

ЭКОНОМИКАЛЫҚ ҒЫЛЫМДАР

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Evaluation of regions' competitiveness as the main parameter of economic development

Abstract

Main problem: In modern science, there are a large number of techniques focused on the assessment of competitiveness through the analysis of certain resources in the region. However, accounting of human resources in such assessments is not used as a prior factor in identifying regional competitive advantages. Competitive advantages affect not only the efficiency of individual sectors of the economy but also the overall social and economic development of the country. Evaluation of the competitiveness of the region should include one of the main parameters of the human resource and economic development level. Therefore, the forecast for the competitiveness of the region should take into account the pace of human resources development.

Purpose of the research is evaluation of regions' competitiveness as the main parameter of economic development in current conditions.

Methods: The methods used in Kazakhstan for assessing the competitiveness of a region considers only the assessment of human resources in its structure but do not take into account the level of their development over time, as well as the multi-factorial nature of their components.

Results and their value: The work explains and analyzes rating model for assessing of the competitiveness of the regions of Kazakhstan (the National Chamber of Entrepreneurs of the Republic of Kazakhstan). The authors proposed a methodology for ranking the regions of Kazakhstan based on an assessment of the development of their human resources that affect the competitiveness of the region. It includes an analysis of demographic, labor and social and economic indicators reflecting the state of human resources.

Keywords: assessment of competitiveness of regions, human resources, methods of ranking regions, competitiveness of regions of Kazakhstan.

Introduction

The different level of social and economic development of the regions depends on various factors (geographical, climatic, demographic, etc.). In economics, the relevant problem is the analysis of factors that affect the crisis of individual territories and the search for tools aimed at increasing their competitiveness in the national and international markets. Particularly, this issue is of urgent demand in developing countries.

Many studies of the Kazakhstani economy are of a formal nature since they consider the concept of underdeveloped regions, the factors responsible for the appearance of social and economic problems and the typical ways of solving them. The issues of assessing the competitiveness of regions, the search for competitive advantages of territories, especially by improving the quality of human resources, are not studied enough.

Materials and methods

The open type of Kazakhstan economy provides the interconnection and interdependence of regions because the commodity sector is the main sector that drives the economy. In regions, which are rich in natural resources, there is a slight economic recovery that resulting in the standard level of well-being of residents [1-3]. Reverse processes are observed in non-extractive areas with high population density and the availability of human resources. This generates a differentiation in the development of territorial units of the country.

The reason for the division of the economic space of Kazakhstan into separate regions is the presence of the large extent of territories and theirs heterogeneity. There are 16 territorial entities in the Republic, including 14 regions and 3 independent units: Nursultan, Alma-Ata and Shymkent cities. In the framework of regional policy, they are divided into 6 groups. The basis of the grouping that originates from the Concept of regional policy of the Republic of Kazakhstan is the principle of difficulty.

This classification of regions is relevant in modern conditions. In Table 1 the analysis of indicators of social and economic development of the region of Kazakhstan is presented.

Table 1 – The main social and economic indicators of the regions of Kazakhstan (according to data for 2021)

Region share, percent	Group					
	I	II	III	IV	V	VI
In the total population	12	6	21	30	8	23
In GRP	27	17	21	16	7	12
In production	9	30	26	15	10	10
In the production of agriculture	1	2	20	30	18	29
In fixed investment	18	30	13	18	7	14

Source – Compiled by the author based on data from the Committee on Statistics of the MNE RK [3]

The first group includes Alma-Ata city and NurSultan city (Astana) which are the largest financial, economic and social centers. Their distinctive characteristics are a high level of human resources, a stable level of citizens' well-being, a developed industrial sector and the availability of scientific and technical potential. Their regional policy provides the comprehensive expansion of infrastructure, the formation of business centers and the development of tourist destinations.

The second group includes 3 areas which are rich in mineral resources – Atyrau and Mangystau regions, Shymkent city. The standard of living of their inhabitants is the highest in the Republic of Kazakhstan.

The third group is represented by 3 regions: Karaganda, East Kazakhstan, and Pavlodar. They are distinguished by the wealth of mineral resources. The real sector of the economy of these regions is dominated by light industry and engineering and by the mining and manufacturing industries which are based on local raw materials. Regional policies in of the regions of the second and third group are focused on the development of transport and communications, increasing the share of small and medium-sized businesses in the agro-industrial sector, developing programs for industrial-innovative development of the manufacturing industry. Environmental protection is a separate area of regional policy, dedicated to the territories rich in raw materials, especially for those that are in the Caspian Sea shelf zone.

The fourth group included Kostanay, Aktobe, Zhambyl and Turkestan regions. The common characteristics of these territories are the availability of mineral resources and agricultural land. The level of human resources development and their average per capita income is lower than in developed regions. The key direction of the regional policy is the development of transport and processing directions in agriculture, the expansion of the potential of large economic entities.

The fifth group includes North Kazakhstan and West Kazakhstan regions. Mechanical engineering and agriculture predominate in the structure of their real sector of the economy. The oil and gas industry is one of the weak sectors of the regions. The regional policy provides for the modernization of engineering and defense industry, the development of areas related to agriculture.

The sixth group includes Almaty, Akmola and Kyzylorda regions. The main field of activity of the regions is connected with the development of agriculture. In terms of human resources and per capita income, these regions lag behind the cities of Alma-Ata and NurSultan (Astana), and regions of the second and third group. The exception is Kyzylorda region (oil field development zone). The main directions of regional policy are focused on the development of entrepreneurship that provides services for agriculture and on the expansion of new industrial productions. These activities will give a chance to improve the well-being of residents.

Increasing competitiveness in regional policy is based on the economic development of each of the 17 regions. This provision is enshrined in the Forecast scheme of territorial and spatial development of the country until 2021.

The rating model for assessing the competitiveness of the regions of Kazakhstan that is based on indices was developed by the Agency for the Study of Return on Investment operating under the National Chamber of Entrepreneurs of the Republic of Kazakhstan [4]. An index approach is the foundation of this rating [5]. The integrated competitiveness index is calculated by summing the weighted average for each group of indicators.

During the determination of the components of the region's competitiveness indices, adequate indicators are chosen that reflect the competitive advantages and innovativeness of the economy. They must be statistically reliable and objective (the subjective opinion of the researcher in the interpretation should be reduced to zero). When selecting indicators, the availability of statistics is taken into account.

The competitiveness rating strategy is used as a basis for calculating indices. It provides for the accumulation of private indicators in a single integrated value, characterizing the relative positions of the studied criteria. Scaling is used to organize indicators that are measured in different units. It envisages their conversion into immeasurable values from 0 to 1 (0 indicates the worst result, 1 is the best). Scaling is based on formulas (1) and (2).

$$K_n^i = K_n^i = \frac{Y_n^i - Y_{\min}}{Y_{\max} - Y_{\min}} \quad (1)$$

$$K_n^i = \frac{1 - Y_n^i - Y_{\min}}{Y_{\max} - Y_{\min}} \quad (2)$$

where,

Y_n^i – n -th indicator of the region i ;

Y_{\min} – the minimum value of the indicator for all regions of the sample;

Y_{\max} – the maximum value of the indicator for all regions.

Formula (1) is used if the maximum value corresponds to the best result. Otherwise, apply the formula (2). Let us determine the arithmetic average of indices necessary for the calculation of the integrated coefficient (3).

$$K_{\text{arithmetic average}} = \sum_{n=1}^m K_n^i \quad (3)$$

The result is transformed by the formula (4):

$$K_{\text{arithmetic average}} = \frac{K_{\text{arithmetic average}.n}^i - K_{\text{arithmetic average}.min}^i}{K_{\text{arithmetic average}.max}^i - K_{\text{arithmetic average}.min}^i} \quad (4)$$

This transformation is necessary for scaling indicators in the range [0; 1]. Thus, the best value of the indicator will be assigned 1 in the study, the worst - 0. Other regions will be located in the taken range.

Transformations made it possible to rank the regions of the Republic of Kazakhstan by a general indicator of competitiveness and by private indices, which evaluate a particular sphere.

According to the level of development of competitiveness, 3 groups can be identified:

1. Absolute competitiveness. The coefficient takes a value in the range from 0.66 to 1.
2. Stable competitiveness. The index ranges from 0.33 to 0.65.
3. Minor competitiveness. The index takes a value from 0 to 0.32.

Results

The first group included Alma-Ata city, NurSultan city (Astana), Atyrau region and Shymkent city. The third group is represented by Almaty, Zhambyl and Kyzylorda regions (Figure 1).

According to the methodology of the above-mentioned Investment Return Research Agency operating under the National Chamber of Entrepreneurs of the Republic of Kazakhstan, the region's competitiveness index is made up of the following indicators (Table 2).

The maximum value of the competitiveness index is observed in NurSultan city (Astana), Alma-Ata city and Atyrau region. However, the level of human resources development in the Atyrau region is not high in comparison with the other two.

According to these indicators, the most competitive regions are NurSultan city (Astana), Alma-Ata city and Atyrau region. They are distinguished by high rates of GRP per capita, investments in fixed assets, the number of small businesses, and a high level of human resources development.

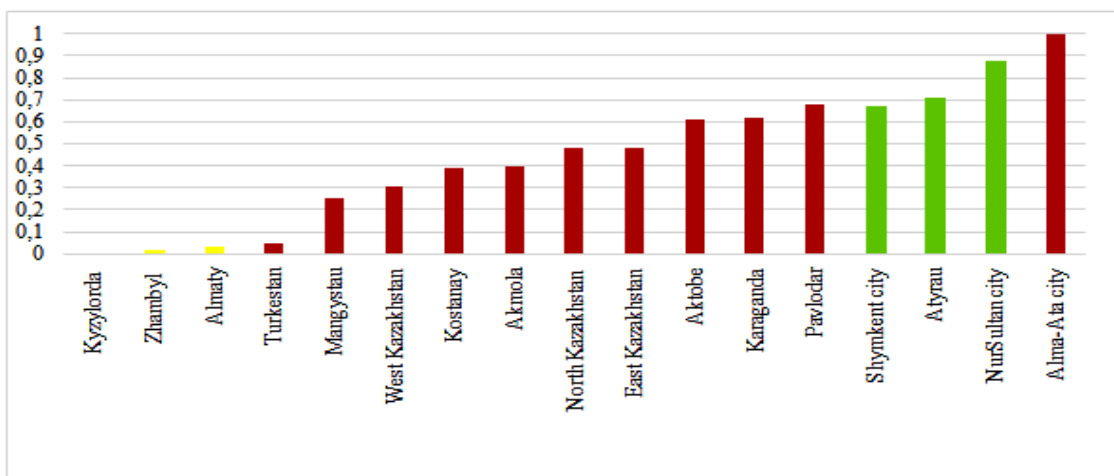


Figure 1 - Regional Competitiveness Index in 2021

Source – Compiled by the author according to the National Chamber of Entrepreneurs of the Republic of Kazakhstan [4]

Table 2 – Key indicators of the competitiveness index of the regions of Kazakhstan (according to data for 2021)

Region	GRP, billion euros	Investments in fixed assets, billion euros	Human Development Index	Industrial output, billion euros	The number of small businesses, units
Akmola	2,81	0,28	0,5	1,06	8994
Aktobe	5,73	0,32	0,1	4,04	13972
Almaty	6,09	1,73	0,5	2,01	14101
Atyrau	14,70	1,65	0,6	1,39	8745
West Kazakhstan	5,78	1,03	0,3	4,85	8670
Zhambyl	3,34	0,41	0,1	0,95	7675
Karaganda	10,70	2,10	0,3	5,87	21780
Kostanay	4,52	0,98	0,2	1,93	10345
Kyzylorda	3,60	0,61	0,3	1,85	6609
Mangystau	8,29	1,76	0,1	5,86	11286
Turkestan	7,88	1,05	0,2	2,20	24300
East Kazakhstan	7,83	1,33	0,2	4,50	18720
NurSultan city (Astana)	14,20	2,40	0,7	1,45	49450
Alma-Ata city	29,23	1,30	0,8	2,28	99325
Pavlodar	5,92	2,70	0,4	4,50	43316
Shymkent city	6,24	2,60	0,4	3,73	12605
North Kazakhstan	2,75	0,48	0,3	0,61	37340

Source: Compiled by the author according to the National Chamber of Entrepreneurs of the Republic of Kazakhstan [4]

Regions with stable competitiveness include Aktobe, East Kazakhstan, North Kazakhstan, Akmola and Kostanay regions. The common characteristics of these regions are developed energy infrastructure.

The regions located in the south of Kazakhstan are less competitive. They are South Kazakhstan, Kyzylorda, Zhambyl, Mangystau, Almaty and West Kazakhstan regions. But at the same time, the latter region shows an above average human development index in comparison with other regions of this list.

Often economists point out that in order to increase the competitiveness of a developing country, it is necessary to create clusters based on the available resources of the regions [6, 7, 8]. However, between the social and economic development of individual territorial units, there are serious imbalances. 37,5 % of regions have low competitiveness. None of them could show a high level of productivity, even regions with a high level of human resources development [9].

Discussion

Another significant study on the assessment of the competitiveness of the regions of Kazakhstan was conducted by the “SANDZH” Research and Development Center for the Regional Development Department of the MNE of Kazakhstan [10]. The regions were ranked according to key statistical indicators for the period of 2017 and 2021.

This made possible to determine the competitive advantages of each territorial unit and zone of possible growth and development. The analysis is based on indicators that are available on the Committee on Statistics of the MNE RK.

The methodological base is represented by 19 indicators grouped into 3 categories:

- economic;
- social;
- investments in education and health care.

The latter, as we justified in the first section of this work, is the basis for the development of human resources. To illustrate the results in the same units of measurement, they are accounted for in percentage or in proportion. The alignment of regions in accordance with the obtained values allows determining their problems in comparison with other territories. The interpretation of results is the next:

1-6 place – regions with good competitiveness. Intervention by the executive is not required.

7-11 place – regions with stable competitiveness. The executive branch controls its social and economic development and implements targeted measures to improve efficiency in certain sectors of the economy.

12 - 17 place – regions with low competitiveness. Regular government intervention is required to improve the effectiveness of regional policies.

In the study, the regions were ranked into the following groups (table 3):

1. Leader: NurSultan city (Astana), Alma-Ata city, Atyrau, Pavlodar, Aktobe and Mangistau regions. Their rank in the rating is from 1 to 6 places respectively.

2. Middle: West Kazakhstan, Shymkent city, Karaganda, Almaty, Kyzylorda, East Kazakhstan regions. Their place in the ranking is from 7 to 11 inclusively.

3. Outsider: North Kazakhstan, Kostanay, Akmola, Turkestan, Zhambyl regions (from 12 to 17 places).

Table 3 – Ranking of the regions of Republic of Kazakhstan

Region	The final place in the rating	Place in the ranking of economic development	Place in social development rating	Place in the ranking of investments in education and health
NurSultan city (Astana)	1	5	1	1
Atyrau	2	1	4	4
Alma-Ata city	3	3	8	2
Aktobe	4	2	9	3
Mangystau	5	4	2	5
Pavlodar	6	6	11	7
West Kazakhstan	7	8	10	8
Shymkent city	8	7	12	9
Karaganda	9	9	13	6
Almaty	10	10	3	15
Kyzylorda	11	11	6	13
East Kazakhstan	12	6	17	11
Kostanay	13	10	16	10
North Kazakhstan	14	14	14	11
Akmola	15	13	15	14
Turkestan	16	16	5	17
Zhambyl	17	17	7	16

Source: Compiled by the author according to SIC “SANDZH” [10]

As a result, the ranking showed that a high level of investment in education and health care, as the main directions of human resources development, is characteristic of the regions that occupy the first places in the final competitiveness rating. The analysis allows for identifying strengths and weaknesses. For example, NurSultan city (Astana), not being a region of the extractive industry, is in the fifth place in the rating of economic development, that is because of the indicator of innovative development and an effective non-productive sector of the economy.

Alma-Ata city is characterized by social problems such as a high level of crime and high prices for the grocery basket. The cause of the first problem is the presence of a large number of migrants (a large city in the border area). The second is the result of an excess of demand for goods and services over supply (caused by residents' incomes above average). Nevertheless, in Alma-Ata city, the growing investment in education, a high level of literacy and life expectancy is above average, and such trend allowed the city of republican significance to come out on top in the final ranking.

Atyrau and Mangystau regions included in the TOP 5 of the ranking, also have a number of problems. Basically, they are connected with the raw material production orientation of the regional economy. They are characterized by low indices of the volume of the industry per person and high prices.

The lowest level of investment in education and health care is in the Turkestan and Zhambyl regions. Also, these regions took the last places in the final competitiveness rating.

Turkestan region occupies 15th place in the final ranking. However, according to the integrated social indicator, the region is in the list of top 5, which is due to the low level of mortality from cancer and positive population growth.

Zhambyl region is in the last place. The reason for it, apart from the problems of education and health, is the low level of well-being of residents, and problems in the economic development of the region. In terms of crime, it ranks 7th place.

In addition to the research of “SANDZH” Research and Development Center, we used the scale of variation for assessing differences between macroeconomic indicators. It is characterized by a significant error, the maximum and minimum value of the indicator may differ significantly from other values. But in the result, it illustrates the most complete representation of regional heterogeneity. Table 4 demonstrates an indicator of the magnitude of variation by region with the largest gap.

Table 4 – The scale of variation for the most significant indicators of the development of the regions of Kazakhstan (for example, individual regions for 2021)

GRP per capita, €						
Maximum value	Atyrau	6878,2	Atyrau	6878,22	Alma-Ata city	12526,9
Minimum value	Zhambyl	338,49	Turkestan	670,71	North Kazakhstan	2425,5
The ratio		20,3		10,2		5,2
Nominal wages (on average per month), €						
Maximum value	Atyrau	449	Atyrau	449	Alma-Ata city	565,9
Minimum value	Zhambyl	189	Turkestan	225,6	North Kazakhstan	35,4
The ratio		2,37		1,99		15,9
Nominal income of citizens, €						
Maximum value	Atyrau	249,4	Atyrau	249,4	Alma-Ata city	343,2
Minimum value	Zhambyl	93,1	Turkestan	73,1	North Kazakhstan	62,5
The ratio		2,7		3,4		5,5
Investments in education, thousand. €						
Maximum value	Atyrau	1058,4	Atyrau	1058,4	Alma-Ata city	1716
Minimum value	Zhambyl	465,5	Turkestan	365	North Kazakhstan	375
The ratio		2,27		2,9		4,57
Investments in healthcare, thousand. €						
Maximum value	Atyrau	1356	Atyrau	1356	Alma-Ata city	2200
Minimum value	Zhambyl	666	Turkestan	894	North Kazakhstan	660
The ratio		2,4		1,6		3,3
Source: Compiled by the author according to the Committee on Statistics of the MNE RK [3]						

The directions of regional policy are determined by the chosen development scenario. Many researchers agree that in the context of the modernization of the economy, structural policy is an effective tool.

Conclusion

Despite a large amount of research, there is no agreed definition of the term “regional structural policy”. In a broad sense, its meaning is accepted as an instrument of influence of the executive authorities of a territorial unit on all structural elements of the economic system. The regional structural policy is subdivided into subtypes (innovation, investment, etc.), one of which should be a policy on the development of human resources in order to increase the competitiveness of the region.

A high level of competitiveness of a region cannot be achieved without the development of human resources and their rational use. The latter is necessary for lagging regions since they have a number of serious problems:

- imbalance between supply and demand for human resources;
- lack of financial and material resources to implement human resource development strategies;
- the lag of human resources development from the requirements of an innovative economy;
- the discrepancy between plans to accelerate the development of human resources and the pace of sustainable development.

Thus, the assessment of the competitiveness of the region should include one of the main parameters of the level of human resource development. Therefore, the prognostic assessment of the competitiveness of a region should be focused on the pace of human resource development. The methods used in Kazakhstan for assessing the competitiveness of a region provide for the assessment of human resources in structural level but do not take into account their level of development over time.

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Экономикалық дамудың негізгі параметрі ретінде өңірлердің бәсекеге қабілеттілігін бағалау

Қазіргі ғылымда аймақтағы белгілі бір ресурстарды талдау арқылы бәсекеге қабілеттілікті бағалауға бағытталған көптеген әдістер бар. Алайда, мұндай бағалаулардағы адам ресурстарын есепке алу өңірлік бәсекелестік артықшылықтарды айқындау кезінде басым фактор ретінде пайдаланылмайды. Бәсекелестік артықшылықтар экономиканың жекелеген секторларының тиімділігіне ғана емес, сонымен бірге елдің жалпы әлеуметтік-экономикалық дамуына да әсер етеді. Өңірдің бәсекеге қабілеттілігін бағалау адам ресурстарының негізгі параметрлерінің бірін және экономикалық даму деңгейін қамтуға тиіс. Сондықтан өңірдің бәсекеге қабілеттілігінің болжамы адам ресурстарының даму қарқынын ескеруі тиіс.

Зерттеудің мақсаты қазіргі жағдайда экономикалық дамудың негізгі параметрі ретінде өңірлердің бәсекеге қабілеттілігін бағалау болып табылады.

Өңірдің бәсекеге қабілеттілігін бағалау үшін Қазақстанда пайдаланылатын әдістер оның құрылымындағы адам ресурстарын бағалауды ғана ескереді, бірақ уақыт өте келе олардың даму деңгейін, сондай-ақ олардың компоненттерінің көп факторлы сипатын ескермейді.

Жұмыста Қазақстан өңірлерінің бәсекеге қабілеттілігін бағалаудың рейтингтік моделі (Қазақстан Республикасының Ұлттық Кәсіпкерлер Палатасы) түсіндіріледі және талданады. Авторлар өңірдің бәсекеге қабілеттілігіне әсер ететін олардың адами ресурстарының дамуын бағалауға негізделген Қазақстан өңірлерін саралау әдістемесін ұсынды. Ол адам ресурстарының жай-күйін көрсететін демографиялық, еңбек және әлеуметтік-экономикалық көрсеткіштерді талдауды қамтиды.

Түйінді сөздер: өңірлердің бәсекеге қабілеттілігін бағалау, адам ресурстары, өңірлерді саралау әдістері, Қазақстан өңірлерінің бәсекеге қабілеттілігі

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Оценка конкурентоспособности регионов как основной параметр экономического развития

В современной науке существует большое количество методик, ориентированных на оценку конкурентоспособности посредством анализа определенных ресурсов в регионе. Однако учет людских ресурсов в таких оценках не используется в качестве приоритетного фактора при определении региональных конкурентных преимуществ. Конкурентные преимущества влияют не только на эффективность отдельных секторов экономики, но и на общее социально-экономическое развитие страны. Оценка конкурентоспособности региона должна включать один из основных параметров

человеческих ресурсов и уровень экономического развития. Поэтому прогноз конкурентоспособности региона должен учитывать темпы развития человеческих ресурсов.

Целью исследования является оценка конкурентоспособности регионов как основного параметра экономического развития в современных условиях.

Методы, используемые в Казахстане для оценки конкурентоспособности региона, учитывают только оценку человеческих ресурсов в его структуре, но не учитывают уровень их развития с течением времени, а также многофакторный характер их компонентов.

В работе разъясняется и анализируется рейтинговая модель оценки конкурентоспособности регионов Казахстана (Национальная палата предпринимателей Республики Казахстан). Авторами предложена методика ранжирования регионов Казахстана, основанная на оценке развития их человеческих ресурсов, влияющих на конкурентоспособность региона. Она включает анализ демографических, трудовых и социально-экономических показателей, отражающих состояние человеческих ресурсов.

Ключевые слова: оценка конкурентоспособности регионов, человеческие ресурсы, методы ранжирования регионов, конкурентоспособность регионов Казахстана.

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