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Lithuanian Economic Review analyses the developments of the real sector, prices, public finance and credit in Lithuania, as well as the projected development of the domestic economy. The material presented in the Review is the result of statistical data analysis, modelling and expert assessment. The Review is prepared by the Bank of Lithuania.

During the preparation of the Lithuanian Economic Review, the data of the Bank of Lithuania, Statistics Lithuania, the European Central Bank, Eurostat, the International Monetary Fund, *Bloomberg* and other data published up to 30 January 2013 were used.

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Abbreviations

%	per cent
CIS	Commonwealth of Independent States
EC	European Commission
ECB	European Central Bank
EU	European Union
Eurostat	statistical office of the European Union
excl.	excluding
GDP	gross domestic product
HICP	harmonised index of consumer prices
IMF	International Monetary Fund
incl.	including
p.p.	percentage point
rh scale	right-hand scale
US	United States of America
USD	United States dollar
VAT	value-added tax

ECONOMIC OUTLOOK

The growth of the Lithuanian economy is rather stable, it continues to be positively affected by foreign trade. For about half a year already, export has been accelerating. In the beginning, re-export hiked, while now export of Lithuanian-origin goods is continuously increasing. This is especially related to a good harvest—food and agricultural products now determine the expansion of Lithuanian-origin export. Export of industrial goods, excluding food products, is increasing slower, but the value added created by industry still significantly increases GDP. In the short term, export of agricultural and food products might continue increasing, therefore, the expansion of export in the nearest quarters should be rather substantial. In the medium term, the growth of export should slow down and stay more in line with the changes of external demand. **Such developments of foreign trade will affect the real GDP more positively than was projected, however, its forecast is unchanged due to a slightly poorer outlook for other GDP components, mainly investments.** It is expected that in 2013 the real GDP will increase by 3.1 per cent, and its growth will accelerate in the further projected period.

For some time the investments have ceased to increase. Previously rapidly rising investment in infrastructure and non-residential buildings are now declining. Although investments into machinery and other equipment are now higher than a year ago, they are lower than a few months before. Only investments into transport vehicles rose more noticeably; however, their substantial fluctuations are common. **It is expected that investments, especially in industry, will begin to grow, although at a slower rate than was projected before.** Industrial companies now use a large share—about three quarters—of their production capacity, meaning that with the expansion of production, which will be gradually encouraged by both external and internal demand, the demand for investment will increase. Decisions on investments should be favourably affected by the stabilised, and in some economic activities—even improved assessment of the economic outlook. This is probably related to the slightly improved confidence indicators in the world: although world economic activity is still expected to increase relatively slightly, the expectations of its decline have diminished. It is projected that the investments, which barely changed in 2012, will increase by 4.6 per cent in 2013 and their growth will accelerate in the coming years.

The situation in the labour market has improved, although partly due to temporary factors. In the second half of the previous year, the number of employed rose significantly. The increase was especially large in the agricultural sector, where good harvest led to a rise in economic activity. Employment in industry has increased as well. The value added created by industry is already higher than before the economic downturn, while the number of employed is still lower by one-sixth, therefore, a faster increase in the number of employed in this economic activity was expected. The number of employed in the non-tradable sector is growing more slowly, while in some economic activities (e.g. public administration, accommodation and catering services) it is decreasing. Wage developments in the tradable and non-tradable sectors also differ. In the tradable sector, wages rose almost twice faster than in non-tradable. During the economic recovery, in the tradable sector wages rose by one-tenth, while in the non-tradable sector—by about 6 per cent, although during the recession in the latter sector wages dropped more than in the tradable one. These trends are explained by different economic developments of these sectors: over the past three years, economic activity and labour productivity in the tradable sector increased more and the shortage of labour was more noticeable. Strengthening of the labour market should continue to be highly dependent on the tradable sector. Both employment and wage developments should be significantly affected by changes in external demand, while the situation of the tradable sector will affect the non-tradable one.

Private consumption is in line with the previous forecast—its growth rate is decelerating, but only slightly. In the middle of the last year, with the household income rising more modestly and confidence deteriorating, private consumption growth decreased significantly, and at the end of the year remained almost unchanged. The impact on such developments, apparently, was due to a change in household sentiment—their assessment of economic prospects improved significantly. Although it is difficult to estimate how much the volatility of expectations is reasonable, favourable expectations may positively affect private consumption in the near future as well. **Therefore, in 2013 private consumption is expected to grow at a similar pace as in the end of 2012, i.e. the growth should not slow down.** It is projected that private consumption will rise more in later years, when external and internal demand becomes more active and household income rises as well.

Outlook of Lithuania's economy in 2012–2014

	February 2013 projection			November 2012 projection		
	2012*	**2013***	**2014***	**2012***	**2013***	**2014***
Price and cost developments (annual percentage changes)						
Average annual inflation (based on HICP)	3.2	2.4	3.0	3.2	2.8	-
GDP deflator	2.0	2.6	3.6	2.1	3.0	-
Wages (compensation per employee)	3.0	4.4	3.7	3.0	2.6	-
Import deflator	4.4	3.0	1.9	4.7	2.4	-
Export deflator	3.6	3.0	1.6	3.6	2.5	-
Economic activity (constant prices; annual percentage changes)						
Gross domestic product**	3.6	3.1	3.8	3.0	3.1	-
Private consumption expenditure	4.6	2.5	3.3	4.4	2.3	-
General government consumption expenditure	1.3	1.3	2.4	0.7	1.9	-
Gross fixed capital formation	–0.9	4.6	7.4	2.3	6.2	-
Exports of goods and services	10.5	5.8	6.0	7.0	6.0	-
Imports of goods and services	6.0	6.1	6.5	5.0	6.5	-
Labour market						
Unemployment rate (annual average as a percentage of labour force)	13.2	11.6	10.0	13.3	11.6	-
Employment (annual percentage change)	1.8	1.4	1.8	1.8	1.4	-
External sector (as a percentage of GDP)						
Balance of goods and services	0.0	–0.3	–0.9	-2.0	-2.6	-
Current account balance	–1.8	–2.0	–2.6	-2.4	-2.9	-
Current and capital account balance	0.3	–0.3	–1.1	-0.4	-1.2	-

* Projection.
** Changes in inventories are not included in GDP components.

Inflation in 2012 was mainly driven by food and administered prices, thus it was related to external factors. Prices of industrial goods and market services, largely dependent on domestic demand, had little impact. In general, at the end of 2012 inflation trends were more favourable for consumers than expected: the annual inflation rate decreased with a significant slowdown in the growth of heat energy and fuel prices. This partly contributed to the reduction in inflation forecast for 2013; however, a more significant contribution was the extension of reduced VAT rates for heat energy and reimbursable pharmaceuticals until 2014. The increase in prices due to the expiration of reduced VAT rates, which was previously included in the 2013 inflation projections, is now moved to the inflation forecast for 2014. Thus, it is expected that inflation will be 2.4 per cent in 2013, and 3.0 per cent in 2014. The upward risk of inflation is associated with global commodity prices: significant fluctuations in commodity prices are likely and can noticeably affect prices in Lithuania, mostly related to the external environment (e.g. food, fuel and administered prices).

I. INTERNATIONAL ENVIRONMENT

At the end of 2012, sentiment about global economic developments has improved. The macroeconomic data were broadly in line with the expectations, and confidence indicators were better than in the previous two quarters. However, there are no substantial changes in economic development: the recovery of the economy in advanced countries is weak, emerging market economies grow substantially faster.

Despite the unexpected slowdown of the US GDP growth in the last quarter of 2012, its economic situation remains the best among the advanced economies. The "fiscal cliff" issue, which could have negatively affected economic growth in 2013, has partly been resolved. Under adopted decisions, government income increase will be lower, as a number of tax reliefs that were to cease became permanent; also certain taxes have increased less than was provided. These decisions are estimated to have reduced fiscal consolidation in the US to 2.0–2.5 per cent of GDP (prior to adopting them, it was estimated at about 4% of GDP). Nevertheless, these calculations exclude a likely decision to postpone the projected cutting of government expenditure for a longer time (now it has been postponed until early March). Furthermore, the country has reached the government debt limit (USD 16.4 trillion), but the US Congress passed a legislation that eliminated the US borrowing limit until 18 May.

In mid-November the euro area officially recorded the second recession in four years. Nevertheless, confidence in the outlook for this region in recent months has improved due to several resolutions.

First, **in December the EU authorities agreed on a single mechanism for banking supervision in the euro area.** This mechanism is to be launched on 1 March 2014 (or 12 months after the adoption of necessary legal acts). It will consist of the ECB and the national supervisory authorities. The latter will be responsible for the areas not transferred to the ECB (e.g. consumer protection, prevention of money laundering, payment services, etc.). The ECB will supervise those euro area banks that will satisfy at least one of the following conditions: the value of the bank's assets is more than 30 billion euros; the value of the bank's assets exceeds one-fifth of the GDP of its home country; the bank was granted financial assistance. Under such rules, the ECB will directly supervise some 200 of the largest euro area banks out of approximately 6 thousand currently in operation.

Second, **the first tranche of financial assistance for Spain's banking sector was approved in December.** It was approved after a positive first review of the financial assistance programme and approval by the EC of the plans for restructuring four Spanish banks. The support, 39.5 billion euros, was transferred to Spain by the European Stability Mechanism (see Box 1).

In addition, **at the end of November it was decided to renew financial assistance to Greece.** The decision was reached under the condition of country's government debt buy-back operation. The operation was implemented in early December, when Greek government securities, valued at almost 32 billion euros, were redeemed from the private sector for 11.3 billion euros. It is estimated that, after the operation, Greek government debt contracted by about 9.5 per cent of GDP and now some 80 per cent of the debt is owned by the public sector. Having decided to renew financial support, in the recent couple of months over 34 billion euros were transferred to Greece, including funds for the redemption of government bonds.

The policy being implemented by major world central banks continues to be accommodative. In December 2012, the central banks of the US and Japan announced the additional monetary policy measures. The most unexpected was the Federal Open Market Committee's decision to change the monetary policy guidelines. Up till now, the Committee had used calendar-based timing, indicating until when federal funds rates would not be raised, whereas now it indicated that low interest rates would be maintained for as long as the unemployment rate is higher than 6.5 per cent and expected inflation for 1 to 2 years—no higher than 2.5 per cent.

Judging from the most recent confidence indicators, sentiment about the outlook for global economic development improved somewhat.

Chart 1. Purchasing managers' indices (PMI)

Source: Markit.

The euro area economy fell into the second recession in four years.

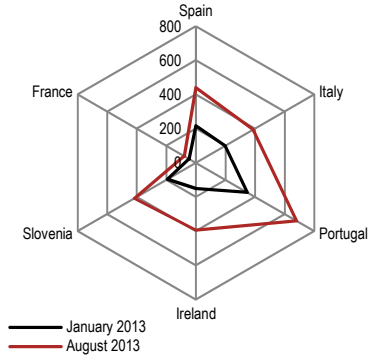
Table 1. Macroeconomic indicators of the US and the euro area
(percentages)

	US	Euro area
Annual change in real GDP		
2012 Q1	2.4	0.3
2012 Q2	2.1	–0.8
2012 Q3	2.6	–0.8
2012 Q4	1.5	–
Annual change in real GDP		
2011	1.8	1.4
2012*	2.3	–0.4
2013*	2.0	–0.2
Inflation		
2011	3.1	2.7
2012*	2.1	2.5
2013*	1.9	1.8
Unemployment rate		
2011	9.0	10.3
2012*	8.2	11.3
2013*	7.9	11.8

Sources: Eurostat, the US Bureau of Economic Analysis and IMF.
** Forecasts.*

As compared to previous quarters, confidence in euro area prospects is no longer declining, and the price for credit risk insurance in most of the Member States decreased.

Chart 2. Difference between the interest rates on five-year credit default swaps in the euro area countries and in Germany
(basis points)



Sources: Bloomberg and Bank of Lithuania calculations.

Box 1. The European Financial Stability Fund and the European Stability Mechanism

As the euro area Member States faced indebtedness issues, one of the decisions was to establish a temporary rescue mechanism. The European Financial Stability Fund (EFSF), established on 7 July 2010, became such a mechanism. Its aim is to provide financial aid to euro area countries facing difficulties. To this end, the EFSF issues debt instruments in financial markets, which are backed by the guarantees of the euro area countries. Currently the EFSF provides financial assistance to Ireland and Portugal and finances the Second Economic Adjustment Programme for Greece. For this assistance, in 2013 the EFSF plans to issue long-term securities with a value of about 55–60 billion euros.

With the EFSF already operating, quite a few decisions were adopted, through which the EU aims at a deeper economic and monetary union. One of the major purposes is to improve the coordination and implementation of economic policy, primarily the fiscal one, as public finance issues were among the major reasons behind financial instability in the euro area. It was believed that if the preventive measures failed to be successful, the issues would be addressed by the aid mechanism functioning on a permanent basis. It would prevent the spillover effects of the threat to financial stability in a euro area country across the region. The European Stability Mechanism (ESM) became such an aid institution. The ESM will replace the EFSF, however, the latter will complete the commenced financial assistance programmes.

The treaty on the establishment of the ESM was signed on 11 July 2012. The ESM is an intergovernmental organization; it was inaugurated on 8 October. Its purpose is to provide assistance which ensures financial stability to the euro area countries facing or likely to face serious financing problems. The support may be provided in the following main ways: 1) loans; 2) purchasing bonds of ESM Member State in the primary and secondary debt markets; 3) credit lines as precautionary financial assistance; 4) financing recapitalisations of financial institutions through loans to governments. The ESM will raise funds in international financial markets by issuing debt securities with a maturity from 1 month to 30 years. The ESM is a common pooled fund; its funds are not attributed to a particular country participating in the ESM.

Table A. Main differences between the structure of the EFSF and ESM

	EFSF	ESM
Legal structure	Public limited liability company under Luxembourg law	Intergovernmental organization under international law
Duration	Temporary	Permanent organisation
Capital structure	Backed by euro area Member States for up to 780 billion euros	700 billion euros subscribed capital, of which 80 billion euros are paid-in capital and 620 billion euros are committed callable capital
Capital contributions, guarantee scheme	Member States can withdraw from the guarantee scheme if they request for assistance themselves	Obligation to contribute to paid-in capital is not affected if the Member State itself requests or receives assistance
Maximum lending capacity	440 billion euros	500 billion euros
Claims to loans	Equality principle (*pari passu*)	Preferred creditor status (only junior to IMF)

Source: www.esm.europa.eu.

The ESM's subscribed capital totals 700 billion euros. The contribution of this capital for each country participating in ESM is based on the ECB's capital key.[1] The euro area Member States undertook to pay a part of total subscribed capital—80 billion euros—in three years; this part is called paid-in capital. The other part of subscribed capital—EUR 620 billion euros—is callable capital. These contributions should be made if demanded by the ESM governing bodies. The ESM can make capital calls in three main cases: 1) ESM's lending capacity revision; 2) the need to cover losses arising in the ESM operations (e.g. due to non-payment by a beneficiary country) and to maintain a ratio between paid-in capital and the ESM's maximum lending capacity of at least 15 per cent; 3) when the ESM would be unable to meet its liabilities. In the latter case, the countries would have to contribute extra funds within 7 days.

The ESM has already begun to provide financial assistance. It has been granted to Spain's banking sector. On 13 December 2012, five issues of ESM notes of nearly 39.5 billion euros were transferred to Spain's Fund for Orderly Bank Restructuring (FROB). The latter used the ESM notes in an amount close to 37 billion euros for the recapitalisation of Spain's four nationalised banks. The other part of ESM notes, valued at 2.5 billion euros, was provided to the asset management company (Spain's *Sociedad de Gestión de Activos Procedentes de la Reestructuración Bancaria,* SAREB).

The ESM started borrowing in international markets on 8 January 2013. During the first bill auction ESM sold 1.9 billion euros in 3-month bills; their average yield was negative, i.e. –0.03 per cent. It is projected that in the first half of 2013 the ESM will only implement the short-term funding programme; initially, bills with a maturity of 3 and 6 months will be issued. The start of the long-term funding programme is projected for the second half of 2013.

The decision to establish an organisation functioning on a permanent basis, which would provide assistance in the event of financial difficulties, is assessed positively, as, in the future, this organisation will prevent likely disagreement among the euro area Member States and the delay of the decision implementation. The establishment of the ESM, however, means that the countries will have to undertake additional obligations even if they themselves are facing financing issues (this would probably mean additional borrowing). Moreover, the upper limit for the ESM Member States' obligations has not been established: capital can be increased when demanded by the ESM's governing bodies.

[1] The ECB's capital key reflects the country's share in total population and gross domestic product of the EU. For the euro area Member States, whose GDP per capita is lower than 75 per cent of the EU average, a relief of contribution to the ESM is applicable for 12 years from the date of joining the euro area.

II. REAL SECTOR

The ability of Lithuanian enterprises to compete in the international market and record harvest led to strong GDP growth. In the third quarter, GDP increased by 4.4 per cent year on year—the most in the course of 2012. With decelerating domestic demand, net export became the key contributor to economic growth. Export development was driven both by still increasing foreign demand and the greater market share won by Lithuanian enterprises in a competitive battle. This factor enables to expect that, in the coming quarters, Lithuania's export development will be stronger than demand growth in major trading partners. Growth in foreign demand, after still decelerating in the fourth quarter of 2012, is likely to accelerate somewhat in 2013.

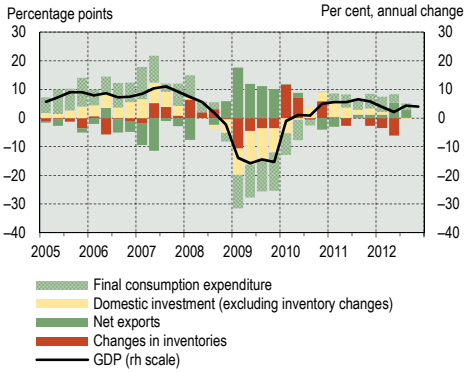
Although the impact on the Lithuanian economy by record agricultural harvest is probably short-lived, it is rather significant. This is confirmed by the GDP flash estimate for the fourth quarter of 2012, published by Statistics Lithuania, which shows annual growth of 4.0 per cent. It is likely that, due to high export of agricultural products, net export was the main contributor to the GDP increase in the fourth quarter of 2012; however, this impact could be mitigated by depleting inventories. They could decline, as farmers and companies trading in agricultural production did not bring to buyers all of their harvest in the third quarter. Part of it was held in their stock rooms with the intention to be delivered in the fourth quarter or later.

Economic prospects are dampened by the fact that investment has not been increasing, it is lower than a year ago for a second consecutive quarter. Declining in the third quarter, investment in non-residential buildings and civil engineering structures outweighed the impact of a rise in investment in vehicles, machinery and other equipment. Investment decrease was probably driven by uncertainty surrounding further economic development in major trading partners as well as the fact that enterprises consider their production capacity as sufficient, albeit its utilization exceeds long-term average. According to business surveys, as many as 90 per cent of enterprises consider their production capacity as sufficient or excessive. As growth in domestic demand is weakening, the domestic market-oriented sectors of the economy are not expected to increase investment more rapidly in the short-term. However, the activities, demonstrating strong performance in foreign markets—industry and agriculture—are likely to be characterised by opposite trends. For instance, investment survey of industrial companies, which manufacture most of the exports, suggests that in 2013 investment will grow: over 40 per cent of enterprises pointed out that they would increase investment, another 40 per cent—that they would allocate for it the same amount of funds as they did in 2012.

Weaker growth in household income entails weaker growth in the private sector consumption. Major contributors to the decrease in household income in the third quarter of 2012 were weaker growth of the compensation of employees[1] and smaller net private transfers. The latter decreased due to higher private transfers abroad. Household consumption was also suppressed by the net financial outflow as household payments for liabilities to the financial institutions exceeded their income from deposits received from those institutions. Besides, the portfolio of consumer loans and other loans, except for housing loans, was stable during the third quarter of 2012 despite an increase in the same quarter of the previous year. Less favourable than a year ago financial flows were probably influenced by poorer household sentiment, which prevailed in the middle of the year, about further economic development and unemployment. While household income contracted due to financial flows, their expectations and assessment of their financial situation have recently been improving. This is likely to favourably affect private sector consumption.

With decelerating growth in domestic demand, net export became the key contributor to economic development.

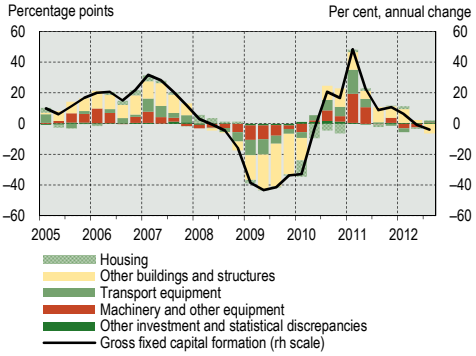
Chart 3. Contributions to real GDP growth (expenditure approach)



Sources: Statistics Lithuania and Bank of Lithuania calculations.

Domestic investments were adversely affected by reduced expenditure on the construction of non-residential buildings and civil engineering structures.

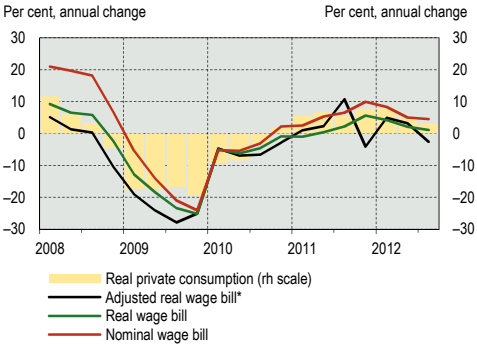
Chart 4. Contributions to investment growth



Sources: Statistics Lithuania and Bank of Lithuania calculations.

Weaker growth in household income entails weaker growth in private sector consumption.

Chart 5. Developments of private sector consumption and wage fund



Sources: Statistics Lithuania and Bank of Lithuania calculations.

** Wage bill is increased by consumer credit and other loans and decreased by debt servicing cost.*

[1] National accounts data.

Box 2. Potential GDP development and outlook in the medium term

The potential GDP defines the sustainable level of aggregate supply in the medium-to-long term. Usually, this indicator is used to determine the phase of the business cycle and to assess the associated inflationary pressures. When the actual real GDP (further actual GDP) is below its potential level, the existing production capacity is underutilized to satisfy the aggregate demand, and there are no causes for inflationary pressures to emerge. This situation can occur during the business cycle period, which begins with the recession phase and ends with the early recovery phase. Otherwise, when the actual GDP is above its potential level, most of the available production capacity is utilised or there is even a shortage of it, therefore producers, being unable to increase production capacity in the short-run, begin to limit the demand by raising prices. This situation is typical for the period of the business cycle which begins with the recovery phase and ends with the early recession phase. Consequently, the potential GDP is also defined as the level of economic activity, which is achieved by using the existing production capacities, but without causing inflationary pressures.

The potential GDP describes the aggregate supply side, so the level of this indicator is mainly determined by technological and organizational parameters of the production process as well as the available quantities of main production factors. Usually, the following key factors of production are distinguished: capital, labour and overall technology level. It is convenient to analyse the labour factor, measured by the total hours worked in the economy, as the result of several other structural indicators—population, participation rate, unemployment level and the average hours worked by one employed person. All these factors are expected to be important for the variation in the potential GDP annual growth rate, but the long-run trend growth rate of potential GDP is mainly determined by technological progress and population growth rates.

Certain institutional and structural changes in the economic environment may significantly affect the need for capital, labour and technology, and their availability to producers. For example, the tax system, legal regulation of labour, goods and services' markets, the patent system, accessibility to financial markets affect the optimal bundle of capital, labour and technology chosen by producers. For this reason, the changes in potential GDP growth rate also reflect the effectiveness of structural reforms.

Evaluation of potential GDP

The potential GDP is not observable. Different approaches are used for its measurement. The most common is the production function approach, which was applied to obtain the below presented potential GDP estimates for Lithuanian economy. According to this method, it is assumed that the real GDP is produced by a Cobb-Douglas production function employing the key factors of production:

$$Y_t = A_t K_t^{\alpha} L_t^{1-\alpha},$$

where: Y_t—aggregate supply (real GDP), A_t—the total factor productivity (technology level), K_t—the stock of capital, L_t—labour. The parameter α defines the capital share in the production.[1] The total factor productivity is calculated as the Solow residual. The time-series for capital stock are obtained by applying the perpetual inventory method (Vetlov 2003).

The labour factor is further divided into the working age population (POP_t), participation rate (PR_t), unemployment rate (u_t) and the number of hours worked by one employed person (H_t):

$$L_t = POP_t PR_t (1 - u_t) H_t.$$

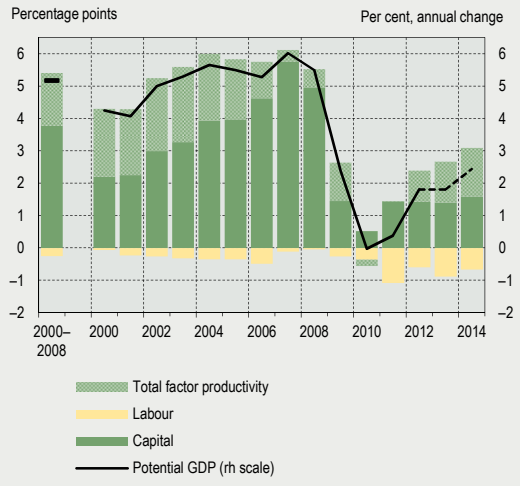
The potential GDP is estimated as a smooth component of actual GDP. This component is calculated by using the above Cobb-Douglas production function, where the potential (or natural) factor levels and their medium-term forecasts are used instead of the actual or forecasted ones. The potential level of each factor, except for the stock of capital and the working age population, is estimated using statistical, econometric methods.[2] It is assumed that the stock of capital and the working age population are already close to their potential levels, therefore their actual and predicted levels are used to estimate the potential GDP.

Development and the outlook in the medium term for Lithuania's potential GDP annual growth rate

The estimates and medium-term forecast of Lithuania's potential GDP annual growth rates are presented in Chart. A. The comparison of potential GDP annual growth rates in period 2000–2008 and 2009–2012 shows that the recent potential GDP annual growth rates are significantly lower. In 2000–2008, the average potential GDP annual growth rate was 5.2 per cent, and in 2009–2012 it was 1.1 per cent. Since 2009, the potential GDP annual growth rate varies more. It reached its smallest value in 2010, when the GDP did not change compared to the previous year. In subsequent years, the potential GDP annual growth rate increased, but not enough to reach the average estimate for the 2000–2008 period. The forecast for the medium-term potential GDP annual growth rate is also moderate. It shows that in 2013–2014 the Lithuania's potential GDP is expected to grow by an average annual rate of 2.1 per cent.

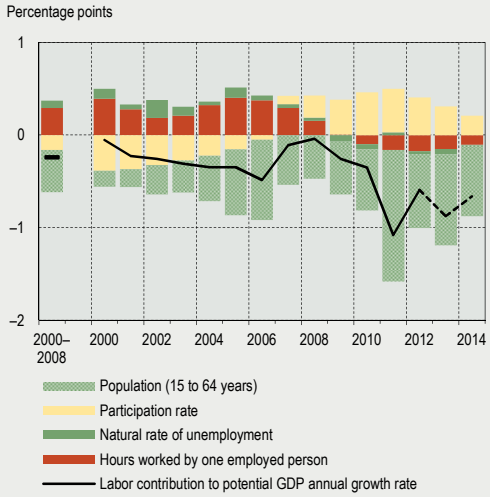
The breakdown of the potential GDP growth rate by factors indicates that its decrease in the period of 2009–2012 compared with 2000–2008 was mostly due to unfavourable development of the total factor productivity and the stock of capital. Changes in the labour growth rate in the period of 2009–2012 were also worse, but their contribution to the potential GDP annual growth rate decrease was less significant.

Chart A. Potential GDP growth and the driving factors



Sources: Statistics Lithuania and Bank of Lithuania calculations.
Note: working age population is based on the recalculated size of population by Statistics Lithuania in 2001–2012 which reflects the 2011 Population and Housing Census data.

Chart B. Decomposition of labour contribution to the potential GDP annual growth rate



Sources: Statistics Lithuania and Bank of Lithuania calculations.
Note: working age population is based on the recalculated size of population by Statistics Lithuania in 2001–2012 which reflects the 2011 Population and Housing Census data.

The average capital contribution to the potential GDP annual growth rate fell from 3.8 per cent in period 2000–2008 to 1.2 per cent in 2009–2012. This fall indicates a strong investment drop caused by the slowdown in the construction sector during the crisis, and increase in corporate bankruptcies. Moreover, since 2009 the development of investment, and hence the stock of capital, was limited due to stricter lending standards. According to the medium-term investment forecasts, stock of capital annual growth is expected to be moderate in 2013–2014. It should be close to the 2000 rate and should contribute by around 1.5 per cent to the potential GDP annual growth rate.

The average total factor productivity contribution to the potential GDP annual growth rate fell from 1.6 per cent in the period of 2000–2008 to 0.5 per cent in 2009–2012. This decrease can be attributed to ineffective investment in capital, typical for the boom period. This can be seen in Chart A: since 2006, the total factor productivity contribution to the potential GDP annual growth rate decreased significantly and the stock of capital substantially increased. The small productivity capital, which was accumulated during the boom, had a negative impact for the total factor productivity in subsequent periods. It is predicted that in 2013–2014, the total factor productivity will on average grow at about 1.4 per cent annually and will contribute to the potential GDP annual growth rate by the same amount.

The average labour contribution to potential GDP annual growth rate fell from –0.2 per cent in period 2000–2008 to –0.6 per cent in 2009–2012. Detailed decomposition of the labour contribution (see Chart B) shows that the main reason for this drop is the negative dynamics in the working-age population. Its impact on the potential GDP annual growth rate on average in 2000–2008 was –0.5 per cent, and in 2009–2012 was –0.9 per cent. It is expected that in the medium term the decrease in the working age population will negatively affect the potential GDP annual growth rate and will on average contribute by–0.9 per cent annually in 2013–2014. The working age population and the level of technology are the key determinants of the long-term potential GDP. Consequently, the smaller working-age population will contribute to a smaller sustainable GDP growth in Lithuania in the long term than it was in 2000–2008.

Output gap and its relationship to inflation

The indicator of the output gap is used to identify the phase of the business cycle and assess the inflationary pressures. It is calculated as the deviation of actual real GDP from its potential level. Such a gap shows how intensively the existing production capacity is utilised to meet the prevailing demand. The larger the actual GDP than its potential level (the gap is positive); the greater is the inflationary pressure, and vice versa.

The development of the Lithuania's output gap and its medium-term forecast are presented in Chart. D. In 2003–2009, the output gap estimate was positive with the peak in 2007. During the crisis, from the beginning of 2009, the demand (particularly the foreign demand) decreased, so the actual real GDP fell sharply and the output gap was significantly negative. The calculated estimates indicate that actual GDP is still slightly lower than its potential level. It is predicted that the negative gap will disappear in 2013.

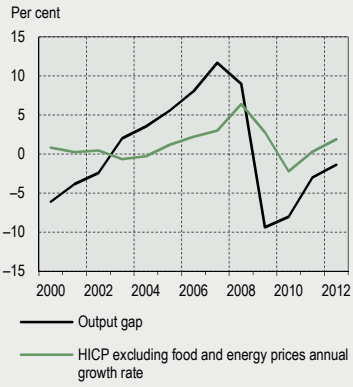
Chart C. Level of actual and potential GDP

Sources: Statistics Lithuania and Bank of Lithuania calculations.
Note: working age population is based on the recalculated size of population by Statistics Lithuania in 2001–2012 which reflects the 2011 Population and Housing Census data.

Chart D. Output gap

Sources: Statistics Lithuania and Bank of Lithuania calculations.
Note: working age population is based on the recalculated size of population by Statistics Lithuania in 2001–2012 which reflects the 2011 Population and Housing Census data.

Chart E. Comparison of the output gap and HICP excluding food and energy prices



Sources: Statistics Lithuania and Bank of Lithuania calculations.
Note: working age population is based on the recalculated size of population by Statistics Lithuania in 2001–2012 which reflects the 2011 Population and Housing Census data.

In Chart E the dynamics of output gap are compared to the dynamics of HICP excluding food and energy prices. HICP, excluding food and energy prices, is less influenced by exogenous factors (such as weather conditions, discovery of oil fields, etc.), so this index better reflects the price changes resulting from movements in supply and demand in the economy. Comparison of the output gap with the change in the aforementioned HICP index reveals that these two rates vary in a similar manner, i.e., with the increasing output gap inflation increases and when the gap decreases, inflation decreases. However, the inflation response is characterized by a lag, which is approximately equal to one year. Many countries feature such a lag, which can be explained by presence of price rigidities in the short run. Thus, the estimates of the Lithuanian output gap reflect the inflationary pressures on prices quite accurately.

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[1] The parameter is set to 0.5 according to the National accounts of Lithuania.

[2] The potential level of total factor productivity and the level of participation rate is measured as the trend component, obtained by applying the extended Hodrick-Prescott filter (Mohr 2005), and the potential level of the hours worked by one employed person is determined using the standard Hodrick-Prescott filter (Hodrick, Prescott 1980). The natural rate of unemployment is assessed using the Kalman filter.

III. LABOUR MARKET

Strong growth in the domestic economy led to a further improvement of the labour market situation. In the third quarter of 2012, the unemployment rate was 12.3 per cent (in the second quarter—13.2%) and was 2.5 percentage points lower than a year ago. The rate of long-term unemployment—which is unemployment that lasts one year or longer—decreased slightly over the quarter. While long-term unemployment has been decreasing for more than a year, about half of those unemployed are long-term ones, this ratio has not changed since the end of 2010. In the third quarter youth unemployment was lower than a year ago, increasing, however, over the quarter. This was driven by the increased number of young unemployed and broadly flat youth employment. The increase in the number of young unemployed can partly be explained by seasonality: after finishing their studies and starting to look for a job, young people were unable to find it for some time. The increase in youth unemployment is likely to be temporary, as the Lithuanian Labour Exchange data suggests that the number of registered young unemployed, which increased in the summer, declined again towards the end of the year.

The flow of declared emigration in the third quarter of 2012 was lower than a year ago. During this period, round 13.5 thousand persons declared departure from Lithuania—3.5 thousand less than a year ago. Immigration to Lithuania increased—7.0 thousand persons declared arrival in Lithuania (1.3 thousand more than a year ago). These developments led to a decline in the negative balance of migration almost by half.

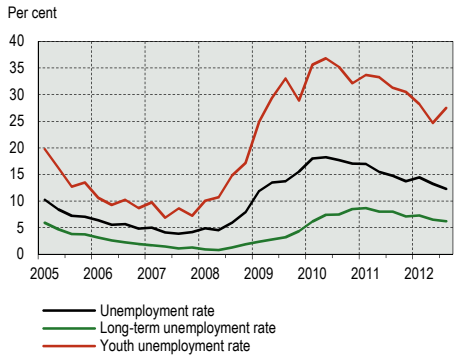
The employment is growing. In the third quarter it was driven mainly by the rise in the number of employed persons in the private sector. Public sector employment, like in the previous four quarters, remained almost unchanged. Increase in private sector employment resulted mostly from tradable sector activities—agriculture and manufacturing. This is related to the strong performance of manufacturing and particularly abundant agricultural harvest. Due to growth in agricultural employment, the number of self-employed increased as well, as more than half of those working in this sector are self-employed.

In the third quarter, wages rose 2.6 per cent—at a similar pace as during the recent year and a half. Part of this change resulted from an increase in minimum monthly wage (by 50 litas—to 850 litas) and in minimum hourly wage that entered into force from 1 August 2012. Wage growth was driven mainly by an increase in regular salary. The effect of irregular payments, which used to significantly influence wage growth since the end of 2010, in this quarter were minor. Wage growth in both the private and public sectors was similar; however, trends in the non-tradable and tradable sectors have diverged in the recent two quarters. In the tradable sector, wages rose more than 4 per cent—significantly faster than in the non-tradable sector (about 2%). In addition, wages in the tradable sector almost reached the pre-crisis level, while in the non-tradable sector they remain 8 per cent lower.

Although the outlook for the labour market remains uncertain, one can expect that the situation will gradually improve. According to the preliminary estimate of Statistics Lithuania, in the fourth quarter unemployment increased and the annual employment growth decelerated. On the other hand, in the third quarter, the number of vacancies grew by a fifth over the year; in the foreign trade-related sectors—manufacturing and transport—it grew at a faster pace than in the other sectors. Business surveys do not point to willingness to further increase employment rapidly: at the end of 2012, the share of enterprises intending to increase the number of employed was similar to that a year ago. Judging from the survey of industrial enterprises which is conducted by the Lithuanian Confederation of Industrialists, wages in industry are likely to grow further. The rise in minimum monthly wage from January 2013 by 150 litas (to 1000 litas) will also contribute to the growth of domestic wages.

Long-term unemployment continued to gradually decline, the increase in youth unemployment is probably temporary.

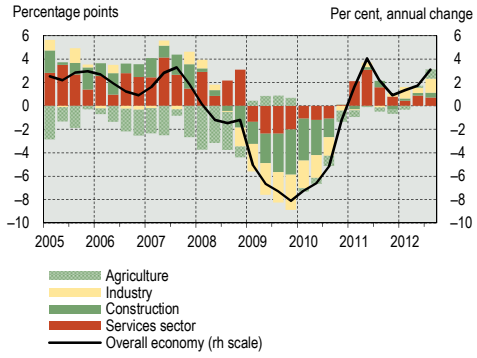
Chart 6. Unemployment rate



Sources: Statistics Lithuania and Bank of Lithuania calculations.
Note: data until the first quarter of 2011 are recalculated based on the 2011 Population and Housing Census data.

Industry and agriculture were the major contributors to employment growth.

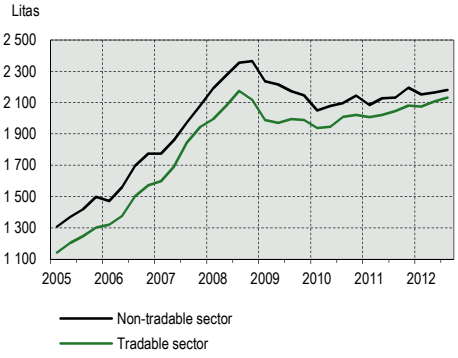
Chart 7. Number of employed by economic activity



Sources: Statistics Lithuania and Bank of Lithuania calculations.
Note: data until the first quarter of 2011 are recalculated based on the 2011 Population and Housing Census data.

Wages in the tradable sector almost reached the pre-crisis level, and in the non-tradable sector they remain 8 per cent lower.

Chart 8. Wages in the non-tradable and tradable sectors



Sources: Statistics Lithuania and Bank of Lithuania calculations.

Box 3. Relationship between GDP growth and unemployment in Lithuania in 1999–2012

A relationship exists between GDP growth and the activity of the labour market. Rising economic activity has a positive effect on the labour market variables as employment rises and unemployment falls. The reason is that economic growth encourages companies to adapt to the increasing demand for their production and create new jobs to satisfy it. When the economic activity fades, reverse processes take place. In economic theory, the relationship that anticipates a negative correlation between GDP growth and unemployment change is called Okun's law.

In order to determine how much GDP should grow for the unemployment rate to remain unchanged, or what the changes in the unemployment rate could be if the GDP remains unchanged, the aforementioned relationship is measured quantitatively. The objective of this box is to quantify the relationship between GDP growth and the change in the unemployment rate in Lithuania.

Chart A. GDP growth and change in unemployment in Lithuania in 1999–2012

Sources: Statistics Lithuania and Bank of Lithuania calculations.

Economic theory offers two main versions of Okun's law: the difference version and the gap version. The difference version estimates the relationship between the changes in GDP and the changes in unemployment rate. The gap version is used to determine the relationship between cyclical unemployment and the output gap. This box quantitatively evaluates the difference version, with a main focus on the estimation of Lithuanian GDP growth, when the unemployment rate remains unchanged. It also aims to determine whether the relationship between the GDP growth and the change in unemployment rate has always been stable. If this relationship is stable, i.e. does not change over time, GDP growth forecast can be applied as a rule in assessing the unemployment rate changes in the future. If the relationship is unstable, such assessments should be made more cautiously. However, even if it is unstable, the relationship between GDP and unemployment is generally considered one of the most stable macroeconomic relationships and can provide some insights.

Okun's law in Lithuania in 1999–2012

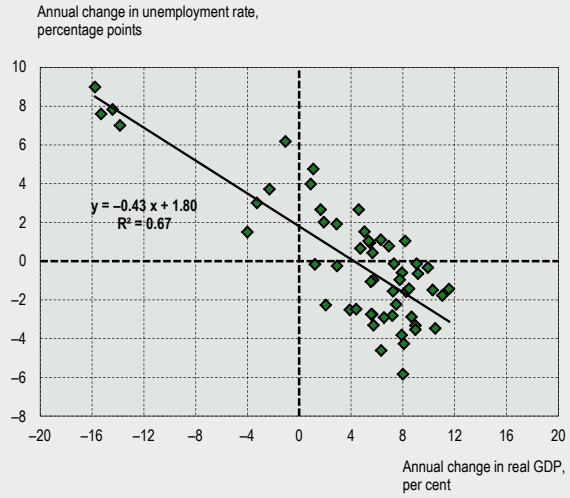
Okun's law is estimated by using the data[1] of Lithuania's GDP growth and the unemployment rate changes in 1999–2012, applying the equation

$$\Delta U_t = \alpha + \beta Y_{g,t} + \varepsilon_{t,} \qquad (1)$$

where: ΔU_t—annual change in unemployment rate in percentage points in the quarter t, $Y_{g,t}$—real GDP annual change in per cent in the quarter t.

The coefficient α indicates the change in unemployment rate, when GDP remains unchanged, i.e. when GDP growth rate is set to zero. The ratio β is called Okun's coefficient. It shows the change in unemployment rate, when GDP growth increases by 1 p.p. Okun's coefficient is expected to be negative because higher GDP growth is related to lower unemployment, and vice versa. The ratio $-\alpha/\beta$ shows how much the economy should grow when the annual change in unemployment rate is set to zero.[2]

Chart B. Okun's law in Lithuania in 1999–2012



Sources: Statistics Lithuania and Bank of Lithuania calculations.
Note: estimated regression line is $\Delta Ut = 1.80 - 0.43\ Y_{g,t}$. Equation is estimated by using quarterly data from the first quarter 1999 to the third quarted 2012.

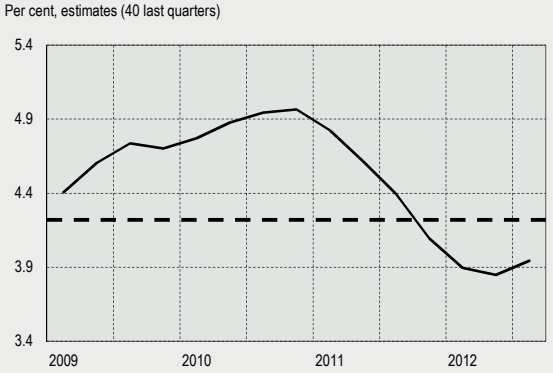
The results of the estimated relationship based on the Lithuanian data[3] show that coefficient $\hat{\alpha}$ is 1.80. Okun's coefficient $\hat{\beta}$ for the entire sample is –0.43, and the ratio $-\hat{\alpha}/\hat{\beta}$ is 4.22 (see Chart B). This means that in 1999–2012, when GDP grew at an average of 4.22 per cent a year, the unemployment rate remained unchanged. With GDP growth on average less than 4.22 per cent a year over the analysed period, unemployment had to increase, and if it was growing by more than 4.22 per cent a year—to decrease. However, in the context of specific quarters this is not always true. For example, in the second quarter of 2012 with an annual GDP growth of 2.1 per cent, the unemployment rate decreased by

2.3 per cent, although according to the estimated Okun's law equation it had to rise by about 0.9 per cent. Since these average estimates cannot sufficiently explain the relationship between unemployment and GDP, the stability of the relationship provided with the Okun's law is examined.

Stability of the relationship between GDP growth and the change in unemployment rate

When the relationship between GDP growth and unemployment rate change is stable, the coefficient $-\hat{\alpha}/\hat{\beta}$ should not change much over time. Therefore, equation (1) is assessed using the rolling regressions. This procedure assesses the samples of 10 years (40 quarters), by changing the sample's start and end dates—subtracting one quarter from the start and adding one quarter to the end. This method allows eliminating historical impact from the estimates. The results[4] of the simple version of the rolling regressions indicate that the relationship between the GDP growth and the unemployment rate change in Lithuania was unstable (see Chart C). The highest $-\hat{\alpha}/\hat{\beta}$ was in the estimated sample from the first quarter of 2001 to the fourth quarter of 2010 (4.97%), whereas the lowest—from the third quarter of 2002 to the second quarter of 2012 (3.85%). It can therefore be concluded that the estimates, obtained from the simple version of Okun's law, should be used with caution assessing the unemployment rate changes.

Chart C. GDP growth at which the unemployment remains unchanged (simple version)



Source: Bank of Lithuania calculations.
Note: the dotted line shows the average 4.22 per cent GDP growth rate needed for the unemployment rate to remain unchanged (estimates by using data from the first quarter 1999 to the third quarter 2012). Time axis shows the last quarter included into rolling regression.

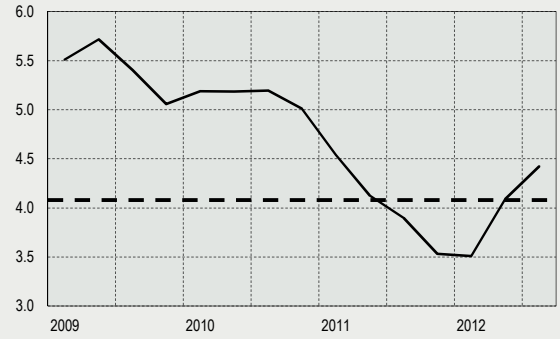
Searching for a more stable relationship between the unemployment and GDP

Searching for a more stable representation of Okun's law, the dynamic version of Okun's law was evaluated for Lithuania.[5] As the business cycle may affect the labour market variables with a lag, the dynamic equation may be expected to better explain the relationship between GDP and unemployment. This version is applied by including GDP growth lags. In addition, for persistence the equation may include the lag of one or more periods of unemployment rate change. The dynamic equation not only indicates that a permanent relationship exists between the variables, but also often improves data fit. The relationship between the GDP growth and the change in unemployment is determined by a dynamic equation

$$\Delta U_t = \alpha + \beta_0 Y_{g,t} + \beta_1 Y_{g,t-1} + \rho \Delta U_{t-1} + \varepsilon_t. \qquad (2)$$

The coefficient $(\beta_0 + \beta_1)/(1-\rho)$, derived from this equation, is Okun's coefficient,[6] and the ratio $-\alpha/(\beta_0 + \beta_1)$ shows how much the economy should grow to keep the unemployment rate stable over the corresponding period.[7] It is important to note that the estimates are sensitive to the equation specification.

Chart D. GDP growth at which the unemployment remains unchanged (dynamic version)



Source: Bank of Lithuania calculations.
Note: the dotted line shows the average 4.08 per cent GDP growth rate needed for the unemployment rate to remain unchanged (estimates by using data from the first quarter 1999 to the third quarter 2012). Time axis shows the last quarter included into rolling regression.

The estimates of the dynamic version show that the coefficient $-\hat{\alpha}/(\hat{\beta}_0 + \hat{\beta}_1)$ is equal to 4.08 per cent over the full sample. However, $-\hat{\alpha}/(\hat{\beta}_0 + \hat{\beta}_1)$ coefficient in the rolling regressions varies considerably[8] due to the fluctuations in $\hat{\alpha}$ and $\hat{\beta}$ over different periods. The estimated coefficient $-\hat{\alpha}/(\hat{\beta}_0 + \hat{\beta}_1)$ was 5.51 per cent over the sample of the first quarter of 1999 to the fourth quarter of 2008, and 4.42 per cent over the sample of the fourth quarter of 2002 to the third quarter of 2012 (see Chart D). Therefore, the estimated dynamic version of Okun's law for Lithuania is instable as well. These estimates should be used with caution when forecasting even approximate changes in unemployment rate.

Instability interpretation

Because of short time series, there are limited possibilities to analyse in detail the reasons why the Okun's coefficient and the GDP growth rate at which the unemployment rate does not change are unstable in Lithuania. However, there are theoretical explanations of this instability, and they apply to both Lithuania and other countries.

One explanation is that during the boom phase of the business cycle companies do not immediately adjust to the increased demand for their production. When economic activity increases, higher demand is first handled with current employees, increasing the number of hours worked and raising the labour productivity. Therefore, the GDP grows and unemployment reduction is suppressed for some time. Economic phenomenon when GDP grows whereas employment does not is called jobless growth. If the increase in demand is permanent and present employees can no longer satisfy it, employers create new jobs and increase the number of employed. Another reason for Okun's coefficient to vary is the change in labour force activity over the business cycle: during the economic boom, with greater opportunities to find a job, inactive people can choose to enter the labour market and therefore the unemployment rate falls more slowly. Therefore, employment and unemployment varies less than the economic activity. These reasons mean that in the beginning of the business cycle or in the case of longer than usual period of jobless growth, the Okun's coefficient may increase. This is associated with higher GDP growth rate that is needed for the unemployment rate to decline.

When economic activity fades, the economy experiences reverse processes—often companies do not tend to immediately reduce the number of workers. Economic phenomenon when GDP falls whereas employment does not is called labour hoarding. Labour force activity also changes: more people withdraw from the labour force and therefore unemployment increases slower than usual. At the beginning of a crisis employment and unemployment also vary less than the economic activity. Therefore, at the beginning of the economic downturn, Okun's coefficient may be smaller than usual. This is associated with lower GDP growth that is needed for the unemployment rate to decline. In the case of Lithuania, the dynamic version of the rolling regressions gives the lowest Okun's coefficient when the years of 1999 and 2009 (i.e. the years of economic downturn) are included in estimation. Thus, the dynamic equation of Okun's law is likely to capture the effect of labour hoarding as labour force activity increased during the recent economic downturn.

The relationship between GDP growth and unemployment also depends on other factors such as technological changes, legal framework of labour legislation, active labour market measures, GDP structure changes and demographic changes.

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Aranki T. et. al. 2010: Sambandet mellan konjunkturen och arbetsmarknaden i Sverige. – *Ekonomiska kommentarer. Sveriges Riksbank:* http://www.riksbank.se.

[1] The estimation used unemployment rate and real GDP time series in 1998–2012. Quarterly unemployment data are published by Statistics Lithuania since 2002, and therefore historical data are interpolated from the published bi-annual unemployment data in 1998–2001. Due to the structural breaks in the labour market data (labour force, unemployed and employed) the data was not seasonally adjusted.

[2] This identity is derived from the equation (1), setting $\Delta\hat{U}_t$ to zero, and evaluating the regression $\Delta\hat{U}_t = \hat{\alpha} + \hat{\beta}Y_{g,t}$.

[3] Statistically, this relationship is estimated by ordinary least squares (OLS). Because of autocorrelation, Newey–West Heteroscedasticity and Autocorrelation Corrected Standard Errors are applied. All estimated coefficients are statistically significant at a 10 per cent significance level. Data generating processes are stationary, i.e. $\Delta U_t \sim I(0)$ and $Y_{g,t} \sim I(0)$. Stationarity is tested using the Augmented Dickey–Fuller test, with 10 per cent significance level. Endogeneity is tested with two stage least squares (TSLS), using $Y_{g,t-1}$ as an instrument. The test shows no endogeneity at 10 per cent significance level.

[4] Newey–West Heteroscedasticity and Autocorrelation Corrected Standard Errors are applied. All estimated coefficients are statistically significant with 10 per cent significance level.

[5] Various Okun's law specifications were applied in the search for a stable relation. The estimated equations included alternative variables (e.g., gross national income instead of GDP, the ratio of employed and population, labour force or employment instead of unemployment); a dynamic version of Okun's Law is used, etc.

[6] Okun's coefficient is derived from equation (2), obtaining the following equation specification: $\Delta U = \frac{\alpha+(\beta_0+\beta_1)Y_g+\varepsilon}{1-\rho}$.

[7] This dynamic equation representation is chosen for Lithuania by combining the economic logic and the statistical significance of the estimates. The determination coefficient R^2_{adj} of the entire sample is 0.89.

[8] For autocorrelation, the equations are estimated using the Newey–West Heteroscedasticity and Autocorrelation Corrected Standard Errors. The estimated coefficients are statistically significant at 10 per cent significance level, except the coefficient $\hat{\beta}_1$ in the samples from the first quarter of 1999 to the fourth quarter of 2008, from the second quarter of 1999 to the first quarter of 2009, and from the first quarter of 1999 to the second quarter of 2009. These estimates have not been eliminated due to comparability reasons.

IV. EXTERNAL SECTOR

Export growth gained momentum—the export growth of goods of Lithuanian origin accelerated, and the development of re-export continued to be robust.[2] Export grew by 16.3 per cent in the third quarter of 2012 year on year. Re-export increased by a third, i.e. its growth pace was stronger than that of goods of Lithuanian origin and twice as strong as that of re-export in the previous quarters of that year. The main contributors were both an increase in vehicles that are re-sold to the CIS markets[3] and a faster pace of re-export in other groups of goods (especially equipment, mineral, chemical and food products). After falling in the second quarter due to a major repair of AB Orlen Lietuva oil refinery, in the third quarter the export of goods of Lithuanian origin recovered and picked up by one-tenth over the year. In line with the previous review, particularly abundant harvest increased Lithuania's export of agricultural products—in the third quarter, grain exports amounted to almost 700 million litas, an amount almost double compared to a year ago. The October–November data suggests that, in the fourth quarter, the export of agricultural products accelerated; thus it is likely that it contributed even more to the total development of export of Lithuanian origin goods. Nevertheless, further development of Lithuanian export will depend on external demand—the economic development in the euro area in particular.

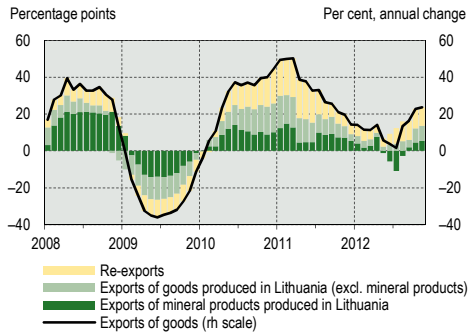
Growth of Lithuania's export to the CIS countries was twice as fast as that of export to the EU. In the third quarter, export to the CIS countries grew by 28.6 per cent and to the EU by 15.5 per cent year on year. When analysing the origin of exported goods, one can see that almost 60 per cent of re-export was directed to the CIS countries, and the bulk of Lithuanian industrial production (75%)—to the EU. Thus, the development of the CIS market is more important for Lithuanian re-sellers, whereas Lithuanian manufacturers are mainly dependent on the domestic demand developments within the EU. In spite of the recession in the euro area, Lithuanian exporters continue to enlarge market shares in all major export partners (including the EU); consequently, the country's producers remain competitive.

Lithuania's export development significantly affected certain components of its current account, leading to a small deficit of it (0.7% GDP). First of all, export growth outpaced import growth, thus foreign trade deficit remained very small. Successful export of industrial products was improving the operating performance of foreign capital enterprises in this sector, which was also suggested by these enterprises' increasing reinvestment. It is namely the massive reinvestment of foreign capital enterprises that led to a wider deficit in the income account, which was the main contributor to the total current account deficit in the third quarter (see Chart 11).

The current account deficit implies that the capital and financial accounts were in surplus. Major contributors to that were the capital account inflows (mainly—the EU structural funds) and foreign direct investment, which grew on account of the foreign capital enterprises' reinvestment mentioned above. Nevertheless, this inflow was to a great extent outweighed by a substantial increase in official reserve assets[4] over the quarter. In the third quarter they grew because of the reserves held by commercial banks on the accounts of the Bank of Lithuania and the funds accumulated by the government for the envisaged redemption of bonds.

Stronger export growth is driven both by goods of Lithuanian origin and re-exported goods.

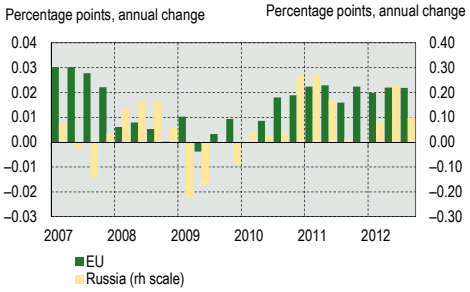
Chart 9. Contributions to export growth



Sources: Statistics Lithuania and Bank of Lithuania calculations.

Domestic market development in Lithuania's export partners has weakened. Lithuanian producers are increasing their sales through larger market share in main trading partners.

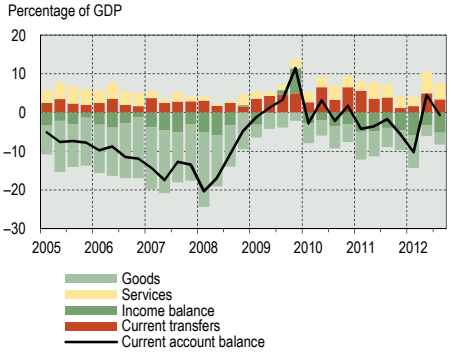
Chart 10. Change in Lithuanian export (excluding mineral products) market shares in the EU and Russia



Sources: Bloomberg, Eurostat, Russian Federal Customs Service, Statistics Lithuania and Bank of Lithuania calculations.
Note: during the first three quarters of 2012, Lithuanian export market share in Russia was 1.64 per cent, in the EU—0.23 per cent.

Reinvestment of foreign capital enterprises (in Chart 11—"Income balance") mainly determined the current account deficit; however, the account was close to balance.

Chart 11. Components of the current account balance



Sources: Statistics Lithuania, Bank of Lithuania and Bank of Lithuania calculations.

[2] This section reviews nominal data of foreign trade in goods.

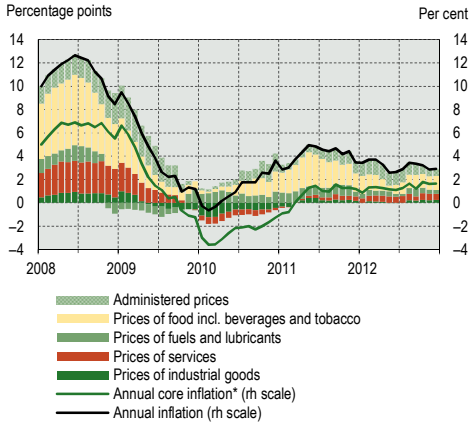
[3] As was mentioned in the previous review, the pace of development of vehicles re-export was driven fairly much by the last year's comparative base, which built up on account of a decline in re-sale to Belarus and Kazakhstan in July 2011. Resale contracted after introducing higher customs tariffs for used vehicles in these countries.

[4] The increase (decrease) in official reserve assets in the financial account of the balance of payments is shown as a negative (positive) flow.

V. PRICES AND COSTS

Annual inflation declined slightly towards the end of 2012.

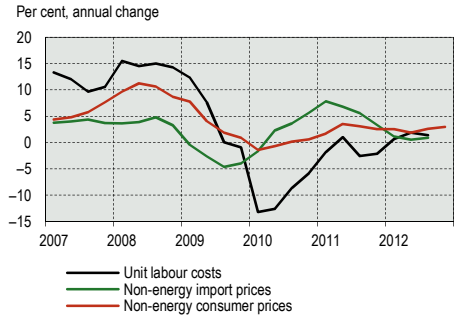
Chart 12. Contributions to annual inflation



Sources: Statistics Lithuania and Bank of Lithuania calculations.
** Change in HICP excl. food, fuels and lubricants, and administered prices.*

Unit labour costs and non-energy import prices rose slowly.

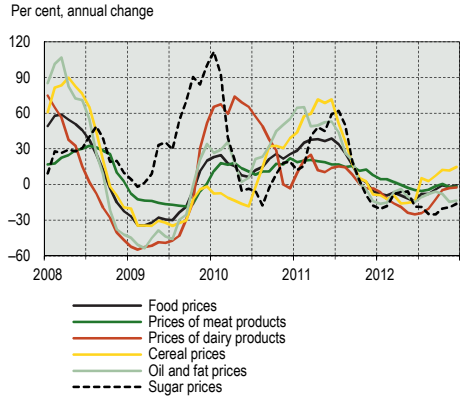
Chart 13. Unit labour costs, non-energy import prices and non-energy consumer prices



Sources: Statistics Lithuania and Bank of Lithuania calculations.
Note: data until the first quarter of 2011 are recalculated based on the 2011 Population and Housing Census data.

In the fourth quarter, the prices of a number of food commodities in global markets were still lower than a year ago.

Chart 14. Global food commodity prices



Sources: Food and Agriculture Organization of the United Nations and Bank of Lithuania calculations.

Average annual inflation was 3.2 per cent in 2012 (4.1% in 2011). As in 2011, the main part of inflation (about 80%) was related to external factors. In 2012 food and administered prices determined a third of inflation each, fuel prices contributed less. With the persisting quite complicated labour market situation, the prices of industrial goods and market services, which mostly depend on the internal situation, rose slowly and had a small influence on inflation, although these goods and services account for about half the consumer basket. As compared to 2011, inflation declined mainly on account of a two times lower (3.2%) rise in food, including beverages and tobacco, prices. This was due to a more favourable for consumers development of the global prices of food commodities: after picking up even about 23 per cent in 2011, they declined noticeably (about 7%) in 2012.

Annual inflation declined slightly at the end of 2012: it was 3.3 per cent in September and 2.9 per cent in December. Such a change was due to weaker annual growth of administered prices, mainly heat energy, and of fuel prices. It weakened more than expected, thus in the fourth quarter inflation was slightly below the forecast. Partly due to this, inflation projection for 2013 is revised downwards; however, a decision to extend the validity of reduced VAT rates had an even greater influence on revision. At the end of 2012, the reduced VAT rates on heat energy (9%) and reimbursable pharmaceuticals (5%) were extended for a year, until the end of 2013. Removal of the reduced rates, which was included in the 2013 inflation forecasts, now will have influence on inflation in 2014. The influence of heat energy will be quite significant, as heating expenses account for over 4 per cent of the consumer basket; after the removal of the reduced rate, the heating price would rise about 11 per cent.

In the beginning of 2013, several reduced VAT rates came into effect and some excise duties increased. In mid-2012 it was approved that as of January 2013 a reduced 9 per cent rate would be applicable to passenger transportation on the routes established by the Ministry of Transport, its authorized institution or municipalities, as well as to the newspapers, magazines, etc. Such reduced rates are not likely to have any significant influence on inflation, as the sellers may not pass the whole VAT reduction to consumers. However, later, if certain costs increased and a pressure on the prices of these goods and services occurred, they would probably increase less. The excise duty on cigarettes should, by early 2018, reach the value established by the EU. In order to avoid a leap in cigarette prices, the excise duty is being increased gradually (it increased from March 2012, will increase again as of March 2013). In addition, the transition period for increasing the excise duty on diesel to the EU's minimum level ended; therefore, as of January 2013 this excise duty rose. Among the factors increasing inflation, higher minimum monthly wage should also be mentioned, as an increase in enterprise costs may cause inflationary pressure.

The trends of different inflation indicators are still quite favourable to consumer prices. The annual growth of producer prices in the domestic market continued to decelerate (in December 2012 it was about 3%), thus the consumer price pressure arising from the production chain was weak. The annual change in unit labour costs was positive in the third quarter (as the growth of gross wages outpaced that of labour productivity), yet small (about 1%). Import prices rose much slower than at the beginning of the year: in November —about 4 per cent, in January—about 10 per cent.

Annual core inflation remained low at the end of 2012 (in the fourth quarter—1.7%). Industrial goods had a lower impact on core inflation than market services, and of the latter, the major contribution to inflation came from a rise in café and restaurant catering prices. Nevertheless, in the fourth quarter their annual growth was 3.2 per cent—lower than in the previous quarters, the first one in particular. These prices are with some lag related to food prices, annual growth of which decelerated noticeably already in the

second half of 2011. The rise in the prices for industrial goods was impeded by cheaper solid fuels. In the fourth quarter, they cost a fifth less than a year ago, which had a significant downward effect on annual inflation, although solid fuels account for just about 1 per cent of the consumer basket. It is projected that economic growth will not be rapid in 2013, therefore the pressure on consumer prices arising from domestic demand will be rather limited and core inflation is not likely to increase very significantly.

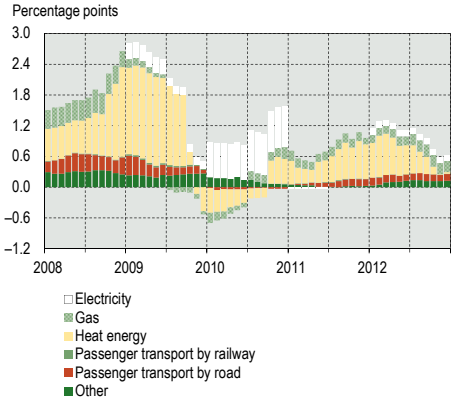
In the fourth quarter, food commodity prices in global markets were still lower than a year ago, and in Lithuania annual growth in the prices of food, including beverages and tobacco, (3.4%) was similar to that in the third quarter (3.2%). According to the data of Food and Agriculture Organization of the United Nations, annual decrease in food commodity prices in the world contracted: in September they were 4 per cent, and in December (according to flash estimates)—just 1 per cent lower than a year ago. The smaller annual decline was driven mainly not by current price trends but by the base effect—except for a few months, commodity prices were declining from April. In December, the prices were lower than a year ago across all groups of products, except for cereals. Prices for sugar and oils decreased the most (16% and 14% respectively), dairy products and meat were only 2 per cent cheaper than a year ago. In December, cereal prices increased 15 per cent over a year, which resulted from their strong increase in mid-2012 related to very aggravated harvest forecasts for certain grain growing regions. With a sharp rise in cereal prices, the prices of commodities for which cereal feed is necessary also rose for several months—meat and dairy products became more expensive.

Annual growth in administered prices decelerated from April 2012 up to the end of the year due to heat energy—a major component of this price group. A pick-up of more than a fifth in natural gas price in the mid-year subdued the deceleration trend only for a short while. In March, before the deceleration in the annual growth of heat price, it was about 22 per cent higher than a year ago, and at the end of the year—less than 1 per cent higher. Accordingly, the contribution of heat prices to annual inflation decreased substantially: in March it accounted for a fifth of inflation, in December it was zero. Previously heat energy price growth decelerated due to the base effect: price was continuously climbing up, but the calculations of the annual change no longer included its rapid growth during the corresponding period of the previous year. In the fourth quarter the situation changed—heat became cheaper. In October alone, it got cheaper by some 4 per cent, and in December, compared to September, by more than 5 per cent. According to the data of the National Control Commission for Prices and Energy, in January 2013 heat prices declined further, for a fourth consecutive month. Such trends are encouraged by the fall in the prices of fuel used to produce heat, especially cheaper natural gas, which is the major fuel for the production of heat in Lithuania. The price for imported natural gas declined continuously from August. In November, it was 8 per cent lower than in July. At the beginning of 2013, several administered prices changed: electricity price rises and natural gas price declines.

Annual growth rate of fuel prices decelerated substantially towards the end of the year: in September it was nearly 10 per cent, and in December—only half the figure. This is due to substantial cheapening of fuels in October–December: in December, fuel prices declined 6 per cent from September. Such trends of fuel prices are related to oil price declines in global markets and their little annual growth. In December, the annual change in oil prices denominated in litas was 1.7 per cent, and in US dollars—1.5 per cent. Thus, at the end of the year, these indicators almost equalled, while in the previous months of 2012 the annual growth rate of the prices denominated in US dollars was much slower than that in the prices denominated in litas (in August—even 16 p.p.), as the latter was supported by the appreciation of the US dollar against the litas.

Annual growth rate of administered prices decelerated, as price of heat energy grew less.

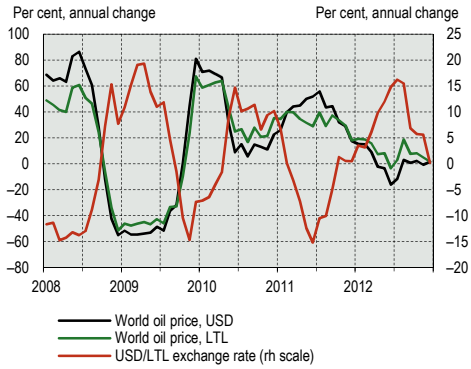
Chart 15. Contributions of administered prices to annual inflation



Sources: Statistics Lithuania and Bank of Lithuania calculations.

Annual growth rate of oil prices denominated in US dollars and in litas at the end of the year was small.

Chart 16. Developments of global oil price and the US dollar exchange rate

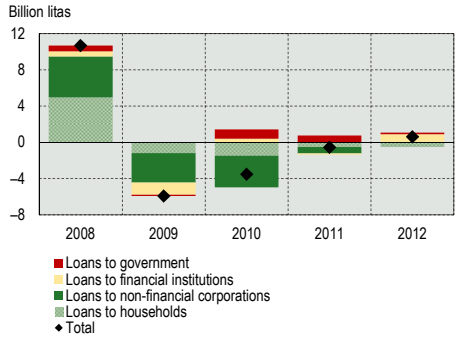


Sources: Bloomberg and Bank of Lithuania calculations.

VI. CREDIT AND DEPOSITS[5]

The banking sector's loan portfolio expanded in 2012.

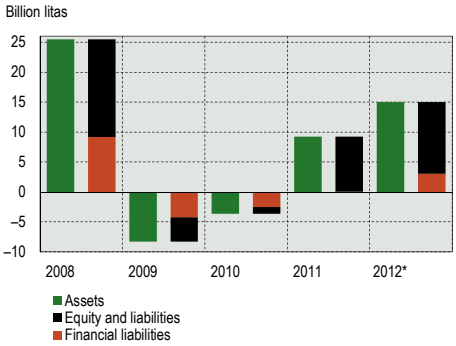
Chart 17. Contributions to annual changes in banking sector's loan portfolio



Source: Bank of Lithuania calculations.

With the strengthening of the financial position of corporations, the business share financed with borrowed funds has been slowly expanding.

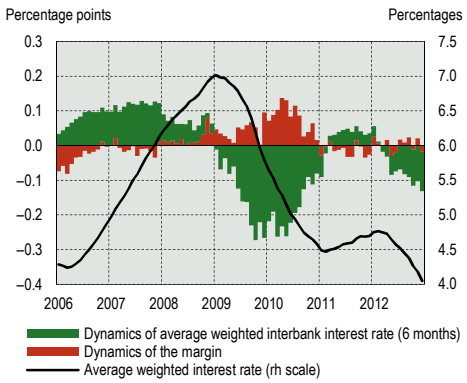
Chart 18. Developments of the financing sources of the business sector assets



Sources: Statistics Lithuania and Bank of Lithuania calculations.
** Q1-Q3.*

In December 2012, interest rates on new loans to the private sector reached historical lows in the entire period since the start of the data in October 2004.

Chart 19. Contributions to changes in weighted average interest rate on new loans to the private sector (twelve-month moving average)



Sources: www.euribor-ebf.eu and Bank of Lithuania calculations.

In 2012, the banking sector's loan portfolio showed more signs of recovery. After contracting somewhat in the first months of 2012, in March–December the banking sector's loan portfolio recovered and picked up by 1.1 billion litas. With the improving financial position of the private sector, borrowing from banks became more attractive. The interest rates on loans continued to be record low, and credit conditions became less tight.[6] And yet the growth of the banking sector's loan portfolio was partly suppressed by the uncertainty regarding future economic developments.

The financial position of the banking sector's major borrowers—non-financial corporations and households—kept strengthening. In the third quarter of 2012, enterprises recorded the highest sales revenue over the last fifteen years and the highest profits earned over the year since the start of the recession. With the increasing new orders for the industrial production (mainly in non-domestic market), non-financial corporations used their production capacity more intensively than a year ago and financed increasingly more investment with borrowed funds (financial leverage increased). In 2012, the banking sector lending to non-financial corporations became an important factor of the loan portfolio growth (together with lending to other financial intermediaries and local government). Over the year it increased by 0.1 billion litas, or 0.3 per cent. Robust development of non-financial corporations determined that enterprises of certain economic activities began lacking adequately skilled labour. This could lead to increased demand for skilled employees and gradually rising wages. In the third quarter of 2012, the number of registered unemployed was 5.2 per cent lower than a year ago, whereas average monthly gross wages increased 2.6 per cent. This notwithstanding, households assessed the future with caution and reduced (while less than before) their liabilities to the banking sector (in 2012, the banking sector's loan portfolio for households shrank by 0.5 billion litas).

The average weighted interest rates on new banking loans to the private sector remain record low. This is influenced by the accommodative monetary policy conducted in the euro area, increased liquidity mainly due to this policy and decreasing interbank interest rates (both in litas and euros, although the latter have been decreasing faster), because the majority of interest rates on newly issued loans is fixed for a period shorter than one year. Moreover, with the financial position of borrowers strengthening, banks assessed credit risk more favourably and slightly reduced their lending margins. In December, average weighted interest rates on new loans to the private sector were 3.2 per cent, 1.6 percentage points lower than a year ago.

After declining in early 2012, deposits in the banking sector started increasing. A strong rise in deposits, which could be influenced by worse future expectations, was almost unaffected by particularly low deposit interest rates. While bank lending activity remained subdued, the need to attract more funding sources was low, so the interest rate on deposits was at its lowest level in eight years. In December, the interest rates on the private sector's new deposits were 0.8 per cent, more than twice lower as compared to the beginning of the year. This notwithstanding, deposits in banks grew by 3.8 billion litas, or 9.0 per cent, over 2012. The most significant contribution came from the private sector.

[5] In this part, the data used is monetary financial institutions data from the Statistics Department of the Bank of Lithuania.

[6] Bank lending survey, October 2012.

VII. GENERAL GOVERNMENT FINANCE

In the third quarter of 2012, the four-quarter general government deficit-to-GDP ratio shrank by one fourth on an annual basis and was 4.2 per cent. In the institutional sectors' view, the major contribution came from a substantial hike in the state budget surplus. A one-fifth annual rise in the social security funds deficit remained the main reason behind general government deficit. In economic view, the deficit was reduced mainly by the decreasing (for a third consecutive year) general government expenditure-to-GDP ratio. It has been decreasing due to the on-going expenditure limiting fiscal policies and fast growth in economic activity.

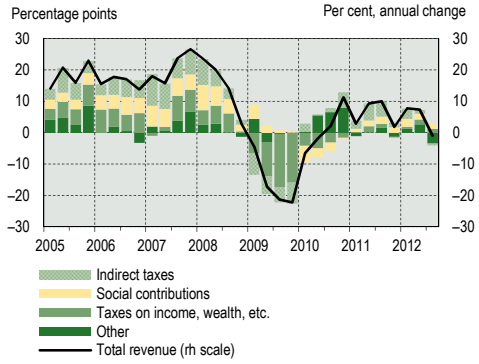
General government revenue declined mainly not because of economic factors. In the third quarter of 2012, it was 0.9 per cent lower than a year ago. Non-tax revenue declined mainly on account of lower transfers from the EU, and indirect-tax revenue—due to higher VAT refunding. The influence of the factors that reduced general government revenue was partly offset by a rise in social contributions and direct taxes over the year due to bigger wage fund. While higher than a year ago domestic consumption in the third quarter provided preconditions for indirect-tax revenue to increase, it did decline over the year, mainly on account of higher VAT refunding and the smaller amount of the excise duties on tobacco and energy products collected. National budget and social security funds data for October—December enables to expect that in the fourth-quarter the annual increase of general government revenue will be faster, mainly on account of higher direct-tax revenue.

General government expenditure declined in the third quarter most markedly throughout 2012 (2.7%) due to lower public investment and intermediate consumption. Public investment decreased mainly on account of the fact that less EU and co-financing funds were allocated for investment. Lower EU support, a decline in the expenditure for the repair of tangible fixed assets and purchase of services also reduced intermediate consumption expenditure in the third quarter. Social payments, increased due to the restitution of old-age pensions to the pre-crisis level and higher unemployment benefits, prevented faster decline in general government expenditure. Compared to a year aro, more was spent on compensation of employees and interest payments. Central government data for October–December suggests that in the fourth quarter the annual decline of government spending will be even bigger due to lower than a year ago interest expenses.

General government debt increased by nearly 1 billion litas in the third quarter; however, due to strong growth in economic activity, the increase in the ratio between debt and the four-quarter GDP (to 40.6%) was more subdued. The debt increased most because of issued long-term government securities. A somewhat lower increase was observed in the loan portfolio and funds received after placement of saving notes. During the quarter, the most pronounced increase was recorded in central government debt—due to new placements of government securities in the Swiss and German financial markets in September–October. The debt of social security funds hiked quite substantially as well—due to the loan by the Government. Only the favourable "snowball" effect—the negative difference between the implied interest rate, payable for the whole of the debt, and the increase in economic activity—prevented bigger increase in the general government debt-to-GDP ratio. Judging from the October–December data, in the fourth quarter general government debt is likely to increase by about 0.9 billion litas (0.8% of GDP) as a result of active borrowing in the domestic and foreign markets.

General government revenue declined mainly not because of economic factors. Non-tax revenue declined mainly on account of lower transfers from the EU, and indirect tax revenue—because of higher VAT refunding.

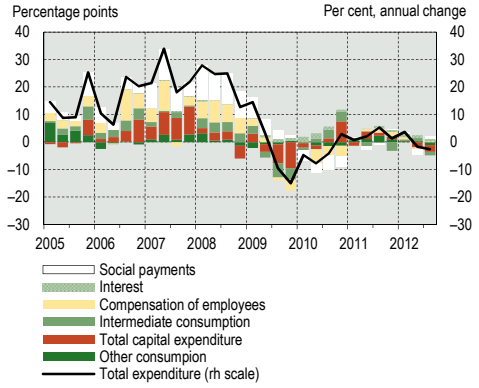
Chart 20. Contributions to general government revenue growth



Sources: Statistics Lithuania and Bank of Lithuania calculations.

Due to the still restrictive fiscal policy being conducted, in the third quarter general government expenditure declined the most throughout 2012.

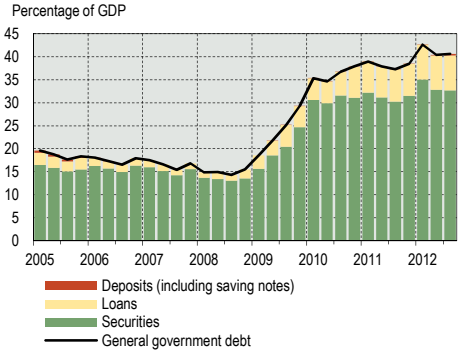
Chart 21. Contributions to general government expenditure growth



Sources: Statistics Lithuania and Bank of Lithuania calculations.

Due to the "snowball" effect, strong growth in economic activity hindered the increase of the debt-to-GDP ratio.

Chart 22. General government debt



Sources: Ministry of Finance and Bank of Lithuania calculations.