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QUANTITAVE ASSESSMENT OF REGIONAL ECONOMY COMPETITIVENESS (REPUBLIC OF KAZAKHSTAN CASE STUDY)

The article emphasizes the importance of assessing the competitiveness of regions, defining their competitive advantages and methods of assessing the competitiveness of a region. For Kazakhstan, the problem of increasing competitiveness in the dynamic development of market relations is particularly important. Since the competitiveness of national economy is the sum of regional competitiveness, the article shows different methods of assessing the competitiveness of regions and analyses the competitiveness of Kazakhstan regions from 2009 to 2011 using the index method.
Keywords: region; competitiveness; methods of assessment, the Republic of Kazakhstan, the index method.

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КІЛЬКІСНЕ ОЦІНЮВАННЯ КОНКУРЕНТОСПРОМОЖНОСТІ РЕГІОНАЛЬНОЇ ЕКОНОМІКИ (НА ПРИКЛАДІ РЕСПУБЛІКИ КАЗАХСТАН)

У статті підкреслено важливість оцінювання конкурентоспроможності регіонів, визначено конкурентні переваги регіону і проаналізовано методи оцінювання його конкурентоспроможності. Для Казахстану проблема підвищення конкурентоспроможності за динамічного розвитку ринкових стосунків має особливе значення. Показано, що конкурентоспроможність національної економіки — це сумарна конкурентоспроможність регіонів. Проведено аналіз результатів оцінювання конкурентоспроможності регіонів Казахстану за 2009-2011 рр. за допомогою індексного методу.
Ключові слова: регіон; конкурентоспроможність; методи оцінювання; Республіка Казахстан; індексний метод.
Таб 1. Форм. 6. Літ. 16.

Ардак Н. Тургинбаева, Султан Т. Абилдаев
КОЛИЧЕСТВЕННАЯ ОЦЕНКА КОНКУРЕНТОСПОСОБНОСТИ РЕГИОНАЛЬНОЙ ЭКОНОМИКИ (НА ПРИМЕРЕ РЕСПУБЛИКИ КАЗАХСТАН)

В статье подчеркнута важность оценки конкурентоспособности регионов, определены конкурентные преимущества региона и проанализированы методы оценки его конкурентоспособности. Для Казахстана проблема повышения конкурентоспособности при динамичном развитии рыночных отношений имеет особое значение. Показно, что конкурентоспособность национальной экономики — это суммарная конкурентоспособность регионов. Проведен анализ оценки конкурентоспособности регионов Казахстана за 2009-2011 гг. с помщью индексного метода.
Ключевые слова: регион; конкурентоспособность; методы оценки; Республика Казахстан; индексный метод.

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Introduction. In the regionalization of the world economy and globalization of goods and services' markets, regions act as independent subjects of competition. Under market conditions regions compete with each other for investments (public, private and foreign), the involvement of enterprises, taxpayers, and for resources and markets. Regions are separate entities at national and international markets. According to this, today the problem of ensuring competitiveness of Kazakhstan's regions is very relevant (Dondokov and Zhigzhigitova, 2012).

The most important in the evaluation of regional competitiveness is the definition of competitive advantage of a region — a certain value, unique to this region, which distinguishes it from other regions, and enables it to compete successfully. Competitiveness is the ability of a region to identify, create and use competitive advantages to maintain or improve its position among other regions (Economics, 2010).

In the dynamic development of market economy the problem of increasing competitiveness is very important for Kazakhstan (Nazarbayev, 2006). Since competitiveness of national economy is the total competitiveness of its businesses, manufacturers, territories, cities, regions, one of the ways of economic growth is stimulating the increase of competitiveness at the level of individual enterprises, industry, region (Konturbaeva, 2008).

Currently, there are many methods of assessing competitiveness of regions. However, the heart of most methods described by different authors is evaluation of investment attractiveness of regions (Komarova, 2007), living standards (Porter, 2000) and the presence of competitive industries (Ermishina). This approach is widely used in the world practice.

Literature review and methodology. The study of modern methods of assessing competitiveness of regions suggests they are largely based on the assessment of the countries' competitiveness (Chainikova, 2008). Take notice that to compare the competitiveness of countries, Global Competitiveness Index (GCI) is used, developed by Columbia University professor Xavier Salayi Martin (Xavier Salayi Martin, Columbia University). The index was created for the World Economic Forum, and was first published in 2004 (A draft final report for The European Commission Directorate-General Regional Policy Europe Competitiveness). The index is based on both publicly available statistical data and the results of questioning companies' managers, a comprehensive annual research, which is conducted by the World Economic Forum together with a set of partner organizations — leading research institutes and companies. The global competitiveness index consists of 12 components, which characterize the competitiveness of the countries around the world at different levels of economic development. These components are: "The quality of institutions", "Infrastructure", "Macroeconomic stability", "Health and primary education", "Higher education and training", "Goods and services market's efficiency", "Labor market efficiency", "Development of financial market", "Technological level", "Size of domestic market", "Competitiveness of companies" and "Innovative capacity". The result of calculation of the index defines the rank of the country (Chainikova, 2008).

One of the common methods to assess the competitiveness of a region is the expert method, the difficulties of which are associated with the presence of experts, organization of their work, significant expenses, as well as processing the results of the

expert committee. In addition, expert scores are largely subjective and usually smooth real spread of regional characteristics, as experts avoid extreme estimates (Chainikova, 2008).

Another method also widely used is statistical scores. It is often used with bringing the numerical values statistics to numerical score on a scale (Komarova, 2007). Methodology of evaluating the competitiveness of a region and the choice of certain parameters depend primarily on the goals and objectives of each particular study. Traditional methods of evaluating competitiveness need constant update in connection with the increasing importance of new factors that influence regional development.

According to Russian regionalists L.I. Ushvitskyi and V.N. Parakhin, competitiveness of a region is its ability to provide high standards of living and income of capital owners, as well as efficient use of region's economic potential in the production of goods and services (Uskova, 2010). Based on the fact that regional competitiveness is evaluated by 3 groups of factors, to characterize the competitive position of a region a matrix can be build:

1. The level of efficiency of using resources — standards of living.
2. The level of investment — resource efficiency.
3. The level of investment attractiveness — the standards of living (Ushvitskyi, 2005).

V.V. Pechatkin, S.U. Salikhov and V.A. Sablin under "competitive region" mean an ability of a region's economy to stably produce and consume goods and services in competition with the goods and services produced in other regions, in compliance with environmental standards and ensuring the continued growth of living standards (Uskova, 2010). The system of indicators based on the data from official statistics and indicators, is calculated on this basis. For the calculation of the integral index of competitiveness of a region the following formula is offered:

$$Q_j = \frac{\sum\limits_{i=1}^{jn} U_{ij}^n}{U_{ij}^n \times 100} + \frac{\sum\limits_{j=1}^{k} U_{ij}^k}{U_{ij}^k \times 100}, \tag{1}$$

where:

Q_j — the integral index of competitiveness of j-region;

$\sum\limits_{j=1}^{jn} U_{ij}^n$ — the value of i-th index of j-region, which characterizes region's ability to produce goods and services in a competitive environment;

$U_{ij}^n \times 100$ — regions average ability to produce goods and services;

$\sum\limits_{j=1}^{k} U_{ij}^k$ — value of i-th index of j-region, which characterizes the quality of life;

$U_{ij}^k \times 100$ — the average indicator of quality of life of population; k — the number of indicators; m — the number of regions; i — index number; j — number of a region:

$$1 \le j \le m$$
$$1 \le i \le 11$$
$$1 \le k \le m$$

N.I. Larin and A.I. Makayev offer a method similar to the method of determining country ratings. Its essence lies in the aggregation of a number of specific indicators to the total indicator, which characterizes the relative position of a country (region) for this indicator (Larin and Makayeva, 2006).

Goals of the research. Thus, the study of methodological instruments to assess the competitiveness of a region shows that the current methodology for assessing the competitiveness of regions is still developing. A comparison of existing methods leads to the conclusion that each of them has certain advantages and disadvantages. One of the most important criteria for choosing a particular method is complex, the ability to objectively reflect the level of economic and social development of a region, resource efficiency, and bringing them to the region.

Therefore, the objectives of this study are:

- Identification and synthesis of methodological approaches assessing the competitiveness of regions;

- Evaluation Kazakhstan's regions' competitiveness using one of the methods;

- Development of practical recommendations on improving the competitiveness of Kazakhstan regions.

Empirical results. Competitiveness of Kazakhstan is provided with the hierarchy, sequentially from the competitiveness of domestic goods to the competitiveness of the country as a whole, and the competitiveness of goods creates competitiveness of market entities — enterprises-producers, the overall competitiveness of manufacturing enterprises creates the territorial, regional, country competitiveness (Konturbaeva, G.T., 2008).

Increasing the competitiveness of Kazakhstan is not possible without sustainable regional development. This idea is the key to the "Strategy of Regional Development of the Republic of Kazakhstan till 2015" decree of the President (Strategy of Regional Development of Kazakhstan up to 2015, 2006).

The rankings of Kazakhstan regions was performed using the index method similar to the method used in the Global Competitiveness Ranking, published by the International Institute for Management Development (IMD). This ranking of competitiveness as measured by such indices as the index of economic activity, government efficiency, business and infrastructure efficiency. These indices are calculated as a weighted average of several indicators. For example, an index of economic activity includes the following: international trade, foreign investment.

In order to determine the components of the index, reflecting the level of development and competitiveness of the region firstly we need to determine the number of parameters to be considered in determining the competitiveness of a region. An important condition for the construction of the index, which would be more fully reflected, how competitive is this or that region, is the selection of appropriate indicators to fairly and fully reflect the criteria of competitiveness and the main competitive advantages, to reflection the progressive industrial structure, as well as being statistically accessible and contain minimum of subjective interpretation. The choice of indicators is also determined by the availability of statistical data on these indicators (Agency for Research on Profitability of Investments, 2012).

In our opinion, the most comprehensive definition of region's competitiveness, will be the definition which includes 3 fundamental aspects: the need to achieve high

standards of living, efficiency of regions' economic mechanism (competitiveness of the market for goods or competitiveness provided by production) and its investment attractiveness.

Thus, the main rating parameters are:

1) Index of economic development;

2) Index of living standards;

3) Index of scientific and innovative development;

4) Index of infrastructure development.

For the compilation and calculation of indices we used the strategy of country rating specific to regional competitiveness. Methods of country rating is a method of aggregation number of specific indicators (criteria) to a more general measure, which shows the relative position of a country (region in our case) on the indicator. A distinctive feature of the ratings is scaling of parameters, the essence of which is to bring the indicators measured in different units (the percentage of cash and other units) to the immense quantities in the range of 0 to 1 (where 0 shows to the worst results among the regions, and 1, respectively the best). Scaling will be done by converting the formulas (2) or (3):

$$I_j^i = \left(X_i^j - X_{\min i}\right) \Big/ \left(X_{\max i} - X_{\min i}\right) \qquad (2)$$

$$I_j^i = \left(1 - X_i^j - X_{\min i}\right) \Big/ \left(X_{\max i} - X_{\min i}\right) \qquad (3)$$

where X_i^i — the i-th indicator of j-region; $X_{\min i}$ — the minimum value of i-index of all the regions; $X_{\max i}$ — the maximum value of the i-th among all regions. The transformation with formula (2) is carried out, if large values correspond to better performance, and by (3), if smaller values correspond to the best value.

To get the value of the integral factor, we must first find a simple arithmetic average of individual coefficients, see (4):

$$I_{average} = \sum_{j=1}^{n} I_j^i \qquad (4)$$

Next, we need to convert the values obtained by the formula (5):

$$I_{agregate} = \left(I_{averagej}^i - I_{averagemin}^i\right) \Big/ \left(I_{averagemax}^i - I_{averagemin}^i\right) \qquad (5)$$

This conversion (Eq. 5) is necessary to bring the values of the coefficients to $I_{agregate}$ [0, 1]. Thus, the rating will always has the regions with the best ($I_{agregate} = 1$) and the worst ($I_{agregate} = 0$) parameters, and other regions will be placed accordingly (Agency for Research on Profitability of Investments, 2012).

Computing allows grouping the regions in terms of competitiveness in general, as well as by certain indicator.
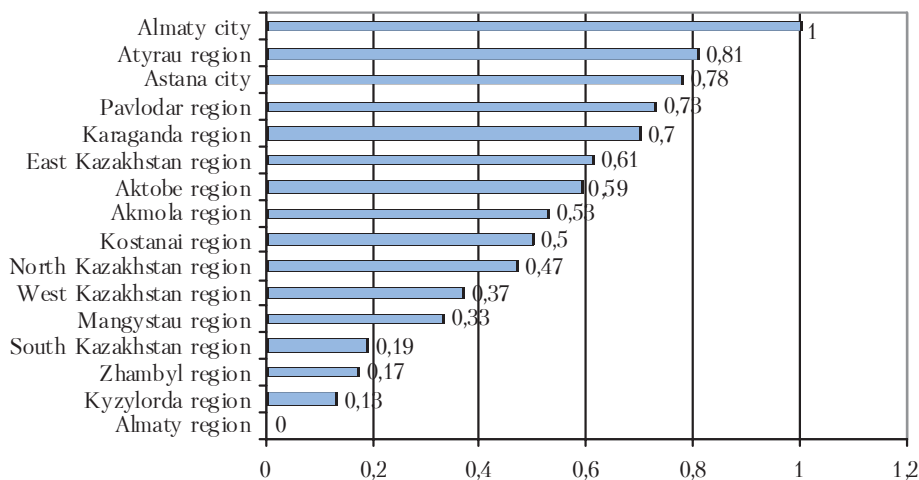
Knowing that the index can range from 0 to 1, there are 3 groups of regions at regular intervals:

Group 1 — high level of competitiveness: $0.66 < I < 1.0$.

Group 2 — medium level of competitiveness: $0.33 < I < 0.65$.

Group 3 — low level of competitiveness: 0.00 < *I* < 0.32.
There are 16 regions and 2 cities, Almaty and Astana, competing in this rating.

Source: Agency for Research on Profitability of Investments, 2012.
Figure 1. **Competitiveness index of regions of the Republic
of Kazakhstan, 2009**

Overall, the ranking in 2010 did not fundamentally chang since 2009. Obviously, the level of competitiveness in western and southern regions are much lower than in central, northern and eastern regions (except Atyrau). The most competitive are Almaty and Astana cities, and Atyrau region. The least competitive are Almaty, Zhambyl and Kyzylorda regions. However, the alignment of outsiders changed in 2010: the rating of Almaty region raised by 2 positions, and Zhambyl and Kyzylorda regions decreased by 1 position.
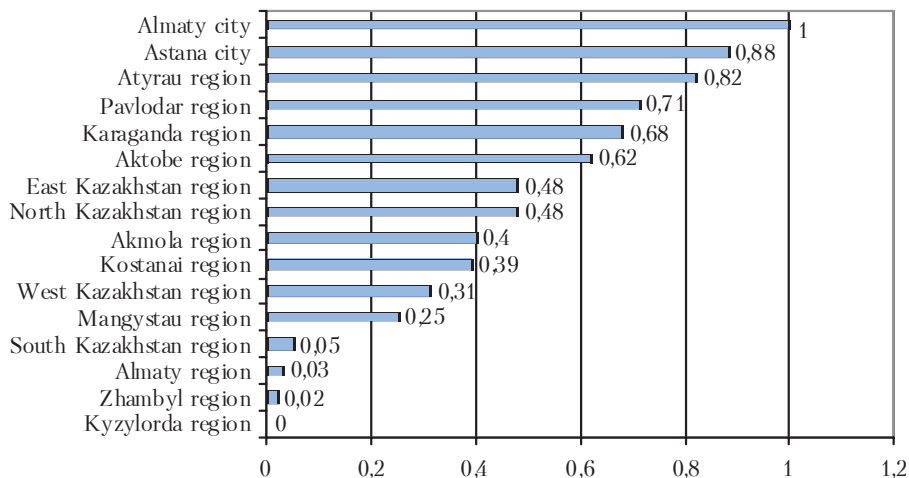
Source: Agency for Research on Profitability of Investments, 2012.
Figure 2. **Competitiveness index of regions of the Republic
of Kazakhstan, 2010**

Table 1. **The components of competitiveness index of regions of Kazakhstan, 2011**

	GDP per capita	Investments in fixed assets	The poverty gap	Number of small businesses	Industrial production
	2011, thous. tenge	2011, mln tenge	2011, %	2011, units	2011
The Republic of Kazakstan	1 665,1	4 026 480	0,9	837 083	15 929 052
Akmola region	1 105,3	111 025	1,3	32 598	236 417
Aktobe region	1 889,8	328 751	0,5	35 570	1 253 915
Almaty region	658,9	299 409	0,3	113 368	444 202
Atyrau region	6 413,6	836 980	0,5	31 012	4 319 754
West Kazakhstan region	2 168,2	127 050	0,9	27 583	1 480 716
Zhambyl region	603,3	97 016	0,6	39 727	185 715
Karagandy region	1 769,4	213 065	0,6	55 855	1 325 357
Kostanai region	1 289,6	127 123	0,9	42 298	563 976
Kyzylorda region	1 464,1	142 172	0,8	21 574	1 063 126
Mangystau region	3 273,5	296 063	1,1	27 593	2 064 855
South Kazakhstan region	580,9	215 308	1,8	135 262	377 180
Pavlodar region	2 045,6	188 277	0,9	31 321	964 739
North Kazakhstan region	1 138,9	67 657	1,8	24 705	116 097
East Kazakhstan region	1 163,1	178 999	1,5	75 196	822 907
Astana city	2 904,1	447 257	0,4	49 001	177 360
Almaty city	3 418,8	350 328	0,2	94 420	532 735

Source: Statistics agency of the Republic of Kazakhstan, 2011.

In determining the index of regional competitiveness we accounted indicators such as GDP per capita, investment in fixed assets, poverty rate, industrial production, unemployment etc. The table summarizes the key indicators included in the index of regional competitiveness. The table shows that the relatively high rank belongs to Almaty and Astana cities, Atyrau region, however, the same area has one of the lowest standards of living. Medium level of competitiveness belong to Karaganda, Pavlodar and East Kazakhstan regions.

Conclusion and suggestions. We can say that Kazakhstan regions have high heterogeneity. Geographical location and availability of natural resources have great impact on the regions' competitiveness.

Also, it is clear that the central and eastern areas of the republic are the most industrialized regions due to the fact that there are a large number of major heavy industries, such as coal mining, ferrous and non-ferrous metallurgy. In addition, these regions have a more advanced electric power infrastructure. The regions of the southern zone have relatively low levels of socioeconomic development due to smaller number of large industrial companies and weaker resources (Sagymbekov, 2009).

The regions with medium level of competitiveness are 5 of 16 regions, such as: Aktobe, East Kazakhstan, North Kazakhstan, Akmola and Kostanay regions.

The list of the regions with a low level of competitiveness has increased from 4 to 6: West Kazakhstan and Mangystau regions left the ranks of the middle-competitive-

ness, joined the low level of competitiveness, where South Kazakhstan, Almaty, Zhambyl and Kyzylorda regions belong.

According to the CMAR experts, to improve the competitiveness of its regions, Kazakhstan should pay more attention to their development, using existing resources to create regional clusters. However, today there is a huge gap in many social and economic indicators between the regions of Kazakhstan. Most of them have a low level of competitiveness, and none of them has a high level of productivity.

However, the areas have their strengths, developing of which can increase the competitiveness of the country. And, above all, according to analysts, regional and local authorities should create the conditions for innovations and improvement of living standards.

In this regard, the Government is establishing the councils of competitiveness in the regions as a mechanism of partnership between the state and business, development and implementation of regional strategies. Big cities and regions around the world are solving a problem of implementing new technologies. All regions cannot be developed at the same time. Thus we should define the region of most active development and form a "growth poles" base on them (Konturbaeva, 2008).

To ensure effective positioning and spatial development of the country and its regions, the Government should implement not only general economic incentives in economic activity, but also should focus on several specific tasks, such as: rational use of the resource potential of the territories as an important factor of production, creation of effective territorial economic business organization aimed at competitive economic specialization of countries and regions, form a complete infrastructure to support the growing needs of the economy and high-quality human capital.

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