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SMART GROWTH AS PERFORMANCE TRENDS IN THE RURAL ECONOMY OF LATVIA

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Abstract. Any country is interested in economic growth regardless of its development level at some period; yet, the term smart growth takes an increasingly important position in defining growth. The EU Development Strategy until 2020 defines smart growth as an objective to strengthen knowledge and innovation as drivers of our future growth. Given the World Bank's global competitiveness index for Latvia, such a perspective on national economic growth opportunities is of great importance for Latvia as a country.

The authors' research, based on a framework for rural analysis that is accepted in the European Union and is referred to as "the EDORA cube", gives insight into socio-economic performance trends towards smart growth regions and particularly municipalities, which are typical local administrative units in Latvia, and economic processes. The research employed LURSOFT, CSB and RAIM databases, performed a horizontal and a vertical analysis and particularly focused on high-tech and medium high-tech industries and the sector of knowledge-intensive services to identify an accumulation of positive/innovative changes. Zemgale statistical region was selected as a territory of medium development level in the country to assess the mentioned phenomena. An analysis of vertical economic growth and horizontal restructuring allows drawing several conclusions on smart growth as performance trends particularly in Zemgale region, while at the same time putting forward hypotheses for assessing the processes being in place in the other regions of the country.

Key words: performance**,** smart growth, smart specialisation

JEL code: R11

Introduction

Any country is interested in economic growth regardless of its development level at some period; yet, the term smart growth takes an increasingly important position in defining growth. The EU Development Strategy until 2020 defines smart growth as an objective to strengthen knowledge and innovation as drivers of our future growth (EC, 2010).

Aim of the research: to assess quantitative and qualitative changes in entrepreneurship in the period 2009-2013 in the regions and municipalities of Latvia that indicate their performance trends towards smart growth.

Hypothesis:

A count of enterprises in high technology and knowledge intensive of sectors in districts of Zemgale region are growing faster than the total number of enterprises in districts of Zemgale region.

Tasks:

1) To study the changes in the number of enterprises in districts of Zemgale region in period from 2009 to 2013.

2) To study the changes in the number of enterprises in districts of Zemgale region in period from 2009 to 2013. in high technology and knowledge intensive of sectors.

3) To study the changes in specific share of enterprises in districts of Zemgale region in period from 2009 to 2013. in high technology and knowledge intensive of sectors.

4) To carry out a horizontal-vertical analysis, comparing changes in number and specific share of enterprises working in high technology and knowledge intensive of sectors in period from 2009 to 2013 g in districts of Zemgale region.

Methodology of the research: the present research is based on a methodology for rural analysis accepted in the European Union, which is known as "the EDORA cube" and involves a three dimensional framework for analysis – rurality/accessibility, degree of economic restructuring and socio-economic performance, with a special focus on smart growth, as the scope of factors influencing economic performance (ESPON, 2013). The understanding of smart growth in research studies begins with a broad multidimensional approach through the observation of this phenomenon in a particular public life sphere, for example, the economy, which generally means developing an economy based on knowledge and innovation (Giovanella C.,s.a., Centre of Regional Science,2007, EC,2010). Partly, it means modernising existing industries or lagging sectors to improve their competitiveness through the adoption of ICTs (OECD, 2013) and developing GPT (general purpose technologies) (Jovanovic B., Roussean P.I., 2005,Lipsey R.G., Carlaw K.I., Bekar C.T., 2005). The

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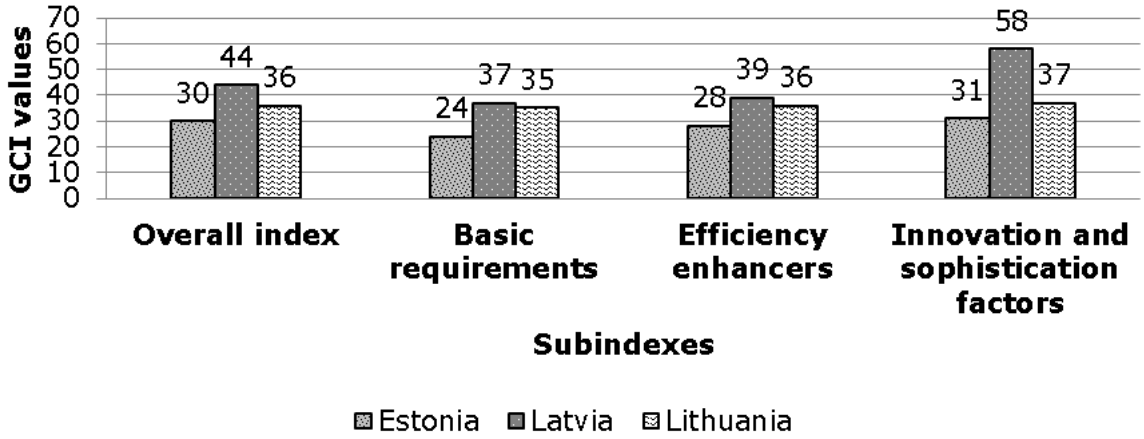
authors' research gives an insight into socio-economic performance trends towards smart growth regions and particularly municipalities, which are typical local administrative units in Latvia, and economic processes.

Research resultsand discussion

Starting the discussion about smart growth in Latvia, it is necessary to mark a place of Latvia in a context of global competitiveness index. Given the World Bank's global competitiveness index for Latvia, which is lower than that for, Estonia and unfortunately that for Lithuania too, such a view on national economic growth opportunities is of great importance for Latvia as a country (Figure 1).



Source: World Economic Forum, 2015

Fig. 1. **Global Competitiveness Index and Subindexes for Estonia, Latvia and Lithuania in 2015 - 2016**

Latvia lags behind its neighbouring countries not only in terms of the overall index but also in terms of sub-indexes and particularly in terms of the innovation and sophistication factors sub-index. Accordingly, the economic performance trends towards smart growth and smart specialisation have become an urgent problem for scientific research.

The present research employed LURSOFT, CSB and RAIM databases, performed a horizontal and a vertical analysis and particularly focused on high-tech and medium high-tech industries and the sector of knowledge-intensive services to identify an accumulation of positive/innovative changes. Zemgale statistical region was selected as a territory of medium development level in the country to assess the mentioned phenomena (see Figure 2).

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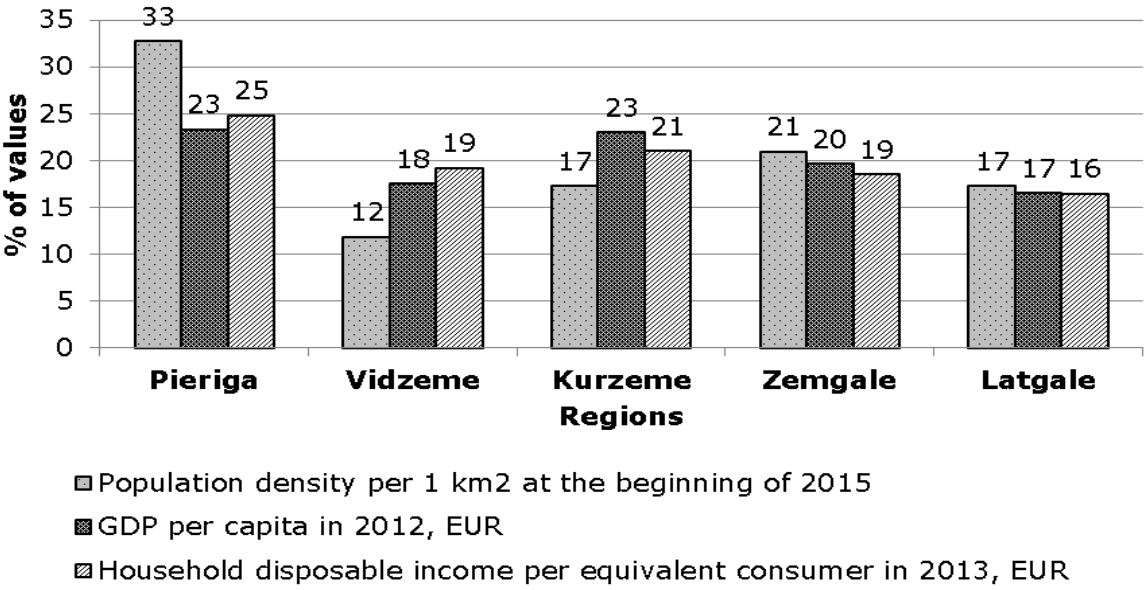

Source: CSB, 2015[a]

Fig. 2 **Internal disparities (%) in population density, GDP per capita and Household disposable income per equivalent consumer in Latvia, at the level of regions**

Economic growth is an important objective of any territorial unit. It traditionally relates to, first of all, increases in the number of entities engaged in entrepreneurship, which involves quantitative vertical change.

1. Vertical change in entrepreneurship in Zemgale region

Even though the years from 2009 to 2013 were the initial period of overcoming the global economic crisis, raising of economic activity was specific to Zemgale region's municipalities. In 2009, according to Lursoft data, 2604 enterprises operated in the region, while in 2013 their number rose to 4215, which was a considerable 161.9% increase in the total number of enterprises. The performance trends by municipalities are quite different, as the percentage increases in the number of enterprises are considerably different. In Vecumnieki municipality, the increase was 206.3%, while in Auce municipality it was only 132.9% (Table 1).

Table 1

Performance variety in the quantitative growth of entrepreneurship (changes in the period from 2009 to 2013)

Accumulating 188.0 – 206.3%	**Above average169.6 – 188.0%**
Municipalities of Jekabpils, Koknese, Skriveri, Tervete and Vecumnieki	Municipalities of Iecava, Jaunjelgava and Nereta
Low growth 132.9 – 151.3%	**Below average151.3 – 169.6%**
Municipalities of Auce, Jelgava and Rundale	Municipalities of Aizkraukle, Akniste, Bauska, Dobele, Krustpils, Ozolnieki, Plavinas, Sala and Viesite

Source: authors' calculations based on LURSOFT data

An opinion prevails that the closer a municipality is located to a city (is predominantly accessible), the greater opportunities it has for development and it is characterised by higher socio-economic indicators, whereas remote territories are subject to lagging behind. The mentioned municipalities of Vecumnieki and Auce as examples of maximum and minimum growth of entrepreneurship belong to the so-called remote territories, as both of them are border area municipalities and are located in the same distance from the capital city of Riga as well as the regions' centre – Jelgava. This leads to a conclusion that the location beyond the agglomeration of Riga not always can affect everything and perhaps, in the mentioned cases, some subjective factors such as the capability of municipalities to play the role of a leader and to contribute to economic activity and the population's readiness to engage in the process of change, which have influenced the pace of growth of entrepreneurship, are in place. This is a matter of

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capacity and the use of it to contribute to smart growth trends, which is stressed both by the government policy documents and in research studies (EC, 2014;EC,2014[a]Stankevics Z., 2014:74; Skinkis P., 2015).

Since the focus of the research is not only the growth of entrepreneurship on the whole but particularly those directions of entrepreneurship that are characterised by smart growth trends, only the directions of entrepreneurship involving technological and knowledge intensity, according to the NACE Rev.2 classification, were selected for analysis. For this reason, data were processed separately for high-tech, medium high-tech and knowledge-intensive service enterprises (HT, MHT, KIS) for the period 2009-2013. During a five-year period, the number of enterprises of this group increased by 198.7%; it exceeded the overall economic growth rate by 36.8 percentage points. So, knowledge- and innovative technology-based entrepreneurship rose faster than overall economic growth, which, of course, is a positive fact. Second, an increase was observed in all municipalities except one, in which no quantitative changes took place. Third, there were municipalities where an increase in the number of this group's enterprises was very sharp (see Table 2)

Table 2

Performance variety in the quantitative growth of HT, MHT and KIS (NACE Rev.2) entrepreneurship (Changes in the period from 2009 to 2013)

Accumulating 233.3 – 350.0%	**Above average 116. – 233.3%**
Municipalities of Koknese,Krustpils, Nereta, Skriveri and Vecumnieki	Municipalities of Aizkraukle, Akniste, Auce, Bauska, Dobele, Iecava, Jaunjelgava, Jekabpils, Jelgava, Ozolnieki, Plavinas, Rundale, Sala and Tervete
Unchanged– 0.0%	**Below average 0.0% - 116.7%**
Viesite municipality	-

Source: author's calculations based on LURSOFT data

A comparison of Table 1 and Table 2 data shows that during the five year period in the region, strong economic activity increases were reported in five municipalities – Koknese, Skriveri, Vecumnieki, Iecava and Jaunjelgava – where both overall economic growth and the part of it featured by high technological and knowledge intensity were simultaneously observed.

Since quantity is not always directly associated with quality, let us go to an analysis of the distribution of enterprises in the region and broken down by selected municipalities.

2 Horizontal/structural changes in entrepreneurship in Zemgale region

If we keep in mind the objectives set in the EU development strategy until 2020 and the characteristics of Latvia's economy according to the Global Competitiveness Index, changes in the percentage distribution of entrepreneurship has to become a focus in order to judge about the implementation of smart growth in Latvia's rural economy, as structural change is a driver of economic growth (OECD, 2013).

A comparison of the proportions of HT, MHT and KIS enterprises in the total enterprises in 2009 and 2013 reveals that the proportion has increased by 2.7% points. Vertical growth – the increase in the number of HT, MHT and KIS enterprises – has contributed to an increase in the share of this group's enterprises in the total enterprises in the entire region (see Table 3).

Table 3

Increase in the proportion of HT, MHT and KIS enterprises (NACE Rev.2) in the total enterprises

	Total enterprises in the region	**HT, MHT and KIS enterprises**	**Proportion of HT, MHT and KIS**
2009	2604	308	11.8 %
2013	4215	612	14.5 %
2013/2009	161.9%	198.7%	122.9%

Source: author's calculations based on LURSOFT data

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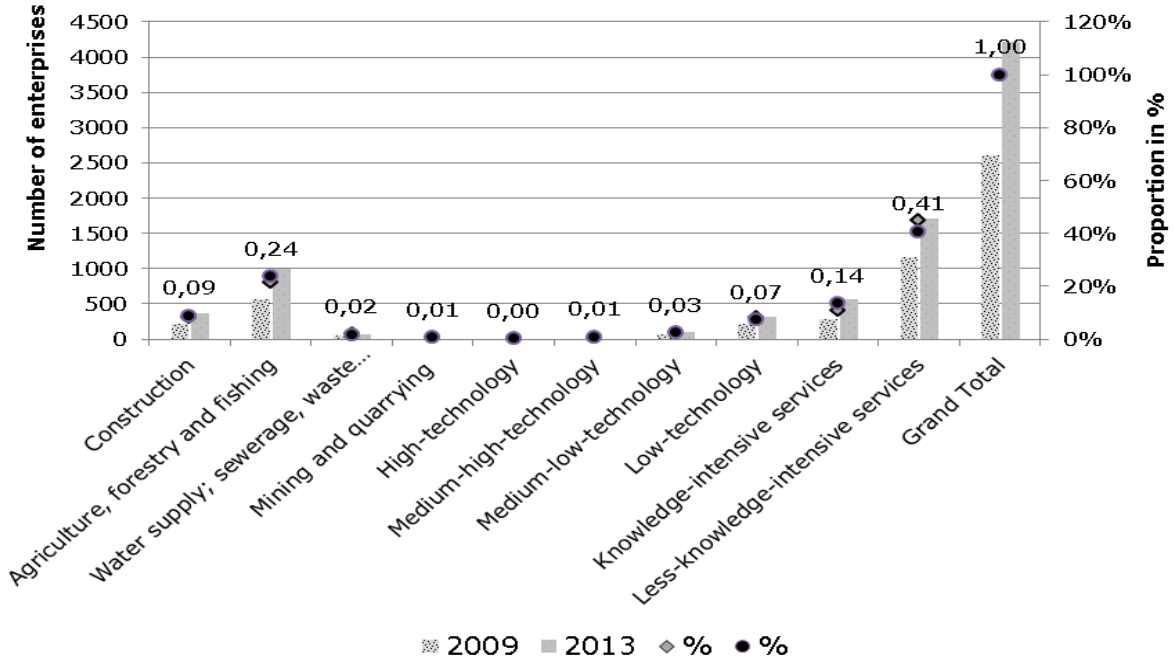
However, the increase in the proportion of HT, MHT and KIS enterprises does not considerably change the situation in the region in entrepreneurship in general; as the proportion of other kinds of business unfortunately is significantly greater (see Figure 3). Enterprises producing less-knowledge intensive services (40.7%), agricultural and forestry enterprises and fisheries (23.5%) prevail in the total enterprises in Zemgale region.



Source: author's construction based on LURSOFT data

Fig. 3. **Proportions of groups of enterprises by sector (NACE Rev.2) in Zemgale region in 2009 and 2013**

If focusing on this problem through a breakdown of municipalities, one has to underline again that the proportions of groups of enterprises are different across administrative units, including the group of HT, MHT and KIS enterprises. In 2009, it ranged from 4.7% (in Akniste municipality) to 18.5% (in Iecava municipality), while in 2013 – from 4.3% (in Akniste municipality) to 22.6% (in Iecava municipality). The comparison of the data for 2009 and 2013 leads to several important findings. First, the maximum and the minimum relate to the same municipalities. The fact that the leading municipality remains the same may be assumed to be a positive result, while the fact, that the municipality performing the decline remains the same may not be considered to be a positive situation. Second, an increasing in the proportions of HT, MHT and KIS enterprises reported only in 14 municipalities (from 1.2% to 6.6%), while in 6 municipalities a decrease was observed (from 0.4% up to 3.7%). So, there was no positive restructuring of business towards knowledge-based entrepreneurship at equal paces and extents in all municipalities (see Table 4).

Table 4

Proportion of the HT, MHT and KIS sector in the total number of enterprises in 2013

High – 18.025 - 22.6%	**Above average 13.45 – 18.025%**
Municipalities of Iecava, Ozolnieki, Rundale and Vecumnieki	Municipalities of Aizkraukle, Auce, Bauska, Dobele, Koknese, Plavinas and Skriveri
Low 4.3 – 8.875%	**Below average 8.875 – 13.45%**
Municipalities of Akniste, Jaunjelgava, Jekabpils, Krustpils, Nereta, Sala and Viesite	Municipalities of Jelgava and Tervete

Source: authors' calculations based on LURSOFT data

The lowest proportion of HT, MHT and KIS enterprises is specific to the municipalities where the primary sector – agriculture and forestry – takes the dominant position in the distribution of enterprises. So, in the region there are territories where HT, MHT and KIS enterprises expand their business and territories

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where traditional industries continue developing (Veveris A., 2015), as the proportion of the agricultural and forestry sector in the total enterprises rose from 21.5% in 2009 to 23.5% in 2013. This is the second largest sector behind LKIS (less knowledge-intensive services), which was dominant in both 2009 (45.0%) and 2013 (40.7%). The increase in the proportion of agricultural enterprises, even though the number of employees in agriculture was persistently declining (CSB,2015), may be explained by the rising demand for organic food, which was, to a great extent, met by small farms that entered the market (Tisenkopfs et al., 2015).

In general, one can state that a sufficient basis for stimulating smart growth has emerged in Zemgale region. In 2013, of the total HT and MHT enterprises, 21 represented producers of chemicals and chemical products, six were producers of computers, electronics and optical equipment, six enterprises manufactured unclassified equipment, mechanisms and machinery, three were electronic equipment producers, one was engaged in the production of pharmaceutical substances and pharmaceutical preparations and one dealt with manufacturing automobiles, trailers and semitrailers and other vehicles. The data prove that entrepreneurship develops in line with the distribution of GPT industries in a region (Lipsey R.G., Carlaw K.I., Bekar C.T., 2005). Of the enterprises providing knowledge intensive services, a third (34.2%) is also oriented towards such support activities as legal services, computer programming, specific programming activities, data collection and processing, advertising services and even research services.

The only question is – does the growth rate of HT, MHT and KIS are sufficient to raise the competitiveness of Zemgale region both on a national scale and on the European Union scale, where products of Latvia must to occupy a market share?

Conclusions, proposals, recommendations

An analysis of vertical economic growth and horizontal restructuring allows drawing several conclusions on smart growth as performance trends particularly in Zemgale region, while at the same time, putting forward hypotheses for assessing the processes being in place in the other regions of the country.

1) Technology-intensive industries and knowledge-intensive service industries expand at higher growth rates than the overall economy both in the region and in each municipality, which may be viewed as a very positive trend in the economic development of rural areas. At the same time, the growth rates by municipality are diverse both in terms of business extent and in terms of HT, MHT and KIS.

2) There were municipalities where both overall business growth and the HT, MHT and KIS sector's expansion were simultaneously observed, which could be called innovation leaders. The skill to be innovation leaders becomes a task of further research to identify factors that contributed to this growth, as Zemgale region is comprised of only municipalities having no towns; this indicates that on certain objective and subjective conditions a trend towards smart growth is also possible in rural territories.

3) The fast vertical growth of HT, MHT and KIS is not followed by equally fast horizontal growth, as an increase in the sector's proportion compared with an increase in the numbers of enterprises and services provided, is smaller; besides, the increase takes place at the expense of KIS rather than HT and MHT. MLT (medium low technology) and LT (low technology) industries and LKIS (low knowledge intensive service) industries continue prevailing. Since the analysis period – the years from 2009 to 2013 – was the global economic crisis period, the cause of minimum structural change might be this phenomenon; yet, there might be other causes that need to be identified in order to understand further opportunities with regard to smart economic growth. One of the causes could be the relatively small number of employees in the HT, MHT and KIS sector and the high standards set for the employees compared with other kinds of entrepreneurship.

4) The analysis period revealed a division in the dominant directions of entrepreneurship; some municipalities focused on developing HT, MHT and KIS, whereas the others focused on traditional industries – agriculture and forestry, which reflected several variations of cohesion trends that have to be taken into account when designing a development strategy by each group of municipalities.

5) Smart growth as knowledge-based economic development is a process that involves a number of problems. The identification of such problems and solutions to the problems is a task of further research through, first of all, analysing the situation in entrepreneurship in the other regions of Latvia based on the same criteria and identifying

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similarities in all the regions that have to be perceived as the characteristic features of Latvia as a whole and through identifying the specifics of smart growth as performance trends in each region. Only after the situation has been analysed in all the regions, science can offer a smart growth strategy suitable for the real conditions and appropriate for every region and the rural areas of Latvia on the whole.

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