

Analysis of Lithuanian Construction Market

1. Activity indexes of Lithuanian construction sector.

Construction sector is one of the most important in European Union. It creates about 10% of GDP and makes a positive effect on the growth of employment in other related economic activities.

Construction is closely related to transport and industry sectors, especially to engineering and production of building materials.

In recent years the sector experienced not a single change caused by advanced technologies and in future a further development is forecasted. Larger possibilities are possessed by construction enterprises able to operate in the whole of Europe and outside it and to use advanced technologies. Since 2002, construction of residential and non-residential buildings has been rapidly increasing.



Construction sector of Lithuania has approximately 5 thousand of enterprises of which 39% are specialized in constructing buildings and their parts. Small enterprises (the personnel is less than 49) are prevailing in this sector. The largest concentration of construction enterprises is in Vilnius and Kaunas counties. This situation was mainly caused by unequal distribution of investments within the territory of Lithuania.

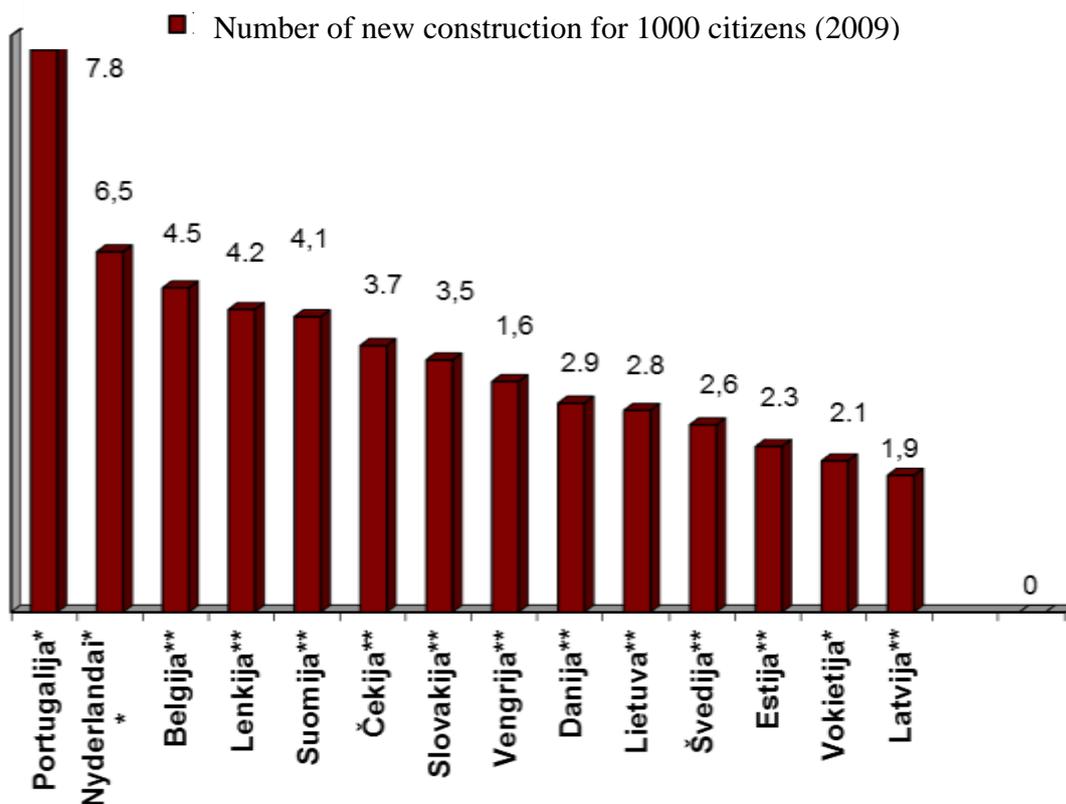
According to provisional data of Statistics Lithuania, in III quarter 2010 construction enterprises carried out own-account work for LTL 1.8 billion, which is by 8.7 per cent more than in III quarter 2009. The value of construction work carried out in the territory of Lithuania equalled to LTL 1.7 billion, which is by 6.7 per cent more than in the last year. The increase in construction works was determined by civil engineering works, the value whereof amounted to LTL 1 billion. The works carried out outside the country amounted to LTL 77 million, which is by 85 per cent

more than in 2009. Rate of change in construction output between pre-crisis peak and 2010 in Lithuania seek almost -50. Rate of change between 2000 and 2010 - +50. The pre-crisis peak varies according to the geographic entity under consideration; estimates; working day adjusted series. No discernable peak observed prior to or during the financial and economic crisis; the index of production continued to expand.

Table 1. Annual growth, index of production for total construction in Lithuania 2006-2010.

Year	% growth – comparison with the previous year
2006	21.7
2007	22.2
2008	4
2009	-48.5
2010	-7.7

In III quarter 2010, against II quarter 2010, construction works carried out within the territory of the country increased by 36 per cent (seasonally adjusted – by 15 per cent). The building construction works carried out grew by 20 per cent, civil engineering works – 49 per cent (seasonally adjusted – by 5 and 25 per cent, respectively).



Over nine months, construction enterprises carried out construction works for LTL 3.8 billion, which is by 13 per cent less than over a respective period in 2009.

Table 1. Changes construction works carried out

At constant prices, growth, drop (-), per cent

III quarter 2010			January–September 2010, against January–September 2009	
against III quarter 2009	against II quarter 2010	against 2005 quarterly average		
Total	8.7	35.2	x	-12.6
Within the country	6.7	35.9	-3.4	-14.9
Building construction	-5.7	20.2	-36.0	-23.8
Civil engineering structures	17.0	49.1	47.5	-5.6
Outside the country	85.0	21.0	x	85.5

In the year 2011 construction sector had approximately 85 thousand of workers. The majority of workers were men (about 93.5 %). According to the groups of working places the most abundant is the group of skilled workers. Till the crisis of 2009-2011, construction sector was one of the most developing industry branches in Lithuania. This was mainly caused by the growth of national industry, good credit terms, possibilities given by EU Structural Funds, a larger demand for residential, commercial and industrial buildings, increasing selection of new building materials and technologies. Development of construction sector promotes the growth of the production of building materials as well as the demand for sales, transportation and storage services. Materials, produced in Lithuania, are popular enough in the markets of EU countries, such as Sweden, Norway, Germany, etc.

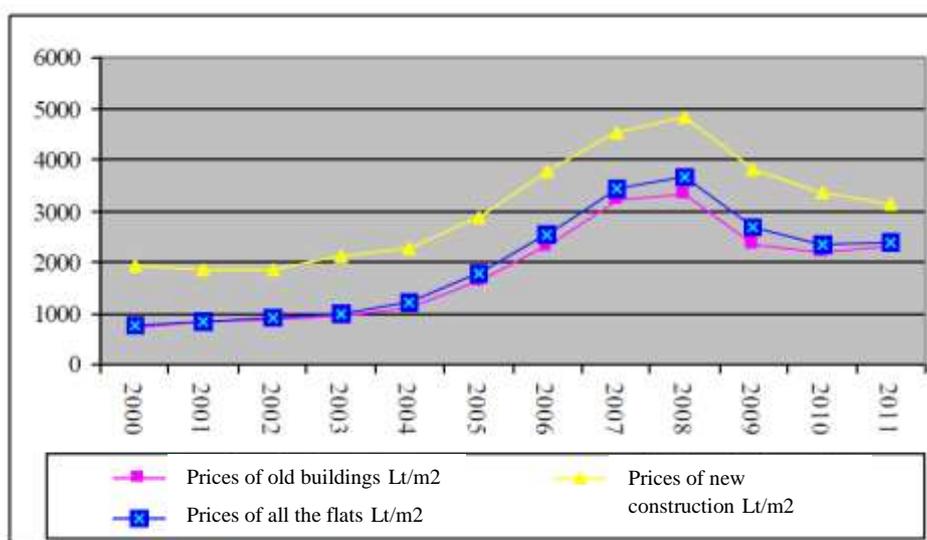
Table 2. Few of the main economic indicators.

Indicators		Year											
		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Investment to housing	mln. Lt.	478	614	719	711	1272	1394	1843	2495	3333	2621	1544,2	1618,1
Build residential houses	units	4363	3785	4562	4628	6804	5933	7292	9286	11829	9400	3667	5066
Common usable area	for 1000 m ²	499	376	452	483	699	651	771	953,2	1164	1075	513,9	699,4
Average number of employees (without individual)	for 1000 people	57,7	7,9	69,3	75,8	79,7	86,4	94,2	108,5	110,5	82,8	58,1	64,8**

2. Development tendencies of the construction sector in Lithuania.

Since 2000 Lithuanian real estate has 5 main stages. Following stages had been the most influential for nation economy. First stage at 1992-2002 related to active commercial market of real estate. Second stage was a spanking and systematic increase of real estate demand from 2002 to 2005. At 2005 real estate in Lithuania reached the top of the dwelling-place demand and ultimate boom of purchase. 2007-2008 was the stage of stabilization. In the last 5th stage from 2008 to 2010 prices of Lithuanian real estate fell down.

Nowadays is visible the 6th stage of Lithuanian real estate as the second stabilization of real estate prices. For properly evaluation of Lithuanian real estate market were made analysis of marketable flat trends in 2000-2011. Analysis of flat prices were separated into 3 sections: old buildings, new construction and all the flats.



Perspectives for the development of construction sector are valued rather positively. They are related to the demand for the construction of non-residential buildings (offices, logistic and commercial premises). On the other hand, the certain last-year data shows that the development of this activity started to slow down. At present, based on the turnover indicators, a new construction is dominating, however, due to the prevailing morally old and energetically non-effective residential fund, in future the amount of reconstruction works can significantly increase in Lithuania. Based on EUROSTAT data, working conditions in the construction sector of EU are more attractive than in Lithuania.

In III quarter 2010, **1757 building permits for the construction of 1832 residential buildings** (of which, 37 permits for the construction of blocks of flats) were issued, i.e. by 13 per cent (by 204 building permits) more than in III quarter 2009 and by 2 per cent more than in II quarter 2010. 98 per cent of all construction permits were issued for the construction of 1–2 dwelling buildings. This type of construction should therefore continue to be a predominant one.

Over nine months, against the same period in 2009, the number of permits issued increased almost by 2 per cent (79 permits), the number of dwellings – by 6 per cent (347 dwellings).

According to provisional data, in III quarter 2010 **899 new residential buildings were recognised as suitable for use**, with 1065 dwellings equipped in them, which is by 45 per cent (882 dwellings) less than in III quarter 2009, yet by 49 percentage points more than in II quarter 2010. The useful floor area of such buildings amounted to 144 thous. m², i.e. by 29 per cent less than in the respective period in 2009. The average floor area per dwelling amounted to 135 m². In III quarter 2010, three dwelling buildings (blocks of flats) were recognised as suitable for use (in III quarter 2009 – 20).

Lithuanian planning permissions for residential buildings in 2006 – 2011

	2006	2007	2008	2009	2010	2011	Comparison +,- %
Residential buildings	7486	8800	8189	5994	5876	4824	-18
Buildings with 1-2 room flats	7370	8574	8053	5938	5764	4734	-17,87
Buildings with 3 or more room flats	115	226	134	56	106	86	-18,87
Hostels	1	0	2	2	6	4	-33,3



In III quarter 2010, **1088 non-residential buildings were recognised as suitable for use**, with the total floor area of 245 thous. m², which is by 204 thous. m² less than in III quarter 2009. In terms of total floor area, the greatest share of buildings recognised as suitable for use fell within industrial buildings and warehouses (62 thous. m²), buildings for other purposes (59 thous. m²), of which 62 per cent (37 thous. m²) were garden cottages.

In III quarter 2010, **448 building permits for the construction of 504 non-residential buildings were issued**, with the total floor area of 442 thous. m², which is by 29 per cent more than in III quarter 2009. In terms of total floor area, the highest number of permits was issued for buildings for health and social purposes (22 per cent) and administrative buildings (19 per cent).

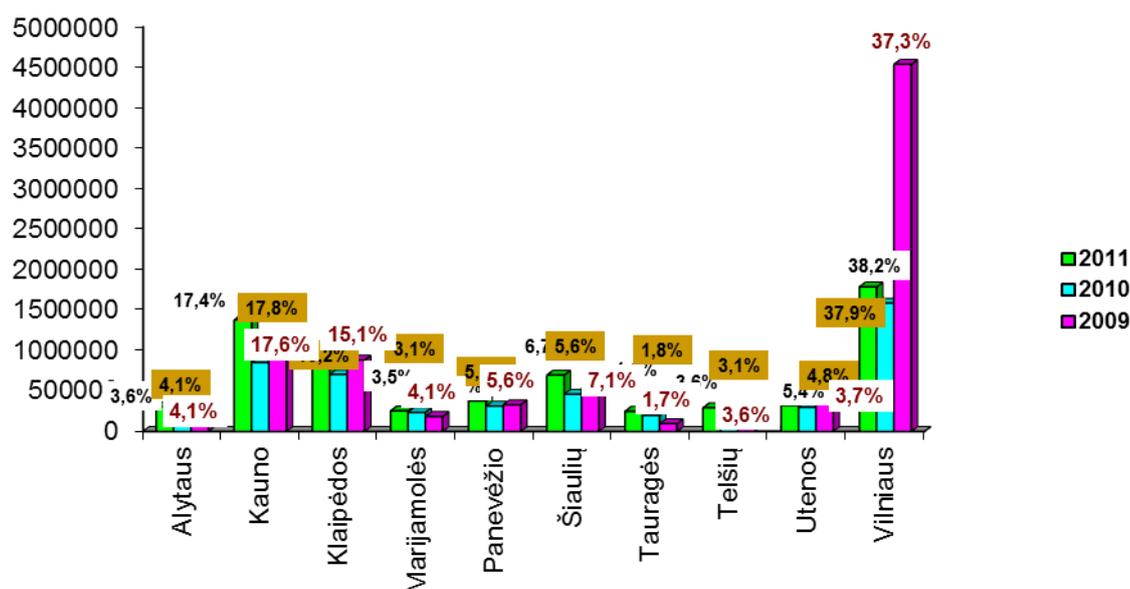
Flats built in 2006 – 2011

	2006	2007	2008	2009	2010	2011	Comparison +,- %
Residential buildings	7292	9286	11 829	9400	3667	5066	+38,15
Buildings with 1-2 room flats	2780	3286	4023	4002	3003	3815	+27,04
Buildings with 3 or more room flats	4512	6000	7806	5398	664	1251	+88,4
Hostels	-	-	-	-	3	3	-



In Lithuania there were noticeable downturns. In the construction cost indices fell by between 9 % and 16 % in the period between the third quarter of 2008 and the second quarter of 2009. The labour cost index of new residential buildings declined by between 10 % and 27 % over the same period and the construction activity falls by 16 % from its pre-crisis high by the second quarter of 2011.

Construction work carried out by country, LTL thou.



3. Factors influencing the volume of the construction sector.

The main factors influencing the volume of the construction sector are: Financial constraints, human resources and skills, knowledge creation and diffusion, cooperation between firms, networks, demand factors, competition, innovation culture, regulation and taxation. The importance of these factors to innovation is well supported by empirical evidence in broad body of literature. It is well known that they affect different sectors in different manners.

To be efficient the construction sector must operate within certain boundaries imposed by the micro and macro level factors. It is necessary to utilize knowledge and experience concerning the practices, so as to increase the efficiency of environment in the country under consideration. This may be achieved by analyzing the experience and knowledge of the advanced industrial economies and applying them to Lithuania.

The process of determining the system of criteria, qualitative criteria initial significances and numerical values of the micro and macro level factors under investigation is based on the use of various literature sources, research investigations, expert methods, www, etc. The magnitude of significance indicates how many times one criterion is more/less significant than the other in a multiple criteria evaluation of micro and macro level factors.

In order to give a full assessment of the influence of the micro and macro level factors (legislation, taxes (tax bracket, tax deduction, tax deferred, etc.), liquid secondary market, market transparency, professional bodies, lending institutions, real estate finance, mortgage, the techniques of selling property (sale-leaseback, lease with option to buy, etc.), insurance, information technology, education, valuer's liability, valuer's fee levels, contracts, investment instruments, housing subsidy system, credit access (use of low interest loans, waivers of closing costs, government and private mortgage insurance, reduced down payments, sweat equity, flexible debt-to-income ratios, lease-purchase arrangements, deferred second mortgage), etc.) in influencing the total efficiency of construction sector, it is necessary to analyse them in more detail in conceptual and quantitative forms.

The economic, legislative, political, social, technical and cultural situation is not the same in various countries. There is also a diversity of traditions. Market economy has been developed to various extent as well. This means that often the efforts to introduce housing investment instruments which proved to be efficient in some countries into the economy of some other state do not succeed. In other words, the same housing investment instruments when applied to various economies yield various results as far as efficiency is concerned. It is known that researchers and practitioners use diverse criteria when analysing the efficiency of housing investment instruments. Basing oneself on their expertise the efficiency of housing investment instruments may be approached with account of the following issues:

- compatibility of an investment instrument with a market system available (the perspective of its development or expansion);
- the availability of parties interested in using an instrument and capable of doing it;
- compatibility of an investment instrument with a legislative system of the state;
- interest rate,
- period of maturity,
- down payments,
- subsidies,
- sweat equity,
- loan-to-value ratios,
- using,
- administration,
- marketability,
- loan repayment and payment of interest,
- risk and guarantee,
- source of the financial means,
- waivers of closing costs,
- delinquency on loan, etc.

Efficiency of housing investment instruments also depends from interested parties such as homeowners, State government, local government, financial institutions, landlords, builders and developers, speculators, real estate agents.

The main factors which will have an effect on the development of this sector in future, are as follows:

- increase in environmental requirements; necessity for energy saving;
- growing selection of new building materials and technologies;

- market internationalization;
- decrease in the supply of workers (in respect of number and skills).

4. Changes in Lithuanian construction sector.

Construction sector is a rather inert branch of industry, therefore many professions are classical (e. g. a bricklayer or finisher) and almost unchanging in the course of time. However, the developing supply of new building materials and technologies, the growing level of automation of activities, the increasing globalization determine the need for new skills.

The number of skilled workers in construction sector is almost 4 times larger than that of specialists and technicians.

Based on investigation data, both the primary professional training as well as the higher education prepares only 50% of workers required for construction sector. In all probability, due to the slowing development of the sector and further improvement of working conditions and productivity, the gap between the demand and supply of workers in the construction branch should decrease in the next 5 years.

The sector could be characterized by a large number of small (9 and less workers) enterprises. Fragmentation of the sector is growing, separate organizations are responsible for different construction stages (design, works on site, maintenance).

5. Usage of new building materials and technologies in construction sector.

Until 1991 the Lithuanian industry of building materials was integrated into the former Soviet Union. After restitution of Independence of Lithuania, the industry of building materials suffered a great stagnation. By data of the Department of Statistics, in the period from 1991 to 2000 the total production of the industry of building materials decreased more than fivefold, with the particular fall in production of wall materials, lime and reinforced concrete. However, the peak of decline in volume of production took place in 1994-1995. After this period the production of thermo-insulating materials and facing ceramics started recovering and reached or even exceeded the previous level. This was predetermined by timely privatization of enterprises, foreign investments into updating of production, modernization of some enterprises. The production of glass, cement and some other materials stabilized or even slightly increased.

Production of following building materials was modernized (via joint ventures with foreign companies or acquisition of modern production lines): window glass, rock wool, face ceramic tiles, asbestos-free roofings and sheets for wall finishing, soft roofings, lime, certain products of reinforced concrete and ready-mixed concrete.

The Lithuanian producers of concrete and reinforced concrete have long-lived traditions and experience. In 1954 the direction was taken for development of prefabricated products of concrete and reinforced concrete and specialized factories started establishing and developing.

In the years from 1960 to 1965, in each biggest town of Lithuania there functioned several factories of concrete and reinforced concrete products and so-called house building centers.

Another new stage of development in production of concrete and reinforced concrete products commenced since 1995-1997 and got intensive around 2000. New technical requirements for concrete and reinforced concrete products, open market and foreign capital enterprises or their branches established in Lithuania are accountable for this process. The production of reinforced

concrete sleepers for railway was implemented.

In recent years construction was influenced not by one technological innovation. Technologies also change the building practice and create new skills. Obviously, construction is an important sector of European industry which creates new working places not only in construction but also in other related sectors and plays an important role in creating European physical infrastructure.

Lithuania, as most states of the world, has chosen the way of harmonious development. It is a complicated challenge requiring efforts of professionals in various fields, especially of scientists and experts of construction engineering in order to carry out projects according to the conception of harmonious construction development. The material and energy resources should be saved in every possible way, e.g. efficient exploitation of deposits of natural raw materials, investigations aimed at potential utilization of secondary raw materials, application of zero waste technologies.

This vision is prepared pursuant the European Construction Technology Platform (ECTP) Vision until 2013, basing on ever increasing social needs, requirements of harmonious construction and Lisbon Strategy Directives.

Presently in Lithuania building materials with added nano-particles undergo investigations. Some production with use of nano-additives of SiO₂ is already going on. The researches are also conducted into synthesis of calcium hydrosilicate, aluminosilicate and other materials. Studies are initiated with the objective to develop multifunctional building materials containing special inclusions (carbon fibres, nano-carbon tubes). The first results of such researches in the field of aerated concretes and building mortars were promising and showed that it is expedient to continue researches and to implement the production of multifunctional materials.

The production of wall materials (silicate largedimension blocks), ceramic products (effective blocks, facing products), aerated concrete blocks will be developed by enhancing their properties and perfecting production techniques in the light of performed researches, as well as pursuing new studies in the field. There will be developed and further improved zero waste technologies of silicate and ceramic products. The targets for 2030 defined in ECTP will be realized by stages. The first stage includes reduction of raw material consumption, usage of bio-fuel for reduction of CO₂emissions, utilization of waste from other industries (in particular in ceramic products), cutback of energy consumption via modernization of production, enhancement of quality of products. The second stage envisages full modernization and robotization of production. Basing on integrated researches, to gain a substantial breakthrough in quality of products, i.e. by application of nano-particles as additives in multifunctional materials and synthesis, to reach full utilization of waste and cut of materials lifecycle cost (assessment of ecological budget considering energy and pollutant emissions from quarrying of raw materials through transportation, production of building materials, use in constructions, maintenance in buildings, dismantling up to waste utilization or burial).

The study carried out allow to state following conclusions:

- at present production of main materials produced both in silicate and ceramic factories demand much raw materials and energy consumptions, the thermal resistance of products does not conform to the level achieved in Europe;
- the key thermo-insulating materials in Lithuania are the following: rock wool, glass wool, foam polystyrene, ecological wool, aerated concrete, composite materials, the production techniques and properties of the latter should be improved;
- main strategic research is focused on important problems following the priorities in European Construction Technology Platform and Framework VII programmes, Nanostructural

and Multifunctional Materials, Production Techniques (Synthesis) energetical and Ecological Budgeting for Building Materials, improvement of Properties of Building Materials etc.

6. Perspectives of the construction sector in Lithuania.

Economic trends in 2012 will depend on the international environment and especially on how the debt problems of Eurozone states are solved. Current and future fiscal consolidation in some EU countries may negatively influence foreign demand for Lithuanian production. However, a relatively well diversified export structure will help to avoid recession since the outlook for major Lithuanian export markets is quite positive in the context of many Eurozone countries.

During the economic crisis, developers, banks and investors suspended implementation of new office projects such as Baltic Hearts and Trapecija, which are now being reviewed and are starting to develop. In 2012 class B1 projects located in the area close to the centre of Vilnius will dominate in supply, accounting for 70 per cent of total new supply. The Eurozone debt crisis will influence activity of companies what in turn will accordingly affect vacancy rate and rent rate levels of office premises. The vacancy rate of class B1 is expected to increase significantly and the rent rates to remain stable.

Development of large new shopping centres is postponed until 2014 - 2015, but projects up to 5,000 sqm are expected from the main retail chains players. Investment in existing shopping centres is also expected to continue. It is forecasted that rent rates and vacancy will remain stable in 2012. Although continuous growth of the economy and retail trade turnover is expected, economic issues in Europe are causing uncertainty about the future. The economic outlook in the Eurozone, wage changes and the impact of emigration will affect consumption habits and development of the retail sector in the near future.

In 2012 the vacancy rate will decline gradually as the market is provided with new projects mainly constructed on a built-to-suit basis. Taking into account that the economic situation is expected to deteriorate, rent rates may increase only slightly. Although the warehouse sector is gaining a tendency of expansion, faster growth is not expected, since international economic events and associated risks affect accordingly.

Supply growth of new hotels in 2012 - 2013 will remain primarily focused on the tourist class segment, since attempts to use EU support funds for development of tourist class segment projects will be made (in 2010 throughout Lithuania more than EUR 39 million was assigned to build and reconstruct 34 tourism objects). The impact of the Eurozone crisis for Lithuania is expected to be gentle enough, so that the dynamics of incoming tourist flows to Lithuania in 2012 - 2013 will remain positive.

Real estate market stagnation will continue into late 2013, whereas house prices will not change in the near future. This opinion is shared by the majority of the commercial banks.