

# Construction management - challenges, influencing factors and importance of investment climate

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**Abstract.** The construction companies as well as other companies operating in the real estate market are facing a number of challenges - both in internal and external environments. At the same time, the industry presents several options. The objective of the study is to identify the construction sector management problems by exploring the real estate market and construction industry in Latvia, while comparing the situation in the Baltic States. The study approaches also the macroeconomic problems and a number of related issues that may be useful to the management of the companies in the construction industry and the real estate market. The comparative, statistical, data processing and analysis, as well as historical methods have been used in the study. Real estate market is cyclical – the development of real estate market affects the real estate price fluctuations, construction cost price fluctuations and changes in the economic situation in general, thus creating a number of challenges to market development and investment decision-making, so it is necessary to pay close attention to the construction industry and real estate market research.

**Keywords—** construction management; FDI; investment climate; development; real estate market

## I. INTRODUCTION

The relevance of the study and its significance is being determined by the fact that under rapidly changing conditions of economic development the financial indicators of construction companies are not stable, especially it concerns housing construction, and industry faces number of challenges. It is influenced by several internal and external factors, so it is important for entrepreneurs to be able to analyze the real estate market and overall macroeconomic trends in the country. The study approaches also the macroeconomic problems and a number of related issues that may be useful to the management of the companies in the construction industry and the real estate market. *The objective of the study* is to identify the construction sector management problems by exploring the real estate market and construction industry in Latvia, while comparing the situation in the Baltic States. As a result of macroeconomic policy and investment climate in country, each country attract different volumes of foreign direct investments, so competent improving investment climate can be a solution for construction branch and real estate market development. The analysis of the scientific-research articles and scientific literature has been conducted in order to achieve the objective, as well as the theoretical and practical

aspects of the potential problems and risks of the companies operating in the construction industry have been explored, the construction and real estate market development trends and particular aspects, mortgage role in real estate transactions, the investment environment, the role of government in its formation and economic fluctuation influence have been analysed and reflect research novelty. The comparative, statistical historical, as well as data processing and analysis methods have been used in the study. The research is a part of research group of construction problems and real estate market economic problems and is focused on Latvia in context of Baltic States development.

For the sustainable development of the construction industry the state should plan not only the regulation of the construction industry, but also the real estate market regulation, as the construction industry and real estate market are closely related. Real estate booms and busts can have far-reaching consequences [1]. Also nowadays growing globalization of national real estate markets can be observed [2]. The cash flows in the real estate market are very significant also for construction industry. As financial sector has great importance in market economies, distress in the financial sector can negatively affect output, growth, asset prices, consumption and welfare [3].

Kate Barker in “Barker review of land use planning” [4] in March 2004 had the following objectives for real estate market:

- To achieve improvements in housing affordability in the market sector;
- A more stable housing market;
- Location of housing supply which supports patterns of economic development; and
- An adequate supply of publicly funded housing for those who need it.

Cyclical development of the economy demands from participants of the market the fast adaptation to changes of an economic situation in the country [5]. Construction industry faces a number of risks as it is influenced by a number of external factors, as well as before purchase of the object, planning of the activity and implementation of the project it is important to take into account a number of real estate market cyclical features. For example, commercial property market possible to divide to three submarkets [6]:

- Demand for commercial and industrial property is a derived demand (firms need property as a factor of production) – changes in aggregate demand affect a demand for property by firms as they decide to expand or contract their activities.

- In occupier markets, cyclical demand factors, including consumer spending, financial and business services and manufacturing activity, influence rental values.

- In investment markets, property in asset amongst competing assets, and the proportion of a portfolio held in property will be influenced by:

- values and potential of rival assets, for example, bonds;
- inflation;
- the rate of interest;
- the need for portfolio „balance”.

When the decision is being taken on investing in the particular real estates in the certain countries, investors are usually examining not only the real estate market trends of

the certain country, but often also the situation in the real estate market in other countries, such as neighbouring countries, in order to understand in detail the potential risks.

It is important to explore the factors influencing both the price and the average profit indicators of the industry, as well as a number of other factors, in order to have the opportunity to take preventive measures to reduce the threats and achieve more effective management.

## II. CONSTRUCTION MANAGEMENT AND INFLUENCING FACTORS –THEORETICAL ASPECTS OVERVIEW

A number of risks exist at the stage of taking any investment decision and construction process – both at the determination of the economic viability of the project, and at the determination of the best conditions of the project realization and its practical implementation.

There are certain objectives and required actions at each of the stages. Operations on development of the real estate project by the real estate developer are shown in Fig. 1.

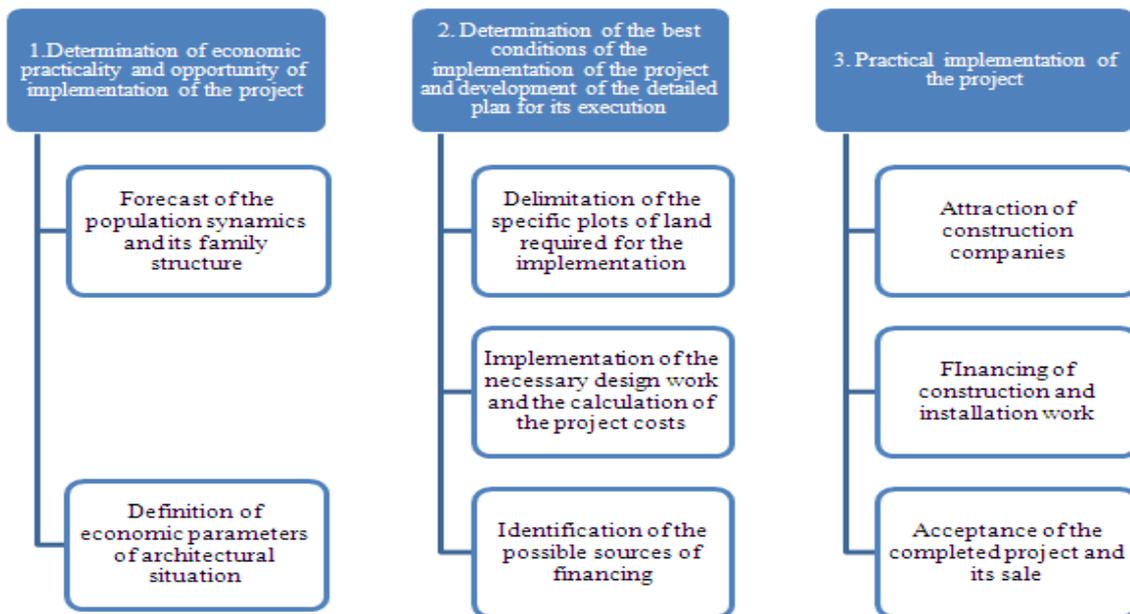


Fig. 1. Operations on development of the real estate project by the real estate developer [7]

In construction branch also exists development phase risks, as well as operating phase risks, that are observed at Table 1.

TABLE I. DEVELOPMENT PHASE AND OPERATING PHASE RISKS [8]

Development Phase	Operating Phase
Acquisition risks	
Entitlement risks	
Site risks	

Financial risks	
Construction risks	
Market full lease-up risks	Ongoing lease-up risks
Operating risks	Ongoing operating risks

Changes in the volume of investments are affected by several factors. Investment functions are typically including the following key factors [9]:

- P - business profit;
- K - amount of the share capital;
- DK - capital gains;

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es;

r - interest rates;

Y - GDP;

$\Delta Y$  - GDP growth;

I – investments;

I (t- $\tau$ ) - investment values in the previous periods (where  $\tau$  – delay)

Thus, investment is a function (1) of the mentioned factors that has impact on investment volume.

$$I = f(P, K, \Delta K, p, r, Y, \Delta Y, I_{t-\tau}) \quad (1)$$

External environmental impact on prices is very important for business planning. Impact of external factors on prices is affected both by economic and demographic and other factors, that is observed in Fig.2.

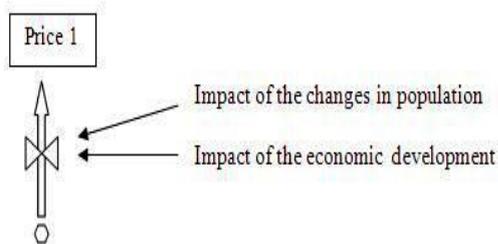


Fig.2. Impact of external factors on prices [10]

At the same time real estate and credit markets are likely to be influenced by rational expectations as well as by each of the three kinds of irrational expectations: mood-swings, momentum forecasts, and disaster myopia [11]. The companies operating in the construction industry should analyze the current and future demand for a certain segment of the real estate and its influencing factors. The total construction demand is the sum of the following indicators [12]:

- Commercial construction demand;
- State funds provided for the national construction;
- Acquisition of housing funds;
- Total services for housing maintenance and repair;
- Total material values for housing cosmetic repairs.

The financial indicators of the construction industry merchants depend on the total construction demand on the certain territory. In Fig. 3 drivers of financial markets are observed.

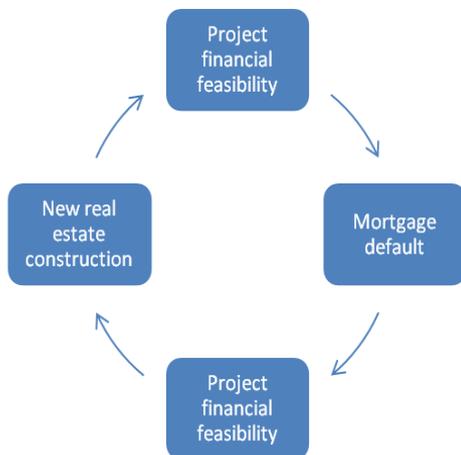


Fig.3. Drivers in Financial Markets [13]

The construction industry and the real estate market are also closely related to the mortgage lending system in the country and its availability level. For raising money for the project, such sources are possible [13]:

- Banks and savings and loans;
- Pension funds and endowments;
- Life insurance companies;
- Financial subsidiaries of manufacturing companies;
- REITs;
- Foreign investors;
- Funds (opportunity funds, hedge funds, and so forth).

The construction industry and real estate transactions have another very important factor - labour or human capital. The effectiveness of human capital in a given country is characterized by a number of factors [14]:

- Level of public education and socialization;
- Standard of living, income, life-style;
- Employment;
- Quality of health care;
- Professional retraining opportunities;
- Human resource mobility and attitude to changes;
- Relationship between educational level and wages.

On the important problems of construction sector and its investors is the length of construction process. The survey of Daniel Jato-Espino et al. [15] shows, that the environmental and social aspects are increasingly important and their adequate synergy with economic considerations is a cornerstone to succeed in any constructive work or procedure, and decision makers tend to use the most widely applied methods, which generally also results in time savings. Terms of project delivery, for example, are very relevant in construction industry of China – even large construction firms are helpless but to accept this, because they are afraid of jeopardizing their relationships with their clients [16]. Construction management problems are an important and actual research topic. But at the same time it is possible to meet a problem, that there may a gap between the direction taken by researchers (and the type of knowledge that this generates), and the practical needs in the construction industry in relation to construction safety [17].

Over the last 50 years cost, time and quality have become inextricably linked with measuring the success of project management, but there are also variety of other success criteria, for example stakeholder benefits [18]. Design standards and construction methods have changed very fast since last century [19]. For decision-making it is reasonable to apply several methods and select the best alternative according to aggregated results [20]. How aggregate investment is allocated across different productive sectors is a key determinant of economic fluctuations and long run growth [21]. Also important, that big share of construction projects are put on real estate market, that is one of the reasons why investors and developers should plan and realize also marketing activities and do market analysis, for example David Genesove and Christopher J. Mayer [22] founded that units with low equity take longer to sell and obtain a higher price when sold, and this is also one of the factors that should be analyzed by investors and developers.

For managers from marketing point of view, on which is important to focus as well, important is a fact that – social

media are always a function of the technology, culture, and government of country/context and creative consumers' actions and creation also depends on this factors [23]. Infrastructure construction is the base and security of local economic development and tax sharing reform and acceleration of economic construction causes serious shortage of local finance that is the reason why contradiction of lack of capital and acceleration of economic construction requires local government to establish multi-channel financing mode [24].

Nowadays important aspect of government's national strategic development plans around the world is a development of sustainable investment environment [25]. Also during a financial crisis, enhancing the investment climate might be more important than boosting domestic saving in East Asia [26]. Favorable investment climate is characterized not so much by traditional policy areas that have been known to foster private sector investment—such as a stable macroeconomic and regulatory regime, or tax credits favoring business investment—but more by the broader institutional environment in which firms operate, which includes secure property rights and stable rule of law, and by the governance framework, such as adequate control of corruption, also focusing on improving the level of

development of the financial sector – that way corresponding allocation of saving toward the most productive investment opportunities, and raise the level of investment in the economy overall [27].

Maela Giofré [28] suggests that investors aim for an optimal level of investor protection in portfolios - with diminishing returns on corporate governance and exogenous domestic position, a high standard of corporate governance at home makes investors less sensitive to the issue when choosing foreign investments and thus less hostile to weak investor protection.

### III. PRACTICAL RESEARCH

The construction companies in practice, as well as other companies operating in the real estate market are facing a number of challenges - both in internal and external environments. At the same time, the industry presents several options, particularly at the stage of growth phase. Fig. 4 reflects the fact that the financial indicators of the companies operating in the construction sector are not stable, especially in the period from 1<sup>st</sup> quarter of 2010 to 2013.

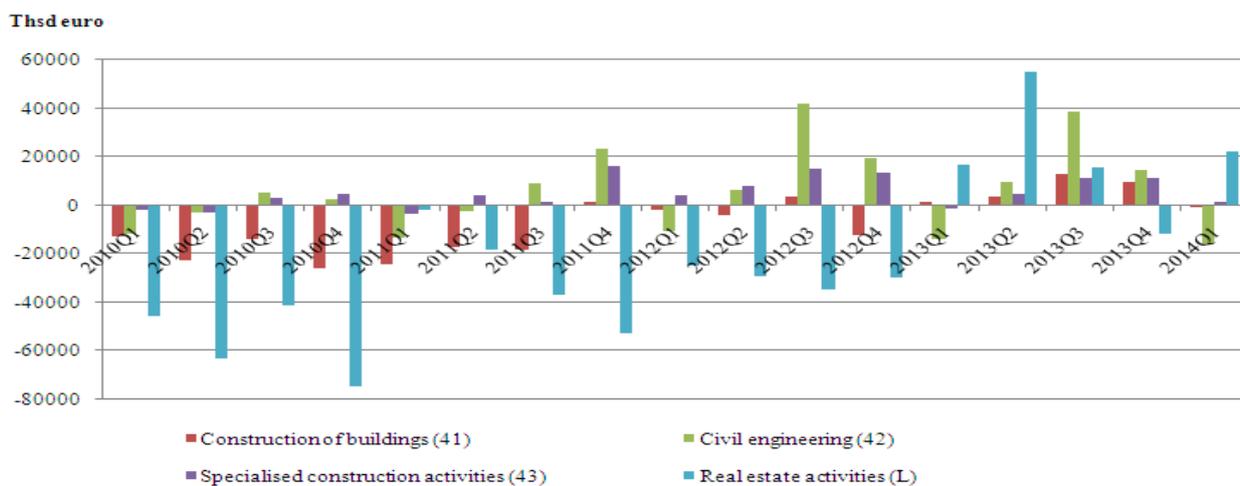


Fig. 4. Profit or losses of entrepreneurs in construction and real estate branch, Data: Central Statistical Bureau of Latvia [29], figure made by authors

The construction companies in the construction sector have been operating with losses in the researched period, but the in civil engineering sector the losses were mostly occurring only in the 1st quarter of each year.

One of the most labour-consuming processes in the construction management is the start-up period. Start-up difficulties in construction sector are shown in Fig. 5.

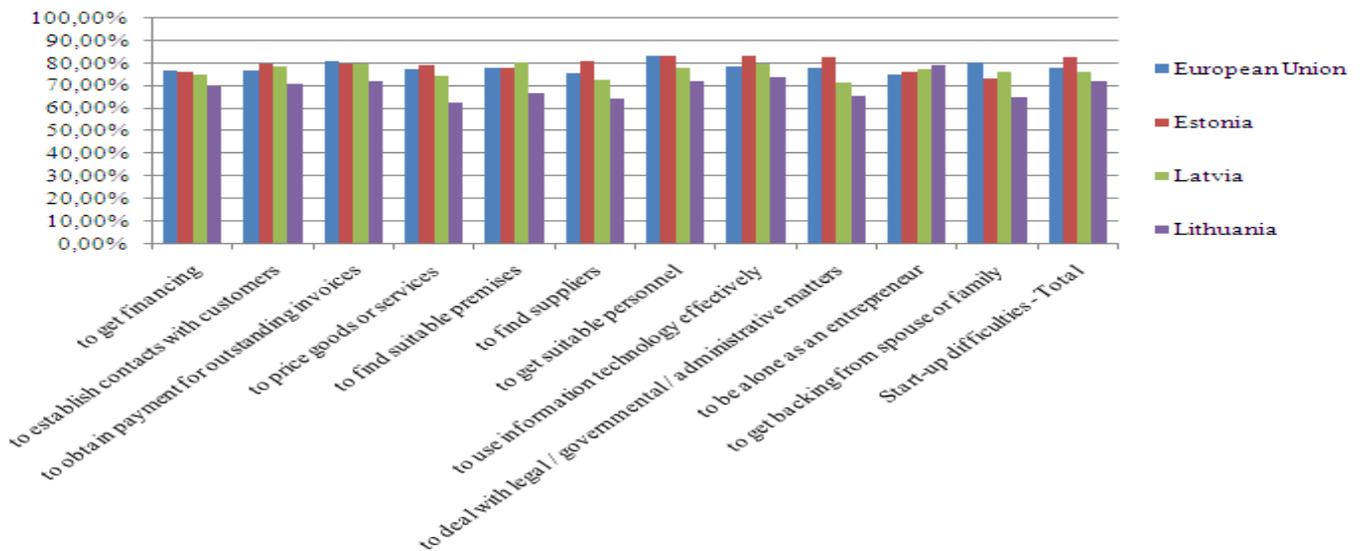


Fig.5. Start-up difficulties in construction sector, in Year 2005, %, Data: Eurostat [29], figure made by authors

If to compare Baltic States countries, in general the highest percentage difficulties in 2005 met entrepreneurs in Estonia with 82.50% totally, but important to mention, that all countries have met all researched start-up difficulties, mentioned in Fig. 5. One the important factor starting

construction enterprise and one of the start-up difficulties is to find financing, as well as general housing affordability in the country. The number of enhanced mortgages and purchase agreements is presented in Fig. 6.

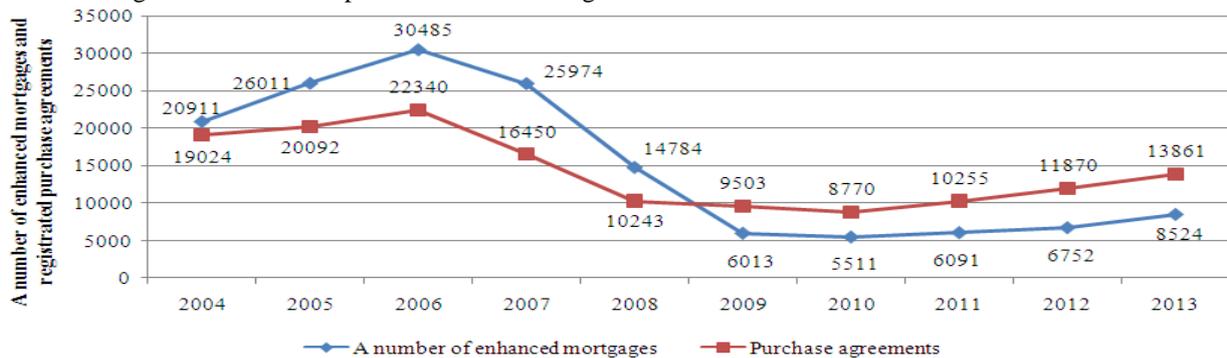


Fig.6. The number of enhanced mortgages and purchase agreements in Riga, Data: A State Unified Computerized Land Register [31], figure made by authors

Latvian real estate market does not develop evenly, transactions in Riga and Riga region in 2013 amounted to 41.96% of the total number of transactions in Latvia [32]. Over the period from 2004 to 2008, the number of mortgages secured in the Land Registry in Riga was greater than the submitted purchase agreements, which means that the existing and previously purchased properties have been pledged - one purchase agreement involved from 1.09 to 1.58 secured mortgages over the period from 2004 to 2008, which was one of the market overheat signals. After the

crisis period the situation has changed - over the period from 2009 to 2013 the number of secured mortgages ranged from 56.88% to 63.27% in the total number of purchase agreements. It highlights the significance of the mortgage system in the country and the availability of credits for real estate purchase in the local market. Number of employed person shows the importance of construction sector as a socio-economic factor. Number of person employed person in construction of buildings, civil engineering and specialised construction activities are shown in Fig. 7.

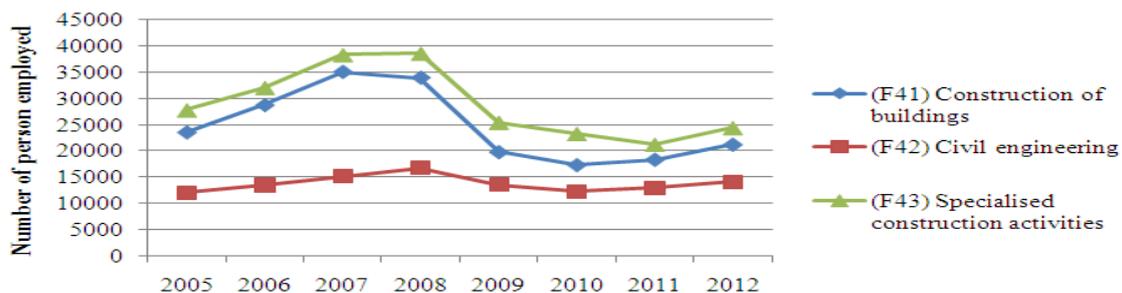


Fig.7. Entrepreneurship indicators in construction - number of person employed, Data: Central Statistical Bureau of Latvia [29], figure made by authors

The majority of employed person in construction sector works in specialized construction activities, then follows construction of buildings and civil engineering. To price goods and services in construction industry is a complicated process, for instance valuation of properties or development

project appraisal. House price tendencies are also very important for entrepreneurs in business planning and decision-making.

In Fig. 8 house is observed house price index and its changes.

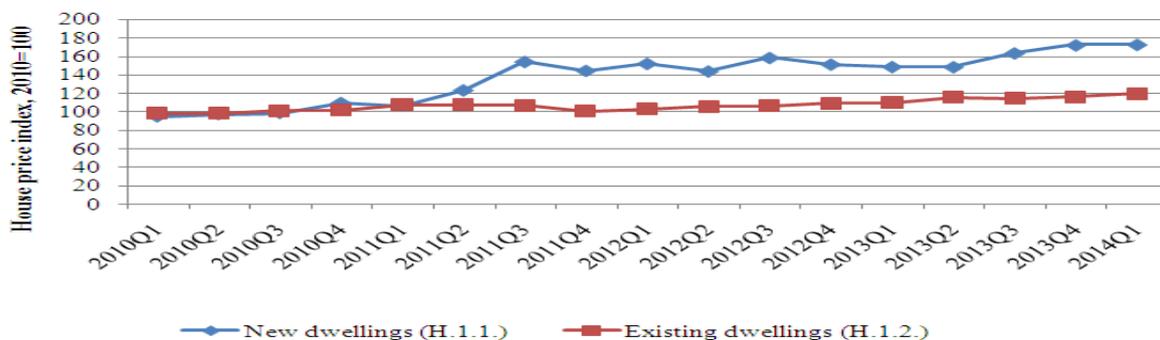


Fig.8. House price index by type of property, 2010=100. Data: Central Statistical Bureau of Latvia [29], figure made by authors

In order to understand why does the company choose a particular strategy and adopts concrete decisions, it should also be understood which was the motivation and reason for

the company's foundation. The comparison in start-up motivation of construction and real estate enterprises managed by founder are shown in Fig. 9.

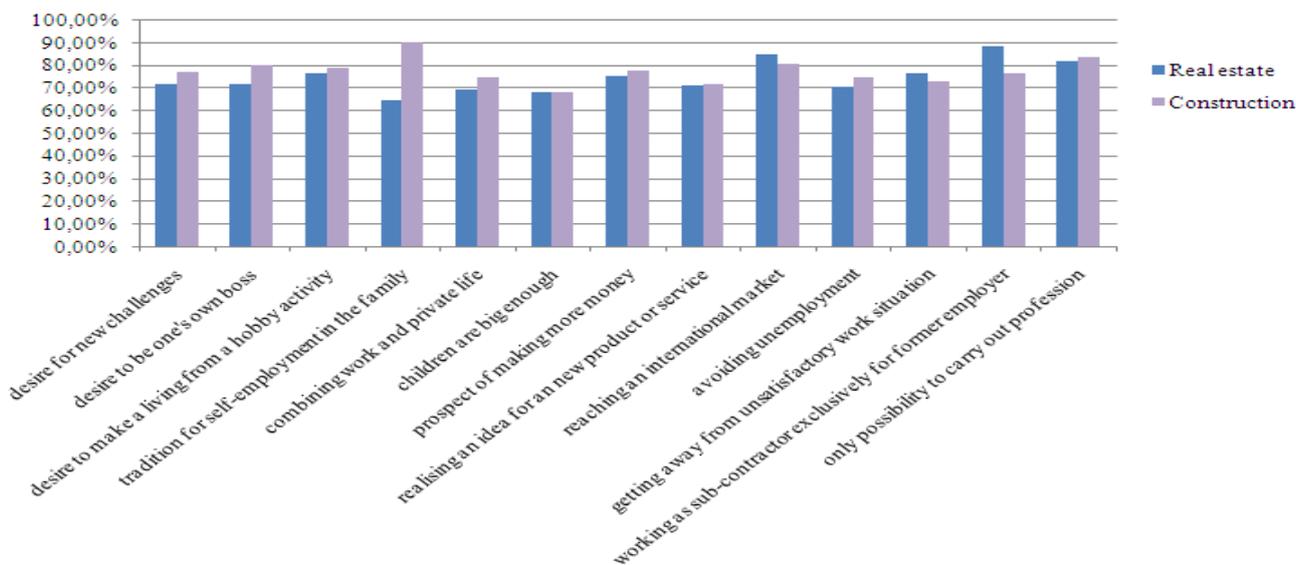


Fig.9. Start-up motivation of enterprises managed by the founder in 2005 - by branch experience – difference between construction and real estate branch (except management activities of holding companies). Data: Eurostat [29], figure made by authors

Macroeconomic and construction branch development tendencies are important for each real estate market participant, and especially for entrepreneurs. Average monthly wages and salaries of employees in construction has risen for 21.11% from 1st quarter 2010 to 1st quarter 2014, that is positive tendency, also house price index has grown for 29.68 points in the same period. At the same time, building material cost index for the same time period even reduced for 0.2 points. This means that the price increase in

the real estate market is not related to the increase in prices of construction materials. HPI increase from 97.72 in the 1st quarter of 2010 to 127.40 in the 1st quarter of 2014, the gross domestic product growth, as well as wage growth trends (not only in the construction industry) and several other existing trends is the reflection of growing demand. Macroeconomic indicators and construction branch from the 1st quarter of 2010 to the 1st quarter of 2014 are presented in Fig. 10.



Fig.10. Macroeconomic and construction branch indicators. Data: Eurostat [30], Central Statistical Bureau of Latvia [29], figure made by authors

The amount of foreign direct investments in comparison has increased in 2013 in comparison to 2012, it is about 20.51% (see Fig. 11). At the same time, foreign investments in construction in the corresponding period grew by 6.51%,

and in the 1st and 2nd quarters of 2014 have already started to decrease gradually. Also volumes of FDI in real estate operations in 2012 and 2013 were much higher in comparison with FDI in construction industry in Latvia.

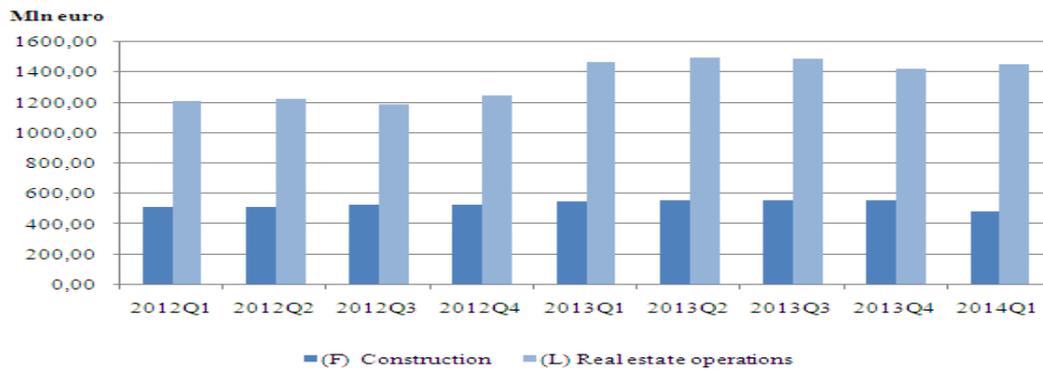


Fig.11. FDI data in construction and real estate operation sector on Latvia, mln euro, Data: Bank of Latvia [33], figure made by authors

Important is a fact, that investors are well capitalized and are constantly looking for good quality cash flow properties, also there is interest of investors towards properties with development or redevelopment potential - a trend that is expected to continue [34].

As a result of countries macroeconomic policy and investment climate improvements, each country attract different volumes of foreign direct investments. Foreign direct investment net inflows in countries of Baltic States are shown in Fig. 12.

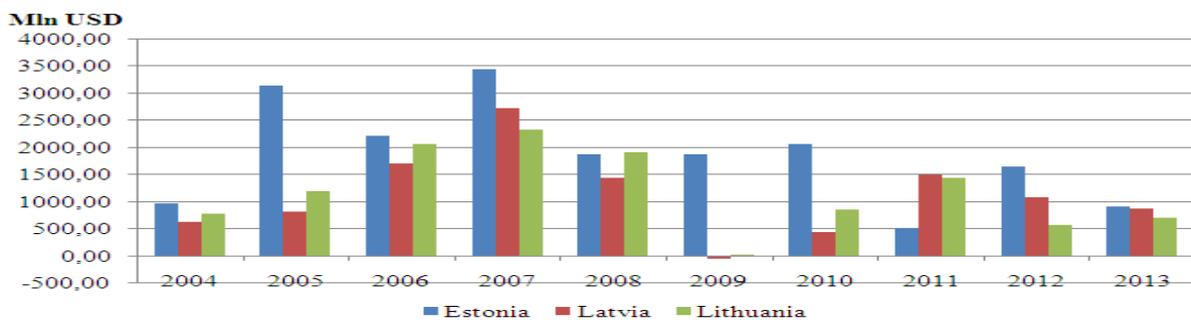


Fig.12. Foreign direct investment by countries, net inflows, mln USD, Data: The World Bank [35], figure made by authors

While investing in real estate in the certain countries, it is advisable to analyze the total world investment scene and trends. In the biggest economies the foreign direct investment net inflow has risen up, thus indicating the

increase of the attractiveness level of the region on the part of the investors, as well as reflecting the increase in the globalization level in the world (see Fig.13)

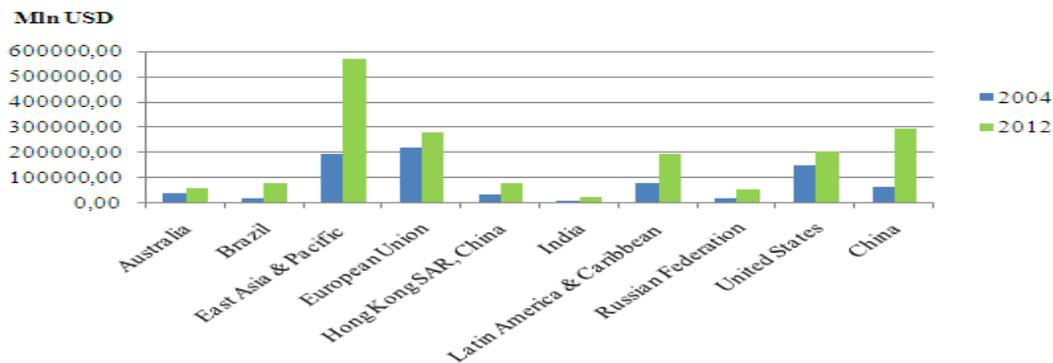


Fig.13. Foreign direct investment, net inflows, mln USD, Data: The World bank [35], figure made by authors

Also in IMF World Economic Outlook in 2014 [35], countries of emerging and developing Asia shows high ratio of growth in 2012 and 2013, as well high ratios are predicted in 2014 and 2015, and this factor means the attractiveness of investment climate for investors in mentioned countries and regions. Investment climate and real estate market and construction branch development tendencies are interconnected, at the same time it can be often observed the differences between local and foreign investment flows by investing in real estate within the same country. The improvement of several macroeconomic indicators is a reflection of increased demand, however, in the era of globalization it should be taken into account that the majority of investments flows into the country with the highest level of development and favourable investment environment.

#### CONCLUSIONS

The construction companies in practice, as well as other companies operating in the real estate market are facing a number of challenges - both in internal and external environments. A number of risks exist at the stage of taking any investment decision and construction process – both at the determination of the economic viability of the project, and at the determination of the best conditions of the project realization and its practical implementation. If to compare Baltic States countries, in general the highest percentage difficulties in 2005 met entrepreneurs in Estonia with 82.50% totally, but important to mention, that all countries have met all researched start-up difficulties. One of the important factors in the investment decision-making is the real estate or construction product price fluctuations. External environmental impact on prices is very important - it is affected both by economic and demographic and other factors. At the same time real estate and credit markets are likely to be influenced by rational expectations as well as by each of the three kinds of irrational expectations [11]. It is important to explore the factors influencing both the price and the average profit indicators of the industry, as well as a number of other factors, in order to have the opportunity to take preventive measures to reduce the threats and achieve more effective management. The financial indicators of the construction industry merchants depend on the total construction demand on the certain territory. House price

tendencies are also very important for entrepreneurs in business planning and decision-making. At the present moment the new and existing dwelling prices have a growing tendency. Over the period from 2004 to 2008, the number of mortgages secured in the Land Registry in Riga was greater than the submitted purchase agreements, which means that the existing and previously purchased properties have been pledged - one purchase agreement involved from 1.09 to 1.58 secured mortgages over the period from 2004 to 2008, which could already be one of the first real estate market overheats signals, so it is not desirable to allow this situation to happen again. The financial indicators of the merchants operating in the construction industry have not been stable in the researched period, the construction companies in the construction sector have been operating with losses in the researched period, but the in civil engineering sector the losses were mostly occurring only in the 1st quarter of each year. The owners of the construction companies need not only to get oriented on the local market, but also to understand the needs of potential foreign investors, to pay attention to changes in the costs - wages, building materials and other, forecasting the changes in the future, as well as regularly to follow up and analyze the external factors that affect the final price of the construction product.

Macroeconomic and construction branch development tendencies are important for each real estate market participant, and especially for entrepreneurs. As many real estate business and construction industry entrepreneurs have many losses in recession phases and crisis, for successful project performance authors suggests analyzing external risks and economic indicator fluctuations. Although inconsistencies between risk ratings of different decision-makers still exist, as there are difficulties to consider “risk perceptions”, “fuzziness” or explore risks as “feelings” and “politics”[38].

Investment climate and real estate market and construction branch are interconnected. The amount of foreign direct investments in Latvia in comparison has increased in 2013 in comparison to 2012, it is about 20.51%. While investing in real estate in the certain countries, it is advisable to analyze the total world investment scene and trends. In the biggest economies the foreign direct investment net inflow has risen up, thus indicating the increase of the

attractiveness level certain regions for the investors, as well as increase of foreign direct investment inflow reflects the increase of the globalization level in the world. The improvement of several macroeconomic indicators in several regions is a reflection of increased demand, and in the era of globalization by entrepreneurs it should be taken into account that the majority of investments flows into the country with the highest level of development and favourable investment environment. Encouraging new construction within urban areas is promoted as a powerful tool for improving efficiency in the provision of mass transit, utilities and services while saving rural open space, that is expected to remove negative externalities, improving the individual parcels on which development occurs, and by creating spillover effects that increase the value of surrounding properties [37]. For future researches more country groups are planned to be analyzed, by applying qualitative research methods as well.

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