

# IMPACT OF ECONOMIC ACTIVITY ON REGIONS IN LATVIA

## ВЛИЯНИЕ ЭКОНОМИЧЕСКОЙ АКТИВНОСТИ НА РЕГИОНЫ ЛАТВИИ

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**Abstract.** The subject of the article is empirical analysis of the impact of economic activity on the economic development and opportunities of regions of Latvia. For the period from 2005 until 2010, the development of 6 Latvian statistical regions (NUTS III) was analyzed on the basis of data issued by the Central Statistical Bureau of Latvia. The results of analysis can be used as a basis not only for the assessment of the theoretical framework, i.e., whether or not they comply with the Latvian case. Understanding the impact of economic activity on the region is significant for any local government, as well as at the regional and national level (e.g., support measures for entrepreneurship planning) to make it possible to identify the most urgent areas and objectively prioritize them and hence - to ensure sustainable economic development in the regions.

**Keywords:** economic activity, entrepreneurship, innovations, region, Latvia.

### ***Introduction***

In Latvia, already for several years marked differences exist at the level of economic development and dynamics among regions. We recognize that sustainable national economic development is possible only on the basis of smooth regional development, and this reality is seen as an urgent and significant issue. This is also highlighted in the state-level planning documents of Latvia, e.g.,

Latvian National Development Plan for 2007 – 2013 [1]. This plan defines the country's growth model "People First" and notes that the successful development of the country is possible by ensuring an orderly business and living space. It should also be discussed in regional terms as the current situation among the regions is different. In turn, the vision of Latvia in the National Development Plan for 2014 – 2020 is "Economic breakthrough for improvement of individual and national welfare" [2]. One of the priorities for the development of Latvia is defined as *growth-enhancing territories*, which provides that the territorial development should focus on reducing unfavourable disparities both among regions and within the same region.

The aim of this research is to determine the impact of the economic activity on the region's economic development and prospects.

The object of the research is the region's economic development. The subject of the research is the indicators of the region's economic development and the impact caused by the economic activity.

The research used the ranking method and the correlation method of the strong relationship analysis.

The economic activity is understood to include the production of goods and services (gross domestic product or GDP is one of the main indicators for assessing the economic activity). In this study, analysis is made of how the achieved level of economic activity, which is mainly characterized by the parameters that describe the business and innovation environment, leaves an impact on the regional economic development and opportunities. It affects both the region's competitiveness at national level, as well as the country's overall competitiveness in comparison with other countries.

Analyzing and evaluating the business start-up opportunities and the potential of their development, it is considered that one of the factor groups influencing it, are the parameters characterizing the environment in which it is planned to launch the business, or where it is already in progress. "In assessing the competitiveness of the company's facilities, the identification and selection of enterprise competitiveness factors influencing it, play the most significant role. Dividing them into internal and external factors will be more appropriate "[3]. The authors also offer the list of the most essential external environmental factors, which include, for example, social environment, demographic situation, infrastructure development, tax policy, education quality, etc. These, in essence, are the indicators by which we may directly or indirectly characterize and compare the level of development and potential of the region. Of course, any aspect of the environment to facilitate the launching and development of entrepreneurship (or, at least, not creating obstacles), is an essential basis for launching active economic activity.

However, this relationship can also be viewed the other way round - a high level of economic development in a given region may serve as an incentive for new business and innovation activities. In addition, economic activity is a significant

factor influencing the level of development, opportunities and competitiveness of the region. The research highlights that business activity and growth is largely dependent on the specific favourable environment for the region - the available quantity and quality of the infrastructure, the demographic situation and other factors, such as Porter's Diamond model for the Competitive Advantage of Nations, see Figure 1.

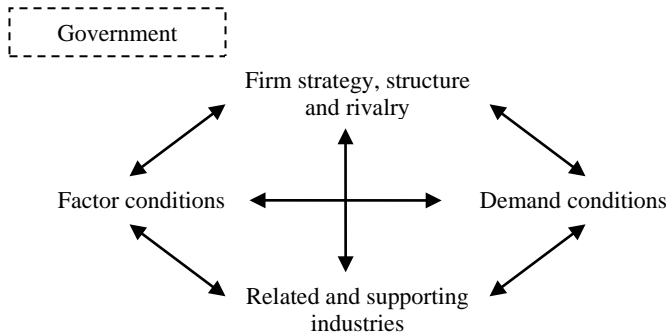


Fig. 1. **Porter's Diamond model for the Competitive Advantage of Nations** [4]

In this case, although the model analyzes the factors affecting the country's competitiveness and its improvement, this approach is also applicable to the analysis of individual sub-national level, the economic development outcomes of which significantly affect the situation in the country as a whole.

Odenhal, Sedlaik, Michalek [5] consider that the three most significant indicators, proving the regional competitiveness, are as follows:

1. infrastructure and its availability;
2. human resources;
3. economic environment factors.

Innovation activities play an essential role in facilitating the economic development and promotion, which significantly increase the opportunities for any company to improve their competitiveness and thus also refers to the level of the competitiveness of the region. „Innovation, together with technological progress, is one of the main sources of economic growth. Differences in economic growth and satisfaction of society can be partly explained by differences in the success of countries in the field of innovation. Categories having a large impact on the development of innovation include capital and technological currents (cooperation between the industry and the research sphere).” [6].

The authors of several studies analyze the regional competitiveness, and it appears that the range of factors affecting the competitiveness are listed as significant, when determining the indicators characterizing the economic activity - business and/or innovative activities.

## 1. *Impact of entrepreneurial activities on Latvian regions*

The study was conducted by using data on 6 Latvian statistical regions (NUTS III):

1. Riga statistical region (including capital city Riga).
2. Pieriga statistical region (republic city of Jurmala and 28 municipalities).
3. Vidzeme statistical region (republic city Valmiera and 25 municipalities).
4. Kurzeme statistical region (republic cities Liepaja, Ventspils and 18 municipalities).
5. Zemgale statistical region (republic cities Jelgava, Jekabpils and 20 municipalities).
6. Latgale statistical region (republic cities Daugavpils, Rezekne and 19 municipalities).

The analysis is carried out for the period from 2005 to 2010. The study uses the data of Central Statistical Bureau [7], as well as the information presented in the reports of the National Regional Development agency "Regional Development in Latvia" [8]. The framework of the analysis addresses two closely related aspects of economic activity – entrepreneurial and innovation activities. To describe the regional business environment and economic development such variables were used as the number of companies, the business size distribution, the GDP per capita and other data. Central Statistical Bureau produced data on the economically active statistical units at the statistical unit "enterprise" level and the data on market sector statistical units, i.e., the self-employed, sole proprietors, corporations, agricultural and fishing farms.

The evaluation of the relationship between the number of companies in the region and the total value added shows that in the 6 year period considered, this relationship is direct and very strong (the correlation coefficient fluctuates around 0.99). This means that a greater number of companies in the region are the key factor in creating value added. In addition, since the information is based on the total number of companies, it proves that a significant investment is not contributed only by large companies, but the presence and operation of small businesses is also of relative importance. We commonly see the situations where the existence of companies, especially the large ones, promotes the creation of new businesses because of the provision of the infrastructure, networks, as well as markets, e.g., if a small company offers services to a large one. The GDP per capita is an objective measure, because of the differences of the number of the population in the regions. The number of companies leaves an essential impact on GDP per capita – the relationship is very strong (the correlation coefficient on average is 0.97). In addition, the analysis of the data about the company size distribution<sup>1</sup> shows that the group of the small and medium-sized companies has left a greater impact, although the correlation coefficient for all the groups of companies exceeds 0.97.

Higher GDP per capita in these regions means higher productivity and thus, the possibility to receive higher remuneration would be logical. In assessing the relationship between the number of companies and the region's average gross wages, it can be concluded that the above mentioned is a reasonable assumption. During the period under consideration, there is a strong correlation between the number of companies in the region and the average wages. In 2007, the correlation coefficient was 0.87 and in 2009, it increased to 0.90. Higher level of economic activity may be an essential factor that influences the labour migration between regions and higher wages can motivate people to change residence. Kalnina-Lukasevica in her study of Latgale region [9] points out that although the negative demographic trends are observed in Latvia as a whole, in some regions they are particularly pronounced. The depopulation of the region depletes the human capital, which further aggravates the employment opportunities (business activity factors), reduces the opportunities of starting innovative businesses in the region, as well as reduces the productivity.

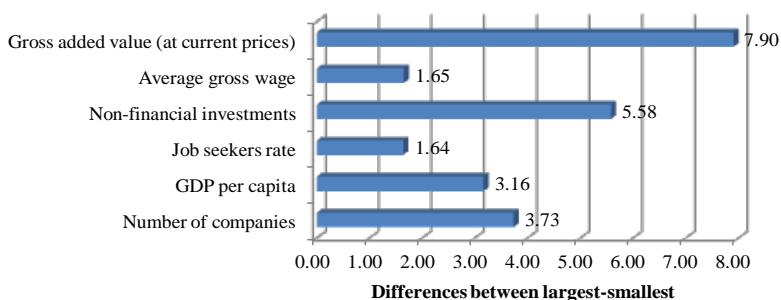
Evaluating the impact of the number of companies on the regional unemployment rate, it is impossible to draw valid conclusions. In 2006, the relationship was characterized as weak and reversed, and the correlation coefficient was 0.30, but, in 2010, for example, the relationship was direct and moderate, with the correlation coefficient 0.67. However, these results can not be considered as conflicting in relation to other results. It can be noted that the population can live in one area, but work in another. Consequently, in the regions of high business activity the unemployment rate can be higher. The economic business cycle phase may leave an appreciable effect too. During the economic downturn, the companies often have to re-evaluate the need for labour and pay attention to the rational use of the facilities. In addition, the higher unemployment rates assessed are not necessarily unambiguously negative. For example, if the company has introduced a new technology that reduces the need for labour.

Business development and growth are not possible without investments. Evaluating the relationship among the number of firms in the region and the amount of non-financial investments, we observe strong relationship. This means that in the regions with higher business activity, the companies consolidate their positions by investing in the development. Consequently, they increase the region's competitiveness through more efficient technologies and increased added value, etc.

### ***3. Banking of Latvian regions***

In Latvia, between the regions there are significant differences, taking into account the characteristics of the economic activity and regional economic development. For example, in 2010, but the trend is characteristic for the entire sample period, the maximum value of the indicators, also the job seekers rate, was characteristic for the Riga region, while the minimum values were specific for different regions of Latvia. The smallest number of companies was in Zemgale

region, but the lowest GDP per capita and the lowest amount of non-financial investment, as well as, the lowest average monthly gross wages was in Latgale region. In turn, the lowest unemployment rate and the smallest volume of the total value added were observed in Vidzeme region. The comparison of the largest and smallest sizes of each variable is shown in Figure 2.



**Fig. 2. Ratio of the maximum and minimum values characterizing the regions in 2010 (compiled by the authors, on the basis of [7])**

The region performance is different, and differences of some indicators are more pronounced than the others. These results also explain the situation in Latvia, because, in case there is a positive correlation between the business activity and the economic development in the region, the regional development disparities are substantial and are considered to be a serious problem.

From 2005 to 2010, taking into account the indicators under consideration, ranking of regions was carried out. All indicators were arranged in order of priority from the largest to the smallest, except the unemployment rate which was arranged from the smallest to the largest. As shown in Figure 3, the best indicators were reached in Riga region, except for the unemployment rate, which was the second highest among the regions. However, the unemployment rate, as mentioned above, does not mean that the region has low economic activity, but rather reflects high labour migration among the regions. This is confirmed by the results of ranking. The lowest unemployment rate has been observed in the Pierīga region, located closest to the Riga region.

The results obtained correspond to the level of the territorial development index<sup>1</sup>, estimated by the State Regional Development Agency [8]. In the 6-year period under consideration, the highest level of development has been observed in Riga region, followed by Kurzeme, Zemgale and Vidzeme region. In Latgale region the territorial development index was the lowest of all the regions.<sup>1</sup>

<sup>1</sup> The index of territorial development has been calculated for 5 regions, the Riga region including also Pierīga region.

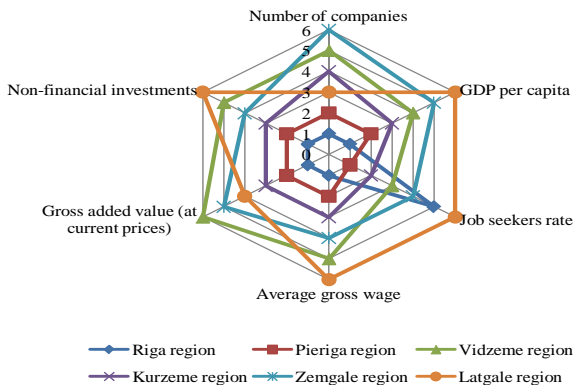


Fig. 3. **Ranking results of characteristic indicators for the period from 2005 to 2010 (compiled by the authors, on the basis of [7])**

## 2. *Innovation performance and its impact*

In Latvia, a survey on innovative activities of companies is carried out, and data on expenditures on innovations by size of the companies are compiled (the companies are grouped into large, medium and small, similar to the aforementioned methodology). On the basis of the data available from the surveys in 2006, 2008 and 2010, it can be concluded that the biggest innovation expenditures both in the industry and the services have been in the large and medium-sized companies. In Latvia, data on innovative companies and innovation expenditures are not collected and aggregated by region, so that, the exact details of the innovation activities in the regions are not available.

When ranking the regions by share of large and medium-sized companies from the total number of companies, we obtain the region line, which fully coincides with the above-mentioned territorial development index line, and with the results of the characteristic indicators of the analysis of the regional development level. In addition, estimating the number of large and medium-sized companies in the regions in 2005 – 2010, similar results were obtained - the largest number of companies was located in Riga region, followed by Pieriga, Kurzeme, Latgale, Vidzeme and Zemgale regions. If we assume that, on average, each of the large and medium-sized companies has channelled for innovations about the same level of expenditures, taking into account the company size distribution by region (see Fig. 4), conclusions can be drawn about the innovation activities in the region.





regions may be largely explained by the uneven regional development of Latvia. In addition, the results suggest that the regional economic development depends on complex factors and that the above mentioned activities and the results are closely related. Hence, the purposeful activity in one area can contribute to improvements in the other areas.

Assuming that expenditures spent on innovations among enterprises are approximately proportional, in the period under consideration, higher innovative activity was observed in Riga region, while the lowest in Vidzeme region. This means that innovation activity is a significant factor affecting the level of regional development.

The results obtained allow assessing the role of economic activity for the regional development. The observed correlations may provide a basis for decision-making both in planning the national sustainable development, as well as setting priorities for any activity of local governments.

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