of this member required securities or provides funds by using the funds of the Guarantee Fund.

Activities of the Guarantee Fund managed by AB NASDAQ OMX Vilnius were assessed in 2011 according to a Checklist for guarantee funds provided in the document “Recommendations for Central Counterparties” approved by the Bank for International Settlements together with the International Organisation of Securities Commissions. This assessment was a part of the assessment performed by the Bank of Lithuania together with the LSC as to the compliance by SSS of CSDL with ESCB-CESR Recommendations for Securities Settlement Systems. The mentioned assessment of the Guarantee Fund revealed several

aspects necessary to be focussed on. Such aspects as an adequate size of the Guarantee Fund under unfavourable market conditions and the use of the Guarantee Fund when the execution of liabilities of the stock exchange member is prohibited and (or) its assets are attached are worthwhile to be singled out.

In the environment of unfavourable market conditions and plummeting prices of securities, some stock exchange members may be unable to make settlements for the transactions concluded on the stock exchange due to incurred financial difficulties. Such a default may result in liquidity pressure for other stock exchange members ready to settle in due time, however, because of the fault of its counterparty does not receive funds or securities. At that point the Guarantee Fund performs the role of a negative impact mitigating measure. However, the fund should be of a sufficient size and used readily.

During unstable periods, when prices of securities are plummeting (or soaring), losses (or unearned profits) incurred by members may be very large and preconditions for an unfair behaviour of members defaulting in settlements may arise. Automatically matched trades concluded at the stock exchange are settled on a third day after the trade date (T+3). Thus, if the price of acquired securities dropped immensely until the settlement date (S) and market trends explicitly suggest a further drop of prices, the buyer of these securities may be interested not to settle for the concluded transaction, i.e., not to provide funds. If prices rise, the securities seller may decide not to present securities for the trade concluded in the stock exchange. Such a default in settlement is a breach of legal acts subject to established discouraging sanctions – penalties, possible deprivation of the membership at the stock exchange, suspension or termination of the participation in SSS. Despite this, settlement defaults may occur in the market, and the Guarantee Fund will have to be used.

Currently the adequacy of the Guarantee Fund size sufficient to absorb a potential negative impact is not fixed. Therefore, it is expedient for the operator of the Guarantee Fund to perform stress testing, to evaluate the adequacy of the Guarantee Fund size and to take appropriate measures should the evaluation reveal the necessity to have a larger Guarantee Fund. If the current size of the Guarantee Fund is sufficient, the disclosure of this fact would contribute to the strengthening of confidence in the stock market.

Another important aspect related with the Guarantee Fund is possibilities of its usage. Temporary liquidity problems or insolvency are the most likely reasons for defaulting in concluded trades. These are the cases when the Guarantee Fund may be a measure hampering the spill-over of financial problems to other participants, assisting to maintain smooth functioning of the stock market infrastructure and confidence in the stock market.

Means of the Guarantee Fund formed by contributions of the stock exchange members and securities bought for these funds is the joint partial property of stock exchange members. This means that in the event of a prohibition by the decision of the supervisory institution or competent court to execute liabilities of the stock exchange member and/or in the event of the seizure of its assets, the Guarantee Fund share of assets belonging to that member will not be used to fulfil its liabilities in settling automatically matched trades concluded in the stock exchange. The Guarantee Fund means and securities belonging to other stock exchange members would be used in this event, and in the case of the bankruptcy or restructuring of the stock exchange member, the Guarantee Fund would be ranked to creditors.

Because of this aspect, the Guarantee Fund becomes the scheme of sharing the loss in case of a default of one stock exchange member. It would start operating at once and would reduce the Guarantee Fund abilities to act if more members are unable to carry out settlement liabilities for automatically matched trades concluded in the stock exchange. In systemic terms, it is important to be allowed to use the share of the Guarantee Fund belonging to the stock exchange member whose execution of liabilities has been prohibited and/or its assets have been seized, for the payment of funds or purchase of securities which had to be presented by this member in accordance with the trades concluded by it.

It should be noted that a share of assets of the Guarantee Fund also belong to 20 Riga and Tallinn stock exchange members which according to terms and conditions set by the NASDAQ OMX Group are also the stock exchange members subject to a respective payment of established contributions to the Guarantee Fund. Via this international interlink, problems of a member of the stock exchange established in one country may have an impact on members of the stock exchange founded in other states. Therefore, should one stock exchange member experience difficulties, it is important to resolve them with as small as possible consequences to other members of this stock exchange.

A share of the Guarantee Fund assets presented as financial collateral according to financial collateral agreements might be used for the stock exchange member prohibited to execute liabilities and/or whose assets are seized. The creation, validity, enforceability and other related provisions of these agreements are regulated by the Republic of Lithuania Law on Financial Collateral Arrangements implementing provisions of Directive 2002/47/EC of the European Parliament and of the Council on financial collateral arrangements. Provisions of this directive have been implemented in all EU member states, therefore, the usage of the financial collateral arrangement would preclude from concerns related with the incompatibility of legal acts across different states.

In the event of the stock exchange member incapability or inability to fulfil its liabilities, it is important to use the Guarantee Fund readily, the same day best of all. This is possible when a cash leg of the settlement is not made. Although the Guarantee Fund is composed of liquid assets – deposit funds and debt securities – these assets may not always be transformed into funds possible to transfer on the same day. Therefore, these assets might be presented as financial collateral to secure a credit line in accordance with the financial collateral arrangement. It might be expedient to secure the credit line in two or more reliable credit institutions.

When there is a need to provide securities the stock exchange member does not hold and/or cannot provide, required securities are primarily acquired at the stock exchange, therefore, the funds will be needed on the securities settlement date. Accordingly, the need to transform assets held in the Guarantee Fund into funds possible to be transferred on the same day is not so large. In this case the financial collateral arrangement would not cause additional impediments, and in certain cases (when it is difficult to quickly sell debt securities) may be even useful.

It should be noted, however, that when making the financial collateral arrangement, the Guarantee Fund must not necessarily be linked only with instruments enabling a prompt usage of this Fund. The most important aspect is that the provision of the Guarantee Fund shares belonging to members as the financial collateral would allow the usage of these assets when one or several stock exchange members will not be able to fulfil their liabilities in settlements for automatically matched trades concluded in the stock exchange whatever reasons for default may be.

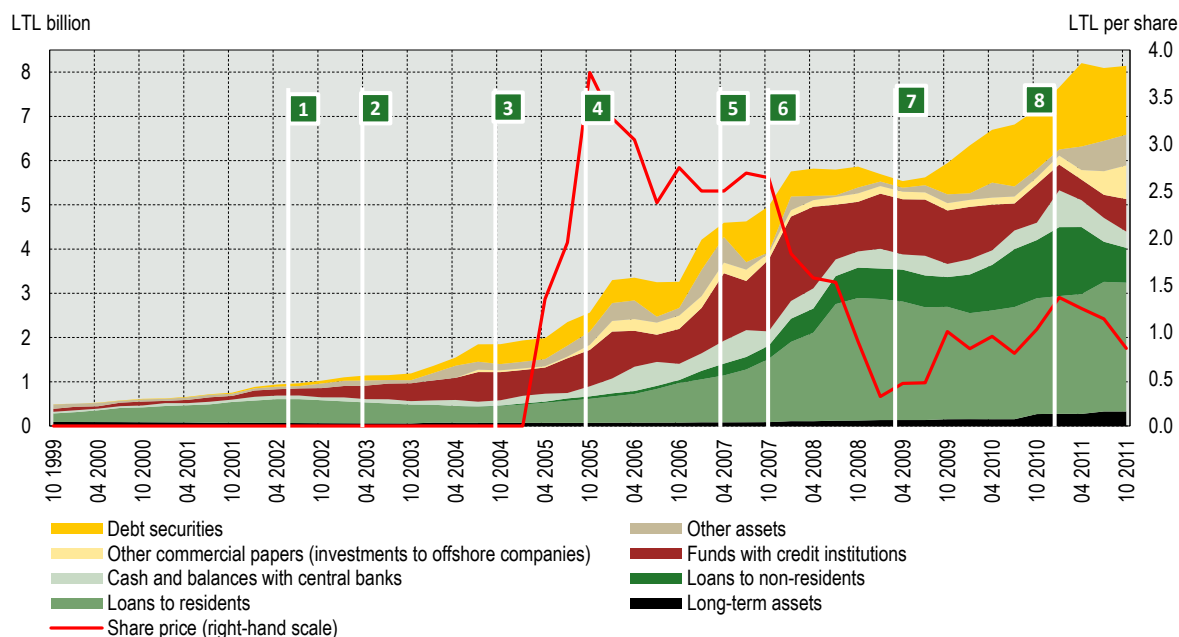
The value of automatically matched trades concluded in the stock exchange is relatively insignificant. Data of SSS settlements suggest that in 2011 the average value of settlements for automatically matched trades was EUR 0.8 million per day. However, attention should be paid to the fact that 63.4 per cent of the value of settlements for automatically matched trades concluded in the stock exchange was attributed to four SSS participants making settlements for their own trades concluded and for the trades of other stock exchange members servicing these participants²³. Thus, should one of these SSS participants, which are stock exchange members as well, default in settlement liabilities and should not settle for three days deals in case of the prohibition to fulfil the execution of liabilities and/or the seizure of assets, a proper usage of the Guarantee Fund would hamper the way to negative consequences of a systemic nature, to their spill-over, probably, even to other Baltic States. Well organised and smoothly functioning measures guaranteeing the settlement of trades concluded in the stock exchange would increase confidence in the infrastructure of the stock market and form an attractive image to investors.

²³ It is presumed that these participants also service members connected by ownership, i.e., provide securities and (or) funds when making settlements for automatically matched trades concluded in the stock exchange.

Annex 1. Suspension of the AB bankas SNORAS activities

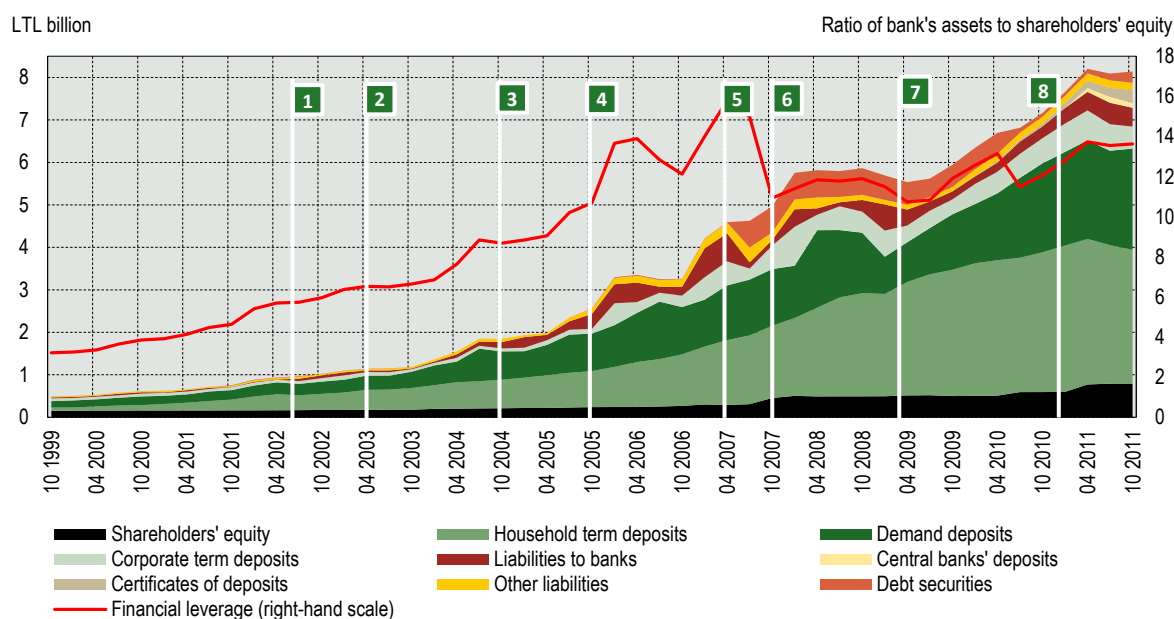
This annex deals with the development of AB bankas SNORAS activities and the increase of assumed risk during the bank's expansion. It reveals how unsustainable and possibly criminal activity of top managers and owners of the bank resulted in the necessity to take decisive actions to maintain the stability of the financial system. The annex presents the detailed chronology of solutions of AB bankas SNORAS problems, describes the search for an optimal solution of the bank problems, consideration of alternatives, the aim to apply the most effective measures to stabilize the bank activities. The annex also describes the impact of the suspension of the AB bankas SNORAS activity on the operation of the payment systems.

Chart A. Change of the AB bankas SNORAS asset structure and the main events behind these developments



Source: Bank of Lithuania calculations.

Chart B. Change of the AB bankas SNORAS liability structure and the main events behind these developments



Source: Bank of Lithuania calculations.

Brief history of the bank and the growth of its risk, reasons behind the bank's insolvency

Various deficiencies and breaches of legal acts had been identified in the activities of AB bankas SNORAS in 1998–2003 and different supervisory measures to solve these problems were applied. Starting with 2004, operational deficiencies became more frequent, while the majority of the Bank of Lithuania requirements to limit a particularly risky business and correct identified violations were implemented in a nominal manner only. The risk level of AB bankas SNORAS was going up and certain financial operations performed by the bank had no clear economic grounds. Presented below are several moments of the most risky activities carried out by the bank.

1. The bank was confronted with large financial problems after the Russian financial crisis in 1998, but it did not recognise losses from securities. Loss generating investment into securities of CIS countries were formally liquidated by issuing loans to enterprises registered in target territories. After inspections, the scheme applied by the bankas SNORAS was disclosed, the most stringent measure of enforcement – revocation of the bank licence – was considered. However, the Bank of Lithuania, taking into account a probable negative impact on the stability of the banking sector (the deposit insurance fund had an insufficient amount of funds for the compensation of deposits of AB bankas SNORAS depositors, it would have resulted in a bank run in the whole banking sector) and damage to the emerging public confidence in the banking sector, took a more lenient decision. Bank activities (granting of loans, operations with securities) were strongly limited, it had to cancel correspondent relations with certain banks, a lot of other prudential regulation measures were applied to the bank.

2. In 2002, AB bankas SNORAS aimed at a significant expansion of its activities and wanted to boost its capital more than 7 times. The Bank of Lithuania, being suspicious of the origin of funds and possible money laundering, did not allow the registration of new bank shares amounting to LTL 1.2 billion.

3. Since 2003, when the bank was acquired by a twice smaller Russian bank “Konversbank” related to the family of the largest former shareholder Vladimir Antonov, AB bankas SNORAS continued on not resolving the main problems related to the quality of a part of bank assets, inappropriately fulfilled measures endorsed by the Board of the Bank of Lithuania, violated provisions of legal acts, avoided the formation of specific provisions for risky assets by applying various transaction schemes. Moreover, with the advent of new owners, the bank intensified rendering services to non-resident customers and the bank was used as a source of financial resources. The concentration of the bank funds in the Russian market was also expanding (both by holding short-term deposits and crediting private enterprises).

In 2003–2006, the Bank of Lithuania applied measures of enforcement to AB bankas SNORAS – the bank was instructed to mitigate risk (the scope of risky assets), warned the bank about violations of legal acts and operational deficiencies, imposed penalties. In 2006, an administrative law violation protocol was drawn up to the head of administration of AB bankas SNORAS Raimondas Baranauskas, he was fined.

4. In 2005, lending to non-resident customers accelerated (frequently high risk lending). A buoyant growth of household deposits because of attractive rates formed conditions for the bank expansion. In 2005, the expansion of the activities of AB bankas SNORAS was largely associated with the implementation of the main objectives of shareholders – acquisition of a subsidiary bank in Latvia and the bank *Pointon York Limited* in Great Britain (later quickly sold). The bank activities related to the financing of non-transparent projects in the Russian Federation became more active.

In 2006, after Vladimir Antonov and Raimondas Baranauskas requested a permission to acquire correspondingly one-half and one-fifth of the bank's qualifying holding and voting rights, the Bank of Lithuania decided to agree with the request provided that in three years the shareholders of AB bankas SNORAS will find an institution engaged in a sound and safe business which will acquire at least one-third of the bank's authorised capital granting voting rights.

5. In 2007, AB bankas SNORAS issued LTL 604 million of debt securities. At the beginning of 2009, their yield was over 100 per cent (investors perceived a high bank insolvency risk).

6. In 2008, in the context of high interest rates offered by AB bankas SNORAS, the amount of local household deposits was increasing and a significant share of accumulated funds was allocated to the financing of non-resident customers and holding of funds in other banks.

7. In 2009, the Financial Services Authority (FSA) of the United Kingdom did not permit the bank to open a branch in London due to unreliability of the bank and its shareholders. Having stopped growing during the peak of the global financial crisis, at the end of 2009, the assets of AB bankas SNORAS started to increase rapidly due to higher than the market average offered deposit interest rates. At the same time, the growth was observed in investments into securities which as it turned out were held on Swiss banks' accounts owned not by AB bankas SNORAS but by private connected persons.

8. In 2009–2011, total assets of AB bankas SNORAS soared by 43 per cent, while the amount of loans to resident customers stepped up only by 6 per cent.

Considering permanent repetition and increase of deficiencies in AB bankas SNORAS activities and the fact that after annual on-site inspections proposed risk mitigating measures did not reduce risks not only in the bank itself but permitted the growth of a potential contagion effect for the banking sector as a whole, the Bank of Lithuania decided to take more

effective measures in early 2011. Having assessed operational deficiencies identified during the on-site inspection of AB bankas SNORAS in 2010, the Board of the Bank of Lithuania passed a decision to apply prudential measures (e.g. to oblige the bank to form lacking provisions, to discontinue financing of risky customers, etc.) in tandem with effective instruments in order to limit the expansion of the bank balance sheet.

The table presents the most important events related with AB bankas SNORAS activities and actions taken by the Bank of Lithuania.

Table A. The chronological order of actions taken in 2011 in relation to AB bankas SNORAS problems

Date	Actions
18 January 2011	Activities of AB bankas SNORAS are partly limited – the maximum size of interest rates payable on deposits is fixed. The bank is instructed to change the loan portfolio structure as a significant share of it is related to the financing of non-resident customers. The bank implemented this instruction in a nominal manner.
May–June 2011	In order to get additional information about the actions of AB bankas SNORAS shareholders in increasing bank capital and seeking to find out whether transactions conducted by the bank to acquire real estate in Riga do not pose threats to the safe and sound operations of AB bankas SNORAS, the Bank of Lithuania applies to law enforcement institutions.
June–October 2011	Considering nominal risk reduction actions taken by AB bankas SNORAS and analysing the available information, the financial state of the bank raises concerns, therefore, contacts are established with supervisory authorities of the third countries (Switzerland, Germany, Russia) and other experts experienced in solving banks' problems. Suspicion arises that securities shown in the AB bankas SNORAS financial statements do not belong to the bank. Evidence to prove this is collected.
July 2011	During the meeting with the main shareholders of AB bankas SNORAS, a problem related with operational risk, formation of adequate size provisions, and an issue of the capital increase are raised. A promise of capital strengthening is obtained.
15 September 2011	AB bankas SNORAS is requested to transfer suspicious securities, which according to the bank it has, from accounts in Switzerland to the Central Securities Depository of Lithuania. The Bank of Lithuania agreed to cover all expenses related with this transfer. On the set date, AB bankas SNORAS transfers only a small amount of securities ostensibly held in Switzerland.
11 November 2011	The on-site inspection of AB bankas SNORAS is finished and the inspection commission starts preparing documents about the inspection results.
15 November 2011	An article about possible actions of public institutions against domestic banks appears in a daily newspaper related with AB bankas SNORAS, the liquidity position of AB bankas SNORAS starts to deteriorate rapidly. The Bank of Lithuania contacts experts with international expertise in consulting financial institutions.
16 November 2011	<p>The Board of the Bank of Lithuania is presented with an inspection statement confirming a rising real threat of insolvency of AB bankas SNORAS, and that the securities shown on banks accounts (in the value of over LTL 1 billion) are held not on behalf of the bank.</p> <p>At 13 o'clock an immediate meeting of the Board of the Bank of Lithuania is convened during which a moratorium on AB bankas SNORAS activities until 16 January 2012 is announced on the basis of the Republic of Lithuania Law on the Bank of Lithuania and banking laws of the Republic of Lithuania.</p> <p>At 14 o'clock 57 minutes a temporary administrator of the bank is appointed.</p> <p>The Government of the Republic of Lithuania governed by the Law on Financial Stability passes a decision to take over shares of AB bankas SNORAS for public needs.</p>
17 November 2011	The Seimas of the Republic of Lithuania adopts amendments and supplements to the Law on Financial Stability, Law on Proceedings of Administrative Cases, Law on Banks, Civil Code and Law on Insurance of Deposits and Liabilities to Investors, permitting the application of progressive bank restructuring methods.
16–24 November 2011	The temporary bank administrator ensures the protection of assets, evaluates the financial state of the bank, prepares proposals for possibilities of a further operation of AB bankas SNORAS. VĮ Indėlių ir investicijų draudimas, the deposit insurance fund, is provided with the data needed for the payment of compensations for insured deposits.
24 November 2011	<p>On the basis of conclusions made by the temporary administrator that the bankruptcy proceedings is the best solution of AB bankas SNORAS problems, the Bank of Lithuania recognises the AB bankas SNORAS as being insolvent and decides to apply to court for the initiation of bankruptcy proceedings against the bank.</p> <p>An insured event of AB bankas SNORAS happens: deposit compensations must be paid out within 20 working days from the date of the insured event, this term may be extended by no more than 10 working days.</p>
07 December 2011	Bankruptcy proceedings are instituted against AB bankas SNORAS. On the basis of the court judgement, the bankruptcy administrator is appointed.
14 December 2011	Insurance compensations for insured deposits are started to be paid out to individuals who held their funds at AB bankas SNORAS.

The Bank of Lithuania actions in search of the best solution

Suspension of the activities of a sufficiently large bank is a significant event for the whole financial system, however, notwithstanding systemic importance of individual institutions in providing intermediation services, a further operation of insolvent institutions and those possibly performing illegal operations must not be continued. Considering the fact that banks and other financial institutions perform an exceptional role in the economy, the financial sector is regulated in particular – strict rules regulating activities in almost each field of an activity have to be established, risks of the bank activities are monitored and limited by supervisory institutions and independent audit companies. Vigilant monitoring is obligatory because credit institutions, in contrast to non-financial corporations, get an indirect subsidy from the state – the major part of deposits are insured in public deposit insurance institutions, many countries have legal mechanisms of the state assistance to financial institutions confronted with difficulties.

After the adoption of the Law on Financial Stability in 2009, financial stability strengthening measures have been created in Lithuania. They are: 1) a state guarantee, 2) redemption of the bank property, 3) participation of the state in the bank capital, 4) taking over of the bank shares for public needs. Considering the outset of the global financial system crisis at that time and an increased operational risk of some banks, the Bank of Lithuania in 2009 performed a comprehensive analysis of various scenarios of the assistance to domestic commercial banks by evaluating benefits of potential measures and related expenses. The analysis focussed on the assessment of trends seen in the AB bankas SNORAS activities provided a comparison of possible measures and assessment of the contagion effect on other participants of the financial system. In search of the best solution of AB bankas SNORAS problems, different alternatives such as a proposal to the bank to strengthen capital by attracting a reliable investor, to limit risky activities, etc., were considered. The 2009 decision to apply more intense intervention measures was not adopted. Key insights on prospects of assistance to important financial institutions were provided in the Financial Stability Review 2010.

Intension to separate a good bank and a bad bank

On the basis of the best practice of other countries, P&A method (purchase and assumption) of the problematic bank restructuring generates the smallest number of undesirable side effects. By using this method, a good part of the bank assets is transferred to a new temporary bank, while bad quality assets are left for administration during the bankruptcy procedure. In most cases, this is the cheapest and most effective method to restructure a bank. By applying this method, larger financial system disruptions are avoided and the maximum protection of interests of the problematic bank creditors is ensured. The split of the bank was envisaged as one of the main possibilities in restructuring AB bankas SNORAS. According to this scenario, good quality assets and insured liabilities are directed to the new bank. By restructuring banks according to P&A method, a temporary bank continues to function and customers have a possibility to freely use funds transferred to the good (temporary) bank, while the insurance fund does not have to compensate insured deposits.

On 17 November 2011, the Seimas of the Republic of Lithuania adopted all amendments of legal acts needed for the application of this method as a matter of extraordinary urgency. However, after a more detailed analysis of AB bankas SNORAS, it turned out that the amount of good quality assets held by the bank was significantly less than expected to that date, meaning that the asset dividing scenario and a successful operation of the new temporary bank were not possible. The conclusion presented by the temporary administrator stated that in order to ensure the bank operation without losses by not changing the borrowing structure, a 40 per cent annual growth of the loan portfolio was needed. This means tripling of the bank assets in three years. With a more realistic precondition for the bank assets to grow 10 per cent per annum, 80 per cent cost reduction would ensure the bank operation without incurring losses. These conclusions were basically a result of the fact that the major share of the bank income was generated from activities related with large non-resident customers, the transfer of which to the new temporary bank would be impossible. In many cases, assets of these customers held in bank substantially exceeded the insured amount of EUR 100 thousand, thus they would not become customers of the new bank. In case the decision to split the bank was taken, a long-term outlook of the new refinanced bank would be especially vague, while more state assistance in strengthening capital of a loss incurring bank or applying enforcement measures, including a possibility of bankruptcy, would most probably be needed in the future. Given all legal and financial circumstances, it was decided that the most effective way to ensure interests of AB bankas SNORAS creditors would be the bank bankruptcy proceedings.

Practical observations of the bank restructuring

The period of temporary bank administration revealed a lot of practical challengers, such as, for example, how should an operative and precise separation of good and poorer quality assets be performed in order to minimise legal disputes related to the value of assets. The preparation of the list of insured creditors and funds held by them was time consuming. Banks on regular basis present reports on insured liabilities to the VĮ Indėlių ir investicijų draudimas, however, this process is not fully automated, also insured depositors identified by the software of the bank must be once more verified by the deposit insurance fund. During the process of deposit compensation, imperfections were observed in offsetting loans and funds held on accounts, a lot of legal issues on how to assess other persons' accounts managed by bailiffs emerged, etc. Suspension of AB bankas SNORAS activities provided a considerable amount of information on the bank reorganisation, bankruptcy and crises management and on general procedures to be improved.

The value of AB bankas SNORAS assets in official statements was continuously improved by extending the loan repayment terms to connected persons and by forming insufficient provisions for bad loans. Also, the bank declared funds in other banks and indicated as if it had securities which actually were non-disposable by the bank. Having started the process of setting the value of actual bank assets, the value of good assets was constantly revised with regard to the occurring new loans to connected persons and other circumstances. The usage of the bankruptcy status of the bank by several natural and legal entities that delay fulfilling their debt liabilities has a noticeable effect on the asset quality. The final price of the bank assets will depend on the path of further realisation of the bank assets chosen during the creditors' meeting (more rapid sales of assets would generate larger discounts, but at the same time would reduce bankruptcy administration costs). Taking into account asset administration costs, it is considered to sell a part of assets and hold the rest to maturity.

Table B. The balance-sheet value of AB bankas SNORAS

(LTL million)

	Balance sheet as of 16 November 2011 reflected in AB bankas SNORAS accounting	Change of the value of the bank assets	AB bankas SNORAS balance sheet as of 16 November 2011 identified by the temporary administrator
Cash and its equivalents	366.47	–	366.47
Financial assets (GS, investment into funds, etc.)	2,977.41	–2,286.50	690.91
Loans	3,741.71	–1,161.10	2,580.61
Long-term assets (real estate, cars, etc.)	161.79	–23.25	138.54
Other assets	732.37	–400.78	331.59
TOTAL ASSETS	7,979.78	–3,871.64	4,108.13
Deposits	5,777.81		
Insured	4,215.11		
Uninsured	1,562.70		
Debt securities	662.56		
Certificates of deposit	331.63		
Bonds	257.96		
Other debt securities	72.97		
Deposits of financial institutions	609.11		
Liabilities to the central bank	113.79		
Liabilities to parent banks	87.34		
Liabilities to other banks	407.98		
Subordinated loans	121.07		
Other liabilities	1.37		
TOTAL LIABILITIES	7,171.92		
EQUITY	807.86		
TOTAL LIABILITIES AND EQUITY	7,979.78		

The impact of the suspension of AB bankas SNORAS activities on payment services

When transferring customer funds to other banks AB bankas SNORAS participated in payment systems operated by the Bank of Lithuania, but was not among the largest payment system participants, and the suspension of the bank activities had no negative influence on the operation of payment systems. Even during the first days after the suspension of the bank operation, the need for liquidity loans in the payment systems did not arise, also, there were no delays in the execution of payment orders due to a temporary shortage of funds on the account.

AB bankas SNORAS specialised in fields of retail banking, therefore, after the suspension of the bank activities the number of customer service offices dropped significantly, so did the ATM network, the number of issued payment cards, particularly credit cards, concentration of the payment cards market increased. The bank was the holder of the largest network of customer service offices in Lithuania comprising more than one third of the total number of customer service offices, and a respectively large ATM network (22% of all ATMs in Lithuania). After the suspension of the bank operation, access to banking services became more difficult, especially in remote locations. AB bankas SNORAS had over 480 thousand payments cards issued (11% of the total number of issued payment cards in Lithuania) and the bank market share in the credit cards segment was even more significant – 23 per cent. However, AB bankas SNORAS customers used cards relatively less frequently than clients of other banks – by the value of payment operations, the bank market share made up 5 per cent. A payment card issued by AB bankas SNORAS might be an additional card for a part of the bank customers who used it only on certain occasions.

The suspension of AB bankas SNORAS activities made the strongest impact in the segment of POS-terminals services on such business areas in which payments are made mainly by payment cards, for example, the accommodation services economic activity – there is a large flow of foreigners in this activity to whom other ways of payment would be difficult to access. Representatives of these areas had to react promptly to the emerged situation and apply to other banks for the provision of POS-terminal services. The share of AB bankas SNORAS market by the number of POS-terminals made up 7 per cent. Already large market concentration in this segment increased even more. AB bankas SNORAS directly used technical solutions of VISA and *MasterCard* networks for card operation processing. These card systems have mechanisms ensuring the fulfilment of bank liabilities related with card payments even in the case of a bankruptcy. To this end, other participants of these card systems did not suffer losses related with services provided by AB bankas SNORAS payment cards within the last days of the bank activities.

Lessons learnt from the suspension of AB bankas SNORAS activities

Notwithstanding the size of the bank, turmoil inside the country was short-lived and insignificant. Also, AB bankas SNORAS events did not result in a negative reaction from international financial markets. Clear and open communication of the Bank of Lithuania, Ministry of Finance of the Republic of Lithuania and other top-ranking officials of the country as well as attempts to give as comprehensive as possible answers to arising questions permitted to rein the situation. An explicit communication strategy, i.e. that the collapse of AB bankas SNORAS is the problem of one bank possibly engaged in an illegal business, allowed to avoid deposit withdrawals from other banks. During the first days of the suspension of the bank operation, in order to reduce potential inconveniences to the bank customers, they were provided with a possibility to withdraw cash from their account in the amount of LTL 500 per day. An operative decision on a further functioning of the bank and an effective – quicker than in 20 days term envisaged by the law – payment of compensations of insured deposits assisted in a proper control of the bank crisis.

The bank crisis management experience gained revealed that financial markets' reaction to an open communication, decisive actions and the choice of the most economically useful solutions was favourable. After the AB bankas SNORAS bankruptcy, more attention will be focussed on the monitoring of risk management systems of financial institutions, on the analysis of the economic rationale of performed financial operations. Also, in the near future, it would be worthwhile to review the deposit insurance system, improve the procedure of settling operational issues related with compensations. Also, more attention will be given to the assurance of qualifications of the financial institutions risk management staff. A more effective supervision and regulation of the financial sector will be ensured by the financial system-wide supervision concentrated in the Bank of Lithuania from the start of 2012. Supervision will be oriented to vigilant monitoring of individual financial institutions and macroprudential assessment of the financial system as a whole.

Non-cash payments are rapidly gaining in popularity in the whole world. From 2001 to 2009, the total number of credit transfers, direct debits, card payments and cheque operations in the world increased annually by 6.8 per cent on average and reached 260 billion in 2009. Electronic payments (e-payments) and payments by mobile phone (m-payments) currently comprise around 10 per cent of the total number of non-cash payments, however, they are expected to increase at a faster rate than other payment instruments²⁴. E-payments are understood as settlements for goods or services purchased online. They are usually made through a computer by using a payment card, internet banking or electronic money. Very similar, but wider, is the concept of m-payments. Instead of a computer, a mobile phone or another mobile device is used for these payments. Modern phones enable people to use the internet and perform the same operations as e-payment operations, however, m-payments are not limited to these possibilities. First, m-payments may utilise other communication services (for example, SMS). Second, smartphones allow using the capabilities of applications installed in them and initiating a card payment or credit transfer to another person via a special interface. Finally, phones will soon be widely used also for proximity payments, when a payment operation is performed by waving a mobile device in front of a terminal in points of sale. Although different concepts are used currently, e-payments and m-payments may merge into one joint category in future.

A rapid expansion of these payment instruments is associated, first of all, with the breakthrough of electronic commerce (e-commerce). The European Commission is forecasting that in the coming five years the e-commerce market will grow by around 10 per cent each year, whereas the expenditure of one EU resident will increase to EUR 601 in 2014²⁵. On the other hand, the expansion of m-payments will be very closely related to the possibilities of near field communication (NFC) technology.

Payments of both categories are available to consumers in Lithuania. M-payments are currently a niche service, despite its use in various forms. For example, it is possible to pay for parking services by SMS or to pay in points of sale by tapping the phone with a NFC chip close to the terminal. Nevertheless, a larger part of people use e-payments: 15 per cent of people aged 18 to 75 make online purchases through internet banking, whereas 12 per cent use card payments²⁶. It is more usual to pay via internet banking when settling for goods acquired domestically, while payment cards payments and the PayPal electronic money scheme are more usual when making online purchases abroad. In 2011, the value of online payment operations performed by using debit, credit and virtual cards issued in Lithuania amounted to LTL 180 million, of which 91 per cent were paid abroad. The value of operations increased by 57 per cent over the year. The range of goods purchased online is becoming increasingly wider. The average value of an operation declined to LTL 183 in 2011 (it amounted to LTL 275 in 2008).

On the basis of the survey of the Lithuanian residents (aged 18 to 75), the Bank of Lithuania performed an analysis of how personal characteristics (age, education, amount of income, place of residence, gender) determine the propensity to use e-payments. Logistic regression was used to estimate statistical significance of personal characteristics. Its features allow estimating the impact of an individual factor on the probability that a person will use e-payments. The results have shown that e-payments are a universal instrument accessible to representatives of various social and economic groups. With the exception of several fundamental factors, such as younger age and, in the case of internet banking, higher income, other factors were insignificant. The probability that a resident aged 18 to 35 and earning higher income (over LTL 2,000 per month after taxes) will use e-commerce and settle via internet banking comprises 0.79, whereas for those with lower income (LTL 1,000–2,000) this probability is 0.64. Respective probability for a representative of the group of people aged 36 to 55 earning higher income comprises 0.57, whereas for those with lower income in this group the probability makes up only 0.39, i.e. in this case it is more probable that a person will not use e-commerce at all. The same conclusion holds for the age group of over 56, regardless of the income earned. The probability that a resident aged 18 to 35 will use e-commerce and settle by a card payment makes up 0.57, in the middle age group it comprises 0.51, while in the age group of over 56 it makes up 0.25, i.e. it is more probable that in this case e-commerce will not be used.

Settlements in e-commerce are performed via internet banking	Settlements in e-commerce are performed by card payments
<p>Statistically significant and most influential factors:</p> <ul style="list-style-type: none"> age group of 18 to 35 higher personal income <p>Insignificant factors:</p> <ul style="list-style-type: none"> gender education place of residence 	<p>Statistically significant factors:</p> <ul style="list-style-type: none"> age group of 18 to 55 <p>Insignificant factors:</p> <ul style="list-style-type: none"> gender education place of residence personal income

²⁴ World Payments Report 2011. Capgemini, RBS, EFMA.

²⁵ Green Paper. Towards an integrated European market for card, internet and mobile payments, 2012. European Commission.

²⁶ On behalf of the Bank of Lithuania, UAB "Spinter tyrimai" conducted a representative survey of 1,008 residents in February 2012.

As various processes migrate to the electronic domain, the fraudsters also follow them. E-payments are not an exception, as fraudsters attempt to embezzle the funds of others in various forms. Their deeds/efforts are facilitated by the internet that has no borders, criminal legislation that is not always adapted to the new risks and often negligent behaviour of the payers themselves. Although e-payments comprise only a small share of total non-cash payments, the losses caused by fraud related to them already makes up the major part of losses suffered by payment services providers in the payments business. It is especially applicable to card payments in e-commerce. For example, in the United Kingdom such cases comprised 62 per cent of total losses related to payment cards²⁷.

To ensure safety of payment instruments, a targeted work of all entities participating in the payment process chain (card holders, merchants, payment services providers, technical intermediaries) is necessary. This task is complicated by the fact that e-payments do not stop at state borders, whereas the implementation of good practices to safeguard payments was not coordinated between different countries. In 2011, the supervisory authorities operating in the European Economic Area joined their efforts by establishing the European forum on security of retail payments (SecuRe Pay). The forum selected security of internet payments as a priority of its work and derived in its first report the security recommendations and good practice applicable for such payments. Fourteen technologically neutral recommendations will be applied to payment service providers and payment card schemes from 1 July 2014. Recommendations will be adopted at the end of 2012 after public consultations. It is expected that they will reduce the fraud level in the electronic domain and also strengthen confidence of e-payments users.

²⁷ <http://www.financialfraudaction.org.uk/consumer-landing.asp>

Annex 3. Key financial stability indicators

(percentages, unless otherwise indicated)

Financial stability indicators	2003	2004	2005	2006	2007	2008	2009	2010	2011
Capital adequacy									
Capital adequacy ^{1,2}	13.3	12.4	10.3	10.8	10.9	12.9	14.2	15.6	13.9
Tier 1 capital adequacy ^{1,2}	11.1	10.2	8.9	7.8	7.7	10.2	10.4	11.6	12.0
Capital-to-assets ratio ¹	10.5	9.5	7.9	7.6	7.9	9.2	7.9	8.9	10.7
Asset quality									
Ratio of non-performing loans to total loans (excluding interbank loans) ³	10.1	9.2	-2.5	0.7	2.9	...	...	...	...
o/w loans to businesses ³	...	...	0.57	1.04	1.18	...	...	...	...
o/w loans for house purchase ³	...	...	0.57	0.54	0.60	...	...	...	...
o/w consumer loans ³	...	...	1.37	1.90	1.49	...	...	...	...
Ratio of non-performing loans to total loans (excluding interbank loans) ⁴	...	...	...	...	...	4.55	19.29	19.67	16.27
o/w loans to businesses	...	...	...	...	...	5.64	26.17	25.46	20.51
o/w loans for house purchase	...	...	...	...	...	1.94	5.64	8.09	8.56
o/w consumer loans	...	...	...	...	...	5.23	13.84	19.70	16.45
Ratio of impaired loans to total loans (excluding interbank loans) ⁴	...	...	...	...	...	3.41	15.77	16.72	13.77
o/w loans to businesses	...	...	...	...	...	4.37	21.99	22.50	18.14
o/w loans for house purchase	...	...	...	...	...	1.31	3.94	5.70	5.99
o/w consumer loans	...	...	...	...	...	2.66	6.44	10.70	10.96
Ratio of impaired loans overdue for more than 60 days to total loans (excluding interbank market) ⁴	...	...	...	...	...	1.14	3.53	2.95	2.50
o/w loans to businesses	...	...	...	...	...	1.27	4.18	2.96	2.38
o/w loans for house purchase	...	...	...	...	...	0.63	1.70	2.38	2.57
o/w consumer loans	...	...	...	...	...	2.57	7.40	9.00	5.49
Ratio of loan impairment losses to total loans (excluding interbank loans) ^{5,6}	0.81	0.86	0.89	0.89	0.74	1.20	7.16	7.92	6.87
o/w loans to businesses ⁶	...	...	1.03	1.07	0.89	1.46	9.71	10.19	9.02
o/w loans for house purchase ⁶	...	...	0.22	0.23	0.30	0.41	1.81	3.03	3.28
o/w consumer loans ⁶	...	...	1.62	1.51	1.18	2.44	7.58	11.74	11.74
Ratio of loan impairment losses and non-performing loans ^{2,3,5,6}	33.8	39.9	146.5	92.5	72.2	26.5	37.1	40.6	40.6
Income and profitability									
Return on equity ^{1,7}	13.37	13.52	13.58	20.29	25.93	13.54	-48.42	-4.72	15.23
Return on assets ⁷	1.26	1.20	1.04	1.32	1.71	1.01	-4.23	-0.34	1.38
Ratio of net interest income to total income	46.3	48.1	50.8	52.0	55.8	62.2	50.4	49.5	58.0
Ratio of profit (loss) on sale of securities and foreign exchange operators to total income	10.8	8.6	8.3	9.0	8.1	3.2	14.1	8.1	4.8
Ratio of staff costs to total non-interest expenses	41.0	40.5	41.2	41.4	43.6	42.4	39.8	38.7	41.1
Liquidity									
Liquidity ratio (ratio of liquid assets to current liabilities) ⁸	42.4	41.7	42.9	41.9	43.5	39.0	49.9	42.8	44.1
Ratio of liquid assets to total assets ⁸	27.7	28.3	26.9	24.1	21.9	18.6	23.7	24.1	24.4
Ratio of current liabilities to total liabilities ⁷	72.4	74.2	67.5	61.9	54.2	51.4	50.5	60.8	60.8
Three-month VILIBOR and EURIBOR spread, basis points ⁹	59	49	5	7	230	700	320	49	30
Ratio of deposits to total loans (excluding interbank loans)	107.6	102.5	88.2	77.8	66.4	53.5	66.9	77.9	79.9
Ratio of short-term liabilities to banks to total liabilities to banks ¹⁰	81.8	70.7	60.3	51.0	37.0	39.8	41.1	42.5	33.9
Assets									
Ratio of loans (excluding interbank loans) to assets	60.6	64.0	67.3	70.9	74.1	79.6	72.8	71.4	68.4
Ratio of loans to households to total loans (excluding interbank loans)	18.0	23.8	28.3	35.2	39.2	40.0	43.9	42.9	43.5
Ratio of loans to non-financial corporations to total loans (excluding interbank loans)	64.9	59.1	51.7	53.3	51.3	52.3	50.4	47.7	46.5
Ratio of debt securities to assets	14.6	11.4	11.4	11.4	9.1	6.7	9.2	10.0	7.2
Ratio of government debt securities to assets	11.9	9.3	7.9	8.4	4.4	3.2	5.9	6.8	4.5
Ratio of government debt securities to total securities	81.2	82.2	69.7	73.7	48.0	47.8	64.0	68.2	62.4
Ratio of loans to non-residents to total loans (excluding interbank loans)	2.2	1.0	1.4	1.8	2.0	2.3	3.1	4.1	1.4

Financial stability indicators	2003	2004	2005	2006	2007	2008	2009	2010	2011
Liabilities									
Ratio of liabilities to assets	90.2	91.3	92.8	92.9	92.7	92.4	94.0	92.8	91.3
Ratio of deposits to total liabilities	72.3	71.9	64.0	59.4	53.1	46.1	51.8	60.0	60.0
Ratio of resident deposits to total deposits	93.9	92.4	90.6	91.3	91.3	94.6	94.7	93.6	95.6
Ratio of household deposits to total deposits	54.9	51.3	51.7	55.0	56.9	63.1	60.3	57.4	58.2
Ratio of deposits of private non-financial corporations to total deposits	31.4	33.6	36.1	32.3	31.0	27.7	27.7	29.5	33.0
Ratio of liabilities to banks to total liabilities	22.8	22.5	30.6	32.5	37.7	47.0	40.8	33.7	33.5
Ratio of liabilities to banks of the parent bank group to total liabilities to banks	...	...	78.9	88.3	92.6	94.7	95.4	92.0	94.4
Ratio of liabilities to banks of the parent bank group to total liabilities	...	...	24.1	28.7	34.9	44.5	39.0	30.9	31.6
Ratio of liabilities to banks of the parent bank group to total liabilities to non-residents	...	...	66.1	71.5	77.0	85.3	84.3	77.1	82.4
Assets and liabilities of non-residents									
Ratio of non-residents' assets to total assets	11.0	15.6	16.1	16.5	14.8	11.9	17.4	16.9	14.2
Ratio of non-residents' liabilities to total assets	25.1	26.1	33.9	37.3	42.0	48.3	43.5	37.2	35.0
Ratio of net non-residents' liabilities to assets	14.1	10.6	17.8	20.8	27.2	36.4	26.1	20.4	20.8
Foreign exchange rate risk									
Ratio of foreign currency denominated assets to total assets ¹¹	49.1	57.2	61.7	55.9	57.3	64.5	72.9	71.2	65.9
Ratio of foreign currency denominated loans to total loans (excluding interbank loans) ¹¹	54.6	58.3	65.8	52.8	55.6	64.6	73.9	74.0	72.4
Ratio of foreign currency denominated liabilities to total liabilities ¹¹	46.0	45.5	51.6	51.9	56.2	63.3	61.6	57.0	53.1
Ratio of foreign currency denominated deposits to total deposits ¹¹	29.8	30.0	33.3	27.0	26.6	29.0	34.0	33.5	29.2
Ratio of net open position in foreign currency to regulatory capital ^{11,2}	10.80	-1.88	-0.96	-1.39	-2.43	0.39	0.84	0.44	0.62

Source: Bank of Lithuania calculations.

Notes: 1) The indicators were calculated based on individual supervisory financial statements of banks (i.e., statements consolidated on international and cross-sectorial levels have not been used) and cover all the banks operating in the country and foreign bank branches, unless otherwise stated; 2) From early 2008, financial data have been compiled using EU FINREP statements. This may have an impact on the value of some indicators. It must be taken into account when a longer time series is analysed; 3) a short-term period is a period of up to one year.

¹ Excluding foreign bank branches.

² Based on the Rules for the Calculation of Capital Adequacy approved by Resolution No. 138 of 9 November 2006 of the Board of the Bank of Lithuania.

³ From the end of 2005 to 2008, non-performing loans were defined as loans with regular payments overdue for more than 60 days (this indicator is also used to cover impaired loans overdue for more than 60 days.)

⁴ Starting from June 2008, non-performing loans are defined as the sum of the impaired loans (for which specific provisions are made) and those non-impaired loans that are overdue more than 60 days. The new definition of non-performing loans is not comparable with the previous one.

⁵ Up to 2004, special provisions cover provisions against general portfolio risks.

⁶ Special provisions cover provisions against assets measured on consolidated and individual basis.

⁷ Net profit (loss).

⁸ 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.

⁹ End-of-period data.

¹⁰ Up to the end of 2007, the indicator covers funds from banks and other financial corporations. From 2000 to 2007, funds from financial corporations and funds from banks and financial corporations declined from 10 to 3 per cent.

¹¹ The major share of loans and liabilities denominated in foreign currency is in euro. Foreign exchange risk should be assessed taking into account the currency board regime and the fixed litas and euro exchange rate.

Annex 4. Key performance indicators of non-financial corporations

(percentages)

Economic activity ¹	Profitability ²		Share of profitable corporations ³		Financial leverage ⁴		Debt servicing capacity ⁵		Bankruptcy probability ⁶	
	2010	2011	2010	2011	2010	2011	2010	2011	2010	2011
Forestry and fishing	9.2	8.3	70.5	72.5	33.5	29.8	281.7	416.6	5.3	3.8
Mining and quarrying	19.5	31.1	57.1	72.1	48.4	108.5	108.9	70.7	0.0	0.0
Manufacturing	3.5	3.7	58.6	67.0	91.8	93.0	61.0	57.7	3.8	2.6
Energy supply	3.3	0.8	50.6	50.5	44.8	37.5	80.4	69.8	1.1	0.0
Water supply	7.5	3.0	53.4	48.3	35.0	36.2	76.3	73.2	3.8	1.9
Construction	-0.4	1.3	44.5	53.0	134.0	148.5	15.3	19.8	5.8	4.4
Wholesale and retail trade	2.3	2.8	58.2	67.1	149.7	141.6	37.7	45.0	2.8	2.0
Transport and storage	3.9	6.4	61.1	67.9	60.6	58.5	67.9	87.9	4.1	2.6
Accommodation and catering	-3.5	4.4	39.1	52.6	245.4	201.8	6.8	17.2	3.8	3.8
Information and communication	10.7	10.3	60.5	61.9	71.1	63.7	75.6	78.9	1.6	1.4
Real estate operations	8.0	16.8	48.2	50.0	129.6	127.5	10.6	13.2	3.0	2.2
Professional, scientific and technical activities	10.4	32.2	54.8	60.6	25.8	20.4	15.6	58.7	1.6	1.3
Education	12.8	7.9	57.3	59.5	36.5	40.6	269.2	177.2	1.3	0.8
Total	3.3	4.4	55.0	61.6	76.1	71.4	37.8	45.3	3.4	2.5

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

¹ Names of some economic activities are abbreviated.

² Ratio of profit before taxes to sales during the period.

³ The share of profitable corporations in the total number of corporations on average per annum.

⁴ Ratio of liabilities to equity at the end of period.

⁵ Ratio of profit before taxes, amortization and depreciation during the period to financial debts at the end of the period.

⁶ Ratio of the number of initiated bankruptcy procedures during the year to the number of corporations at the end of the period.

Annex 5. Net financial assets of Lithuania's economy

(Q4 of 2011; the figure in the brackets shows the change, compared to the Q4 of 2010; LTL billion)

	Net financial assets												
	Non-financial corporations	Central bank	Other monetary financial institutions	Other financial intermediaries ¹	Financial auxiliaries	Insurance corporations ²	Central government	Local government	Social security funds	Households	Non-profit institutions ³	Other parties	Total
Non-financial corporations		−4.4 (−0.9)	15.8 (−3.1)	6.6 (−0.4)	0.1 (−0.2)	−0.3 (0.1)	11.6 (−1.7)	2.9 (0.2)	0.2 (0.1)	30.6 (6.5)	0.1 (−0.1)	29.1 (1.3)	92.5 (1.7)
Central bank	4.4 (0.9)		7.6 (2.9)	0.0 (0.0)	0.0 (−0.1)	0.0 (0.0)	3.7 (−0.7)			5.3 (0.9)		−20.0 (−3.8)	0.9 (0.1)
Other monetary financial institutions	−15.8 (3.1)	−7.6 (−2.9)		−3.5 (0.0)	4.7 (4.0)	0.4 (0.0)	−2.5 (−1.7)	−1.1 (−0.3)	−0.9 (−0.7)	0.6 (0.0)	0.5 (0.1)	26.3 (−0.5)	1.2 (1.2)
Other financial intermediaries¹	−6.6 (0.4)	0.0 (0.0)	3.5 (0.0)		0.0 (0.0)	0.2 (0.0)	−0.1 (−0.1)	0.0 (0.0)		−0.3 (0.1)		1.6 (−1.2)	−1.8 (−0.8)
Financial auxiliaries	−0.1 (0.2)	0.0 (0.1)	−4.7 (−4.0)	0.0 (0.0)		0.0 (−0.1)	2.3 (3.4)			3.1 (1.6)		−0.1 (0.4)	0.6 (1.6)
Insurance corporations²	0.3 (−0.1)	0.0 (0.0)	−0.4 (0.0)	−0.2 (0.0)	0.0 (0.1)		−1.6 (−0.5)		0.0 (0.0)	6.1 (0.7)	0.0 (0.0)	−4.2 (0.0)	0.2 (0.2)
Central government	−11.6 (1.8)	−3.7 (0.7)	2.5 (1.7)	0.1 (0.1)	−2.3 (−3.4)	1.6 (0.5)		−0.2 (0.0)	−6.0 (−1.4)	2.9 (0.2)	0.0 (0.0)	31.4 (4.1)	14.7 (4.2)
Local government	−2.9 (−0.2)		1.1 (0.3)	0.0 (0.0)			0.2 (0.0)					0.2 (0.0)	−1.5 (0.1)
Social security funds	−0.2 (−0.1)		0.9 (0.7)			0.0 (0.0)	6.0 (1.4)			0.5 (0.0)			7.2 (2.0)
Households	−30.6 (−6.5)	−5.3 (−0.9)	−0.6 (0.0)	0.3 (−0.1)	3.1 (−1.6)	−6.1 (−0.7)	−2.9 (−0.2)		−0.5 (0.0)			−1.5 (−0.2)	−50.5 (−10.2)
Non-profit institutions³	−0.1 (0.1)		−0.5 (−0.1)			0.0 (0.0)	0.0 (0.0)						−0.6 (0.0)
Other parties	−29.1 (−1.3)	20.0 (3.8)	−26.3 (0.5)	−1.6 (1.2)	0.1 (−0.4)	4.2 (0.0)	−31.4 (−4.1)	−0.5 (0.0)		1.5 (0.2)			−62.8 (−0.1)
Total	−92.5 (−1.7)	−0.9 (−0.1)	−1.2 (−1.2)	1.8 (0.8)	−0.6 (−1.6)	−0.2 (−0.2)	−14.7 (−4.2)	1.5 (−0.1)	−7.2 (−2.0)	50.5 (10.2)	0.6 (0.0)	62.8 (0.1)	

Source: Bank of Lithuania calculations.

¹ Other financial intermediaries, excluding insurance corporations and pension funds.

² Insurance corporations and pension funds.

³ Non-profit institutions serving households.

Note: a positive figure shows how much net financial assets the sub-sector indicated in the column (financial assets exceed financial liabilities) has in the sub-sector shown in the row, and a negative figure shows net financial liabilities (financial assets are lower than financial liabilities). For example, in the fourth quarter of 2011, financial assets of households in other monetary financial institutions (basically in commercial banks and credit unions) exceeded their liabilities by LTL 0.6 billion (i.e., households held net financial assets in other financial institutions), while net financial assets held by non-financial institutions in other monetary financial institutions were negative, i.e., financial liabilities of corporations exceeded their financial assets in other monetary financial institutions.

Annex 6. Financial system of Lithuania

	2008					2009					2010					2011				
	number	assets			As a percentage of GDP, %	number	assets			As a percentage of GDP, %	number	assets			As a percentage of GDP, %	number	assets			
		LTL millions	Share, %	Annual change, %			LTL millions	Share, %	Annual change, %			LTL millions	Share, %	Annual change, %			LTL millions	Share, %	Annual change, %	
Banks	16	89,749	82.5	10.8	80.1	17	84,240	82.7	-6.1	91.7	20	81,707	82.7	-3.0	85.9	20	78,971	82.6	-3.4	74.5
Banks, excluding foreign bank branches	9	73,693	67.7	-0.9	65.8	9	69,065	67.8	-6.3	75.1	9	66,533	67.4	-3.7	70.0	8	63,542	66.5	-4.5	59.9
Foreign bank branches	7	16,056	14.8	141.2	14.3	8	15,175	14.9	-5.5	16.5	11	15,174	15.4	0.0	16.0	12	15,429	16.2	1.7	14.6
Credit unions	67	795	0.7	21.3	0.7	67	933	0.9	17.4	1.0	68	1,277	1.3	36.9	1.3	74	1,629	1.7	27.5	1.5
Central credit union	1	137	0.1	-3.0	0.1	1	205	0.2	49.4	0.2	1	310	0.3	51.3	0.3	1	355	0.4	14.2	0.3
Leasing companies	11	11,337	10.4	4.4	10.1	9	8,437	8.3	-25.6	9.2	9	6,584	6.7	-22.0	6.9	10	6,035	6.3	-8.3	5.7
Insurance market	17	3,487	3.2	0.0	3.1	15	3,340	3.3	-4.2	3.6	13	2,783	2.8	-16.7	2.9	11	2,770	2.9	-0.5	2.6
Life insurance companies	6	1,537	1.4	-10.5	1.4	6	1,850	1.8	20.4	2.0	5	1,277	1.3	-31.0	1.3	5	1,562	1.6	22.3	1.5
Non-life insurance companies	11	1,951	1.8	10.3	1.7	9	1,489	1.5	-23.7	1.6	8	1,506	1.5	1.1	1.6	6	1,207	1.3	-19.8	1.1
Capital market participants	124	993	0.9	-63.2	0.9	126	1,424	1.4	43.3	1.6	127	2,155	2.2	51.4	2.3	117	1,622	1.7	-24.7	1.5
Financial brokerage companies	12	54	0.1	-61.6	0.1	10	41	0.0	-23.8	0.0	9	40	0.0	-3.4	0.0	10	30	0.0	-23.6	0.0
Management companies	14	83	0.1	0.0	0.1	13	77	0.1	-6.2	0.1	12	83	0.1	6.9	0.1	14	77	0.1	-6.5	0.1
Open-ended investment companies	1	6	0.0	-72.8	0.0	1	7	0.0	16.1	0.0	1	11	0.0	63.9	0.0	1	8	0.0	-29.5	0.0
Investment funds	34	381	0.4	-69.3	0.3	34	440	0.4	15.6	0.5	37	591	0.6	34.3	0.6	29	502	0.5	-15.1	0.5
Foreign collective investment undertakings	63	470	0.4	-61.2	0.4	68	858	0.8	82.5	0.9	68	1,430	1.5	66.7	1.5	63	1,005	1.1	-29.7	1.0
Pension funds	38	2,311	2.1	29.1	2.1	38	3,342	3.3	44.6	3.6	38	3,955	4.0	18.4	4.2	39	4,175	4.4	5.6	3.9
Pillar II pension funds	29	2,251	2.1	33.4	2.0	29	3,262	3.2	45.0	3.6	29	3,856	3.9	18.2	4.1	30	4,081	4.3	5.8	3.9
Pillar III pension funds	9	61	0.1	-41.4	0.1	9	80	0.1	30.5	0.1	9	99	0.1	24.8	0.1	9	94	0.1	-5.3	0.1
FINANCIAL SYSTEM	274	108,810	100.0	8.1	97.1	273	101,919	100.0	-6.3	110.9	276	98,771	100.0	-3.1	103.9	272	95,556	100.0	-3.3	90.1
Stock exchange capitalization	-	11,999	-	-55.5	10.7	-	14,906	-	24.2	16.2	-	18,816	-	26.2	19.8	-	15,462	-	-17.8	14.6
Listed shares	-	9,004	-	-62.2	8.0	-	11,116	-	23.5	12.1	-	14,570	-	31.1	15.3	-	10,839	-	-25.6	10.2
Listed debt securities	-	2,995	-	-5.0	2.7	-	3,790	-	26.5	4.1	-	4,246	-	12.0	4.5	-	4,623	-	8.9	4.4

Sources: ISC, LSC, Lithuanian Leasing Association, Association of Lithuanian Banks, Statistics Lithuania, and Bank of Lithuania calculations.

GLOSSARY

Bond market – the market for interest-bearing securities (with either a fixed or a floating rate and with a maturity of at least one year) that companies and governments issue to raise capital for investment.

Collateral – an asset or third-party commitment that is used by a collateral provider to secure an obligation vis-à-vis a collateral taker.

Credit institution – a company, which is to receive deposits and other repayable funds from the public and to grant credits for its own account; or a company or any other legal person, other than those referred to the points that issue payment instruments such as 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.

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.

Equities – securities representing ownership of a stake in a corporation, i.e. shares traded on a stock exchange (quoted or listed shares), unquoted or unlisted shares and other forms of equity. Equities usually produce income in the form of dividends.

Equity market – the market in which equities are issued and traded.

EURIBOR (euro interbank offered rate) – the rate at which a prime bank is willing to lend funds in euro to another prime bank. The EURIBOR is calculated daily for interbank deposits with a maturity of one week and one to 12 months as the average of the daily offer rates of a representative panel of prime banks, rounded to three decimal places.

European Systemic Risk Board (ESRB) – the ESRB contributes to the prevention or mitigation of systemic risks to financial stability in the Union that arise from developments within the financial system. It takes into account macroeconomic developments, so as to avoid periods of widespread financial distress.

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

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.

General government debt – total gross debt at nominal value at the end of the year, consolidated between the public sector.

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 are household final consumption, government final consumption, gross fixed capital formation, changes in inventories, and imports and exports of goods and services (including intra-euro area trade).

Key ECB interest rates – the key ECB interest rates are: the interest rate on the main refinancing operations (the fixed rate in fixed rate tenders and the minimum bid rate in variable rate tenders); the interest rate on the marginal lending facility; and the interest rate on the deposit facility.

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. LITAS-RLS participants – Lithuanian commercial banks operating in Lithuania and many foreign bank branches. LITAS-RLS operates each day, with the exception of holidays set out in the legal acts of the Republic of Lithuania. Credit transfers are accepted to the system from 7:45 and processed until 16:00.

Market risk – the risk of losses (in both on and off-balance sheet positions) arising from movements in market prices.

MFIs (monetary financial institutions) – 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.

Money market – the market in which short-term funds are raised, invested and traded, using instruments which generally have an original maturity of up to one year.

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

Systemic risk – the risk that the inability of one participant to meet its obligations in a system will cause other participants to be unable to meet their obligations when they become due, potentially with spillover effects (e.g. significant liquidity or credit problems) threatening the stability of or confidence in the financial system. That inability to meet obligations can be caused by operational or financial problems.

Value at risk (VaR) – threshold monetary value such that the expected loss on the portfolio over the given time horizon will not exceed this value with the given probability. E.g. if a portfolio has a 5 per cent VaR equal to LTL 100 by the end of 2012, this means that the probability of a loss higher than LTL 100 by the end of 2012 is less than 5 per cent.

VILIBOR (Vilnius Interbank Offered Rate) – an average interbank interest rate for which banks are willing (ready) to lend funds in litas to other banks. Calculated and announced are overnight, one week, two weeks, one month, three months, six months, and one year VILIBOR. VILIBOR is computed on the basis of the mentioned maturity interest rates announced by banks in the REUTERS information system or notified to the Bank of Lithuania. Each maturity VILIBOR is calculated in the following way: the highest and lowest interest rates of a respective term are excluded from the calculation, and the arithmetic average of the rest interest rates of a respective maturity is derived. VILIBOR is calculated and announced on every business day.