COMPETITIVENESS OF PLANNING REGIONS IN LATVIA

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Abstract

There are many qualitative changes in the global economy related with globalization, unbalanced development of countries, tightening of competitiveness struggle among different countries, regions and companies. Since Latvia have joined EU and plays more significant role in international area, more attention is paid to competitiveness of Latvia and its regions. The evaluation of regional competitiveness is difficult, because there is no one generally accepted definition of competitiveness at regional level. Different interpretations of competitiveness depend on the way how to achieve the certain level of prosperity. It is not possible to discuss fully about regional competitiveness, its real position and future perspectives using only traditional macroeconomic indicators. For that reason various extra synthetic indicators are used, that are calculated by different international organizations. The system of indicators for evaluating the Latvia's regions competitiveness was worked out. It contains the main and outside factors that have an effect on competitiveness. The most competitive region of Latvia is Riga region, which has the highest index of competitiveness. The less competitive region is Latgale in the East of Latvia, which shows the lowest values almost in all positions in the model of competitiveness. Great differences between region's development is a very topical problem for further development of Latvia.

Key words: Region, competitiveness, index, indicators, inside and outside factors

Question about evaluation and increasing of competitiveness of Latvia and its regions becomes more topically, because Latvia is engaged in international integration processes. Latvia is interested in providing equal possibilities to get work, income, social and cultural life for all inhabitants. It is necessary to work out scientifically approved method and model, how to calculate and evaluate competitiveness of definite territory to find out those factors, which dwarf or promote growth of competitiveness. So, it will be possible to show potential trend of region development.

Nowadays to characterize socioeconomical situation in regions of Latvia Territory Development Index (TDI) is used, which is calculated for planning regions annually since 1999 [1,24]. However, indicators, which are used to calculate this index, do not characterize all factors of competitiveness, so TDI does not show the competitive advantages and competitiveness in total.

After analyses of the existing methods of the competitiveness evaluation it is possible to conclude, that the best way, how to characterize development and competitiveness of various territories is use of synthetic or generalized indicator – index of competitiveness.

The 1ˢᵗ step in the evaluation of the competitiveness index is to give the definition of regional competitiveness. In the centre of all definitions there is the opinion that competitiveness of region depends on the level of welfare in this region. Various definitions of competitiveness appear from the way, how to achieve high and sustainable level of welfare.

Following the existing researches and emphasizing the main task of regional competitiveness – to increase the level of region population welfare, the author gives the following definition of regional competitiveness:

Regional competitiveness is the ability of the region to use the existing resources effective, to maintain and attract the necessary resources, in such way to satisfy the needs of the region population us much us possible.

The competitiveness of regions is affected by various macroeconomic and microeconomic factors. The author of the article has worked out the model of the factors of regional competitiveness in Latvia, which is shown in Figure 1.
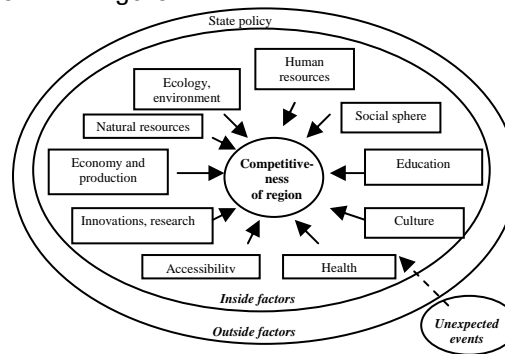

Fig. 1. **Factors of regional competitiveness** [made by the author]

The competitiveness of regions mainly is affected by life quality, productivity and level of employment in the region. These factors, in their turn, depend on the inside factors – human resources, social sphere, education, culture, health etc. Also the outside factors - political stability of the country, strategies, membership in different international organizations, play the important role in the evaluation of competitiveness of regions.

The 2nd step in the process of working out the RCI is selection of the indicators that will characterize 10 inside factors, to characterize the positive aspects of development, effectiveness and the negative effects, as well as let to evaluate the necessary changes in the activities. Optimal system of indicators would allow to understand regularities that determine and influence competitiveness of regions, to forecast the trend of regional competitiveness development and the necessary resources.

Using the author's model of factors of regional competitiveness, there is selected limited amount of indicators to characterize each of the 10 factor groups. It was necessary to take into consideration the condition, that only the statistical data could be used.

There were selected 10 factors and 54 indicators to characterize the competitiveness of regions. Such factors as economy and production, accessibility, social and cultural sphere have most of all indicators. Factor groups that are concerned with human capital development, possibilities to get education, medical aid and innovation sphere have 3 indicators. The selection of the number of indicators depended on the statistical availability and the area of the indicator (indicators do not overlap).

The 3rd step is weighting of the factors. To weight the factors the method of comparing the factor pairs was used, which in point of fact is the expert method [5,93].

The 4th step is the normalization of indicators, the main task of which is to forestall situation, when one or more factors can dominate, because diapason of values can be very different. The normalized values are calculated from the original values that are marked in pieces, %, km etc. In the process of normalization the original measures disappear and various indicators become comparable.

After analyses of different value normalization methods the author chooses min-max normalization [0;1], which is used in situa-

tions, when the values can be only positive numbers and after the normalization they will be in the diapason from 0 to 1.

Normalization is made using the formula 1:

$$a_i^{'} = \frac{a_i - a_{\min}}{a_{\max} - a_{\min}} , \qquad (1)$$

where:

$a_i^{'}$ - normalized value of the factor;

a_i - actual value of the factor;

$a_{\min}$ and $a_{\max}$ - minimal and maximal values of the factor [6].

The choose of this method is well – founded, because:

- relations among the original data are kept;
- regions are compared not to the mean value of the country, but to the best or worse indicators;
- values of indicators are positive numbers;
- the normalized values are easy interpreted and understandable

The 5th step is formation of RCI function. RCI function for the regional competitiveness model, made by the author, is shown in the formula 2:

$$RKI = (\alpha_1 F_C + \alpha_2 F_S + \alpha_3 F_{IZ} + \alpha_4 F_K +$$
$$+ \alpha_5 F_V + \alpha_6 F_P + \alpha_7 F_{IN} + \alpha_8 F_R + \qquad (2)$$
$$+ \alpha_9 F_D + \alpha_{10} F_E) \rightarrow 1,$$

where:

RKI – index of regional competitiveness;

$\alpha_1...\alpha_7$ - relative weights of the factors;

F_C - index of human resources;

F_S - index of social sphere;

F_{IZ} - index of education;

F_K - index of culture sphere;

F_V - index of health sphere;

F_P - index of accessibility;

F_{IN} - index of innovations and research;

F_R - index of economy and production;

F_D - index of natural resources;

F_E - index of ecology and environment

In the 2nd formula the RCI has a tendency to become 1, because in the process of data normalization the min-max normalization [0;1] was applied. It means that the maximal value, which the RCI can get, is 1.

Index of each factor group F_n is calculated using the indicators of this group and applying the min-max normalization [0;1]. To keep the value of the index between 0 and 1 the arithmetical mean of definite factor groups is calculated.

$$F_n = \frac{1}{N}\left(\frac{f_1 - f_{\min_1}}{f_{\max_1} - f_{\min_1}} + \frac{f_2 - f_{\min_2}}{f_{\max_2} - f_{\min_2}} + \right.$$
$$\left. + ... + \frac{f_n - f_{\min_n}}{f_{\max_n} - f_{\min_n}} \right), \tag{3}$$

where:

F_n - index of the regional competitiveness factor;

$f_1...f_n$ - actual values of the indicators of the definite factor;

$f_{\min}, f_{\max}$ - minimal and maximal values of the indicators of the definite factor;

N – number of the indicators of the definite factor.

The 6th step is calculation of RCI. RCI was calculates for planning regions of Latvia, which are shown in Figure 2.

Fig. 2. Planning regions of Latvia

From Figure 2 we can see, that all planning regions are similar by area. Relatively Riga region is less than other regions, its specific weight is 16,5% from all territory of the country. The biggest is region Vidzeme – 23,6% from all territory of Latvia.

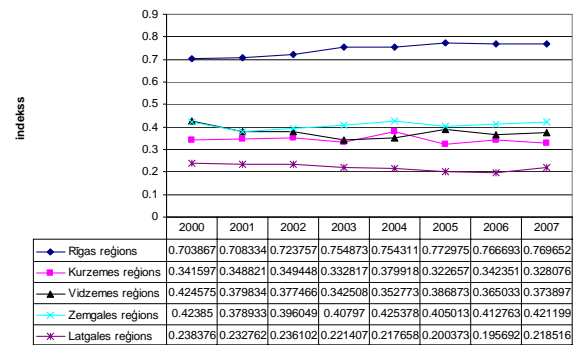RCI for planning regions of Latvia is shown in the Figure 3.

	2000	2001	2002	2003	2004	2005	2006	2007
Rīgas reģions	0.703867	0.708334	0.723757	0.754873	0.754311	0.772975	0.766693	0.769652
Kurzemes reģions	0.341597	0.348821	0.349448	0.332817	0.379918	0.322657	0.342351	0.328076
Vidzemes reģions	0.424575	0.379834	0.377466	0.342508	0.352773	0.386873	0.365033	0.373897
Zemgales reģions	0.42385	0.378933	0.396049	0.40797	0.425378	0.405013	0.412763	0.421199
Latgales reģions	0.238376	0.232762	0.236102	0.221407	0.217658	0.200373	0.195692	0.218516

Fig. 3. Regional competitiveness index RCI for planning regions of Latvia [author's calculations]

In the Figure 3 it is possible to see, that the most competitive region is Riga planning region, where the RCI was 0,76965 in 2007. Kurzeme region was in the 4th place after regions Zemgale and Vidzeme. The last place took planning region of Latgale.

To clear up why the definite region took the definite place, the indicators, used to calculate the RCI, ant their relative weights were analyzed. In the Figure 4 it is possible to see factors of RCI and their values in planning regions of Latvia in 2007.
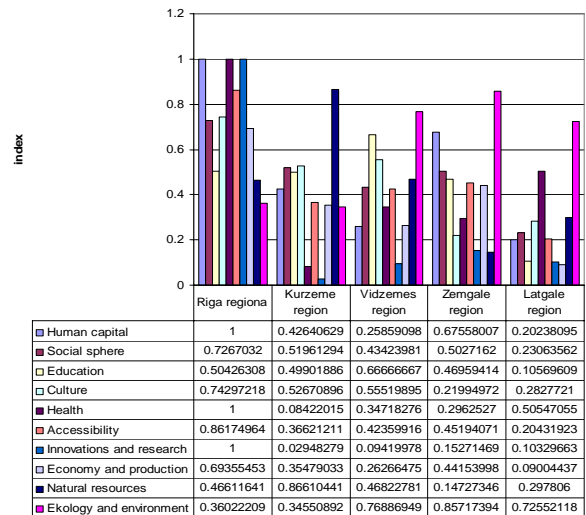
	Riga regiona	Kurzeme region	Vidzemes region	Zemgale region	Latgale region
Human capital	1	0.42640629	0.25859098	0.67558007	0.20238095
Social sphere	0.7267032	0.51961294	0.43423981	0.5027162	0.23063562
Education	0.50426308	0.49901886	0.66666667	0.46959414	0.10569609
Culture	0.74297218	0.52670896	0.55519895	0.21994972	0.2827721
Health	1	0.08422015	0.34718276	0.2962527	0.50547055
Accessibility	0.86174964	0.36621211	0.42359916	0.45194071	0.20431923
Innovations and research	1	0.02948279	0.09419978	0.15271469	0.10329663
Economy and production	0.69355453	0.35479033	0.26266475	0.44153998	0.09004437
Natural resources	0.46611641	0.86610441	0.46822781	0.14727346	0.297806
Ekology and environment	0.36022209	0.34550892	0.76886949	0.85717394	0.72552118

Fig. 4. Factors of RCI and their values for planning regions of Latvia in 2007 [author's calculations]

From the Figure 4 we can also see, that Riga planning region took the first place almost in all positions, but Latgale region was in the last place.

To evaluate levels of competitiveness the following values of the RCI were used:

- 0 – 0,1   very low (VL)
- 0,2 – 0,3   low (L)

–   0,4 – 0,5   intermediate (I)
–   0,6 – 0,7   good (G)
–   0,8   high (H)
–   0,9 – 1,0   very high (VH)

To point out the main factors that promote or dwarf the competitiveness of planning regions, the table of factors and indicators that affect competitiveness of definite region was made (table 1).

Table 1. Factors that affect competitiveness of Kurzeme region in 2007 [made by the author]

Factors	Relative weight	Level of competitiveness				
		Riga region	Kurzeme region	Vidzeme region	Zemgale region	Latgale region
Human capital	0,11	VH	I	L	G	L
Social sphere	0,09	G	I	I	I	L
Education	0,16	I	I	G	I	VL
Culture	0,04	G	I	I	L	L
Health	0,09	VH	VL	L	L	I
Accessibility	0,04	H	L	I	I	L
Innovations and research	0,20	VH	VL	VL	VL	VL
Economy and production	0,18	G	L	L	I	VL
Natural resources	0,02	I	H	I	VL	L
Ecology and environment	0,07	L	L	G	H	G

From the table 1 it is possible to conclude that total level of Riga region competitiveness is high, if we compare Riga region with other planning regions of Latvia. The most competitive areas are health, innovations and research and human capital, which have the highest relative weights. In the sphere of ecology and environment Riga planning region competitiveness is low, but this factor group is not so important in total RCI, because its relative weights is only 0,07.

Competitiveness of Kurzeme region, if it is compared with other planning regions of Latvia, is below the average. The most competitive area in Kurzeme region is natural resources. However, as the relative weight of this factor is small (0,02), natural resources do not affect RCI substantially. But in the areas, which relative weight is higher (innovations and research – 0,2, economy and production – 0,18), competitiveness of Kurzeme region is low or very low.

Vidzeme region competitiveness is intermediate low, but it shows high results in such areas like education and ecology and environment. Education plays more important role in the total RCI, because its relative weight is one of the highest – 0,16.

Competitiveness of Zemgale planning region is also intermediate low, except such spheres as human capital (good performance) and ecology and environment (high performance). The most important is the human capital, because its relative weight is 0,11. But Zemgale region is the most competitive regions of all

planning regions of Latvia in the area of ecology and environment.

The last place took Latgale region, which competitiveness level is low or very low, except ecology and environment (good performance).

To work out the regional policy and state assistance tools, it is necessary to take into consideration and to develop in the future factors and advantages that promote competitiveness of every region. But, special attention must be paid to those factors that dwarf competitiveness of the region, it is necessary to evaluate necessity and possibility to improve them.

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