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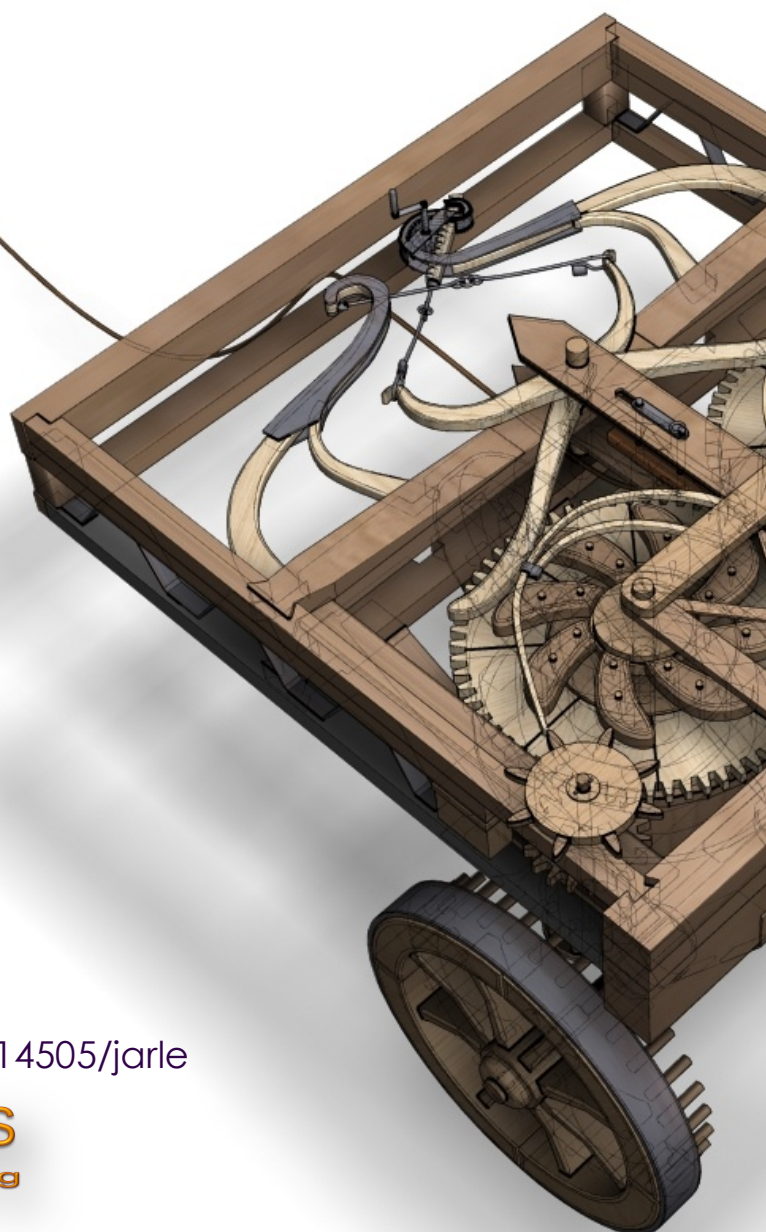
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Assessment of Competitive Advantages of the Pavlodar Region and its Economic Strength

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Abstract

Findings of the analysis of the key competitive advantages of the Pavlodar region, which is a large industrial center of the Republic of Kazakhstan and has substantial economic strength, have been reflected in this article. Competitive advantages of the region, including a rich natural resources potential, availability of a developed industrial and social infrastructure, high scientific and technical capacity, and the connecting role between Central Asia and Siberia, have been reviewed. Solid competitive advantages for investing in the development of the region have been revealed. The authors have stated general positive factors that contribute to expansion of the economic strength of the Pavlodar region and positively influence the sustainability of the development of the regional economy. The problems that influence the competitiveness of the region and reduce the efficiency of using its economic strength have been identified. The opportunities and areas for development of the region in the medium and long term, taking into consideration the indicated development trends, have been summarized.

Keywords: Agribusiness; gross regional product; poverty index; quality of living; competitiveness of the region; industry; region; regional economy; territorial production complex; living standards; ecology; economic strength.

JEL Classification: Q13; I31; O18.

Introduction

The current stage of the economic development is described by an increasing role of regions in ensuring the competitiveness of the national economy. Development of any socio-economic formations, including the region, is non-linear, asymmetric, waved and cyclical. The categories of sustainability and competitiveness, the contours of which can hardly be subject to a joint designation, quantitative and qualitative comparison and identification, are therefore so important for assessing the development of the region.

As a sharing portion, the competitiveness of the region can be a subject of a separate analysis, which allows determining its place and role in the economy of the country, as well as competitive advantages in

comparison with other regions.

The competitiveness of the region differs from its competitive position. The latter is understood by us as a combination of competitive advantages determined by the factor conditions and creating a favorable position for the region on the relevant factor competitive market. In other words, a competitive position is an intermediate link between the competitiveness and real competition of the region. The competitive position is somewhat present in competitiveness (Pikovskiy 2012).

The purpose of assessing the competitiveness of the region is to identify imbalances and unutilized opportunities for economic growth for the purposes of subsequent justification of the options of the strategy of the socio-economic development of the region. In this case, this assessment is aimed at solving the following problems:

- assessment of the state of the natural resources potential of the region;
- identification of causes of environmental degradation;
- assessment of the achieved living standards and the quality of living of the population, availability of basic social infrastructure facilities; and
- assessment of the achieved level of economic development of the region (of industry, agriculture, industrial infrastructure) from the standpoint of the possibility of functioning within the market conditions, etc. (Tatarkin 2009).

Solution of all the above mentioned analysis problems is aimed to identify opportunities for enhancing the complexity of the economic development of the region (including its cities and regions), on the one hand, and to assess the conditions for its successful functioning in a market economy, proceeding from the rational use of labor, material, natural and financial resources, on the other hand (Bobylyev 2011).

1. Methods

Various methods of economic research found use in the study: comparative method, computational and chart method, economic and statistical methods, as well as economic and mathematical methods (observation, summary, grouping).

2. Results

Development of Kazakhstan regions is one of the priority tasks today, because the dynamically developing and competitive regions constitute a source of growth for the entire country and a backbone of the national policy aimed at reducing regional disparities and contributing to a better-balanced development.

The Pavlodar region is one of the most industrially developed and dynamically developing Kazakhstan regions. Historically, one of the largest territorial production complexes within the economic space of the Commonwealth of Independent States (hereinafter CIS) was established there, with an optimal combination of traditionally complex industries and enterprises engaged in the development of mineral and hydrocarbon raw materials.

The Pavlodar region is a dynamically developing extracting and industrial region of the Republic of Kazakhstan, which has strategic importance for the republic. Over the past few years, development of the Pavlodar region has been focused on establishment of a balanced structure of the industry and favorable conditions for the growth of priority sectors. Establishment of enterprises manufacturing products with a high share of added value and increasing the competitiveness of the industrial products of the region on the domestic and foreign markets can solve this task (Socio-economic Passport of the Pavlodar Region).

Strong natural resources potential of the region, availability of the developed industrial and social infrastructure, high scientific and technological potential, as well as its linking role between Central Asia and Siberia attract close attention of both domestic and foreign investors.

Competitiveness of the Pavlodar region is largely determined by the fact that the region is a border area. The region shares its borders with the Omsk region in the north, with the Novosibirsk region in the northeast, with the Altai region of the Russian Federation in the east, with the East Kazakhstan and Karaganda regions in the south, and with the Akmola and North Kazakhstan regions of the Republic of Kazakhstan in the west. Cooperation between the Omsk, Novosibirsk and Pavlodar regions has been ongoing for a long time since the Soviet Union times. A number of measures have been implemented between the Pavlodar region and regions of the Russian Federation (hereinafter RF), aimed at strengthening the mutual relations between the border territories (Akhmetzhanova *et al.* 2011).

At the moment, legal foundation for interregional cooperation with the Pavlodar region has been established in the field of foreign economic relations, use of natural resources, culture, sports, science, higher

education, environmental security and protection of the population and the territory from emergencies.

Favorable geographical location of the region and developed industry determined the development of all types of transport and a road network on the territory of the region. The existing land and air transport communications provide traditional economic ties with the regions of neighboring countries and beyond. The region represents a complex transport and communication hub: it gives rise to the largest Kazakhstan oil pipeline to Shymkent in the south of the country, the long-distance power transmission lines to various regions of Kazakhstan and Russia, the Irtysh-Karaganda-Zhezkazgan canal, the railway tracks to Russia, to the center and to the south of the country.

The Pavlodar region has significant potential in geographical and spatial respect. Firstly, the Pavlodar region is located in a strategically comfortable zone. Secondly, due to its location, the Pavlodar region connects Northern Kazakhstan with other regions of the republic. As such, the region has an opportunity for further development of the transport infrastructure by five types of geo-economic development of the territory and the population displacement, which are identified by a combination of population density, nature of the settlements location and a ratio of natural and mechanical displacement of the population (Akhmetzhanova *et al.* 2011).

The first type. Pavlodar has the highest demographic potential. Pavlodar and the surrounding areas, including Ekibastuz and Aksu, have a growing demographic potential. The highest growth rates of the demographic potential can be seen in Pavlodar, which allows the city to become a successful center of active agglomeration in the future. These districts are described by the highest density of population and the highest quality of economic space. In this type, Pavlodar is the backbone of growth and development for the Pavlodar region.

The second type is represented by the territories bordering the RF, which include Zhelezinsky district, Kachirsky district, Uspensky district and Shcherbaktinsky district, which allows the region to expand its market niche and export products through Russian ports to other countries upon accession to the Eurasian Economic Union.

The third type is represented by the Irtysh macro-region with a pivot city of the national level with the center in Pavlodar. The strength of the geographical and spatial structure is the availability of the expressed centers of attraction of interregional and regional migration – for example, such cities as Pavlodar and Aksu, and such districts as Zhelezinsky and Pavlodar districts, which have a favorable geo-economic location near the poles of growth. The weakness is the remoteness of the districts from the center of the territory of the region. Transport infrastructure is poorly developed. Pavlodar can become a leading city thanks to the development of the trade and economic corridor, as well as to its demographic and economic potential.

The fourth type is represented by the southern wing of the region with uneven population displacement density and the cities, Ekibastuz and Bayanaulsky district being their centers. This network will serve as a window to the south of the republic.

The fifth type is represented by the uneven focal displacement of population of the Maisky, Lebyazhinsky, Uspensky, and Aktogaisky districts with a rural type of displacement. These districts also reach the pivot center Pavlodar and form an important strategic and geopolitical border zone. These districts, thanks to their geographical location, can contribute to the development of the Pavlodar-Russian network of interaction.

The positive point of the geographical and spatial structure is the availability of the expressed centers of attraction of interregional and regional migration – for example, such cities as Pavlodar, Ekibastuz and Aksu, as well as Pavlodar district, which has a favorable geoeconomic location near the poles of growth, and Zhelezinsky district next to Russian territories. In general, Maikain (non-ferrous metallurgy), Ekibastuz with dynamic mining industry, Aksu (non-ferrous metallurgy), Bayanaulsky district (tourism) and Mylady settlement (tourism) can become the important poles of growth for the economy of the region, along with the pivot center Pavlodar.

Economic potential of the Pavlodar region is defined by favorable geographical location, availability of significant natural resources, developed production base, transport and logistics infrastructure, availability of free production facilities and land plots for the implementation of projects, as well as skilled labor resources.

The region accounts for five percent of the gross product and 7.5 percent of the industrial output of the Republic of Kazakhstan. Despite the steady growth of the gross regional product (hereinafter GRP) of the Pavlodar region, its share in the total republican GRP declined by 0.6 percent compared to 2012. The GRP of the Pavlodar region amounted to 1.54 trillion tenge in 2013, and its share in the GRP of Kazakhstan amounted to 4.5 percent.

Dynamics of the gross regional product of the Pavlodar region is detailed in Table 1.

Table 1. Gross regional product of the Pavlodar region

Indicator	2012	2013	2014
GRP of the Pavlodar region, bln tenge	1,466.1	1,539.1	1,766.4
As a percentage of the previous year:			
Pavlodar region	107.0	101.8	102.3
Republic of Kazakhstan	105.0	106.0	104.3
GRP per capita, thous. tenge:			
Pavlodar region	1,959.8	2,049.7	2,342.0
Republic of Kazakhstan	1,807.3	2,070.7	2,239.1
Rank among the regions of the RK by the production of GRP per capita	6	7	7

Note: Data from the Department of Statistics of the Pavlodar region, www.pavlodarstat.gov.kz, the Committee on Statistics of the MNE RK, www.stat.gov.kz (Pavlodar Region in 2014; Pavlodar Region in 2013; Kazakhstan Regions in 2014).

The data in the table show that the volume of the gross regional product of the Pavlodar region produced in 2014 amounted to 1,766.4 bln tenge and increased by 2.3 percent in real terms in comparison with 2013, according to preliminary data. In total, the gross regional product has increased 2.5 times over the past five years.

At the republican level, the share of the gross regional product of the Pavlodar region amounted to 4.6 percent. The total gross regional product for the Republic of Kazakhstan amounted to 38,711.9 bln tenge in 2014. In terms of ranking of GRP per capita among the regions of the republic, the Pavlodar region ranks seventh after the capital cities and the Atyrau, Mangistau, West Kazakhstan and Aktobe regions.

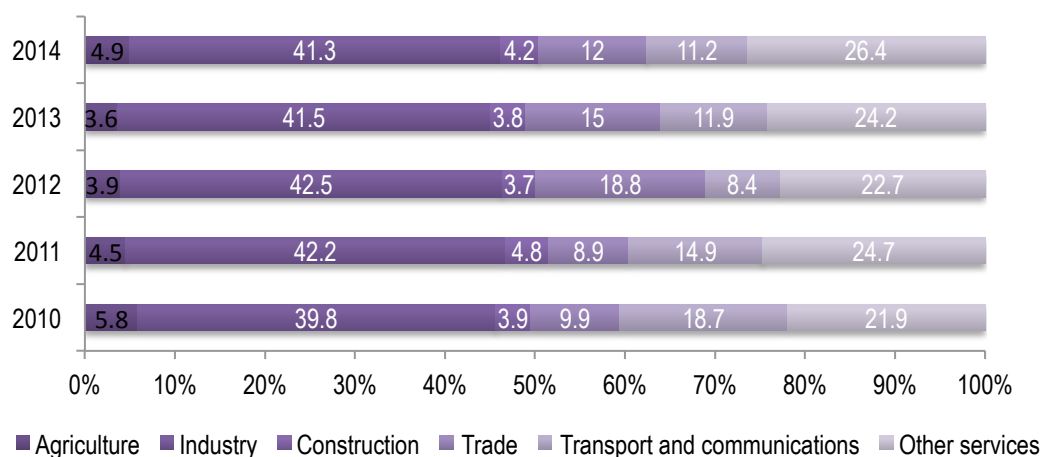
The largest share in the GRP structure for the period of time under study belongs to the industries of the real sector of the regional economy: industry, transport and communications, trade. Their total share in the GRP amounted to 64.5 percent in 2014, in accordance with the data shown in Table 2.

Table 2. Sectoral structure of the GRP of the Pavlodar region

Indicators	2010	2011	2012	2013	2014
GRP of Pavlodar region - total, including	100.0	100.0	100.0	100.0	100.0
Agriculture	5.8	4.5	3.9	3.6	4.9
Industry	39.8	42.2	42.5	41.5	41.3
Construction	3.9	4.8	3.7	3.8	4.2
Trade	9.9	8.9	18.8	15.0	12.0
Transport and communications	18.7	14.9	8.4	11.9	11.2
Other services	21.9	24.7	22.7	24.2	26.4

Note: Data from the Department of Statistics of the Pavlodar region, www.pavlodarstat.gov.kz, (Kazakhstan Regions in 2014).

Data in the tables reveal the predominance of industry in the GRP structure, which accounted for 41.3 percent of the total volume in 2014, which indicates the industrial orientation of the Pavlodar region. Sectoral structure of the GRP is graphically presented in Figure 1.

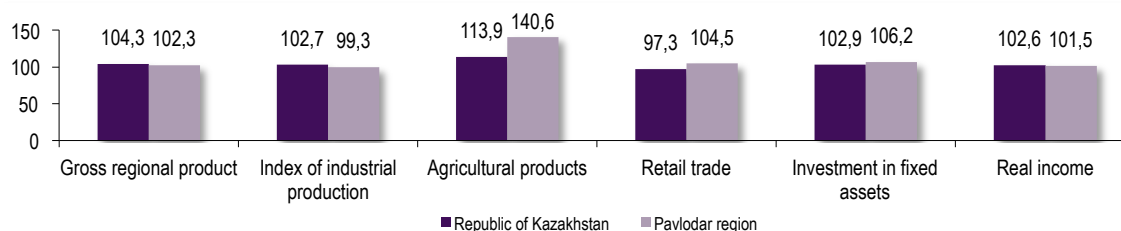
Figure 1. Sectoral structure of the GRP of the Pavlodar region

The Pavlodar region has the highest share of the transport and communications sector in the GRP produced, which can be noted as a significant comparative advantage of the region in the development of the latter sector. It must be noted that in comparison with the republican indicators, the least significant share belongs to the trade and construction in the sectoral structure of the GRP of the region rather than in the whole country.

In total, the sectoral structure of the GRP of the Pavlodar region indicates that the distinctive feature of the Pavlodar region is the lower share of other services than in the country in general. This circumstance can be considered as a negative phenomenon in the sectoral structure of the regional economy, taking into consideration the trend to increase the share of the social product produced in the service sector in developed countries.

At the same time, the Pavlodar region is described by a progressive and diversified economy structure. 6,9 percent of the total industrial production of the country and 4,7 percent of the gross agricultural production are concentrated there.

Figure 2 illustrates the dynamics of basic indicators for the Pavlodar region and the Republic of Kazakhstan.

Figure 2. Dynamics of basic indicators for the Pavlodar region and the Republic of Kazakhstan

The rich land of the Pavlodar region is the main advantage for industrial growth and industrial advancement of the region at both the interregional and international levels.

The region ranks top in the mineral and raw materials complex of the Republic of Kazakhstan. The reserves of most minerals are of republican importance. About 35.7 percent of the republic's balance coal reserves (ranks first in the republic), 5.2 percent of gold (ranks fifth), 3.7 percent of copper (ranks fifth), 2.3 percent of molybdenum (ranks fourth), 0.8 per cent of zinc (ranks sixth) and 0,5 percent of lead (ranks fifth) are concentrated on the territory of the Pavlodar region, according to the data shown in Table 3.

Table 3. Share of the Pavlodar region in the republican reserves

Kind of minerals	Share of the region in the total republican reserves, percentage	Rank of the region by reserves in the republic
Coal	35.7	1
Gold	5.2	5
Copper	3.7	5
Molybdenum	2.3	4
Zink	0.8	6
Lead	0.5	5

Note: Data from the socio-economic passport of the Pavlodar region, the Department of Statistics of the Pavlodar region, www.pavlodarstat.gov.kz (Socio-economic Passport of the Pavlodar Region).

There are 137 deposits of approved mineral resources in the region, including 32 deposits of metal minerals and coal and 105 deposits of common commercial minerals (brick and ceramic raw materials, building stone, sand, limestone, molding materials, table salt, ornamental stone, etc.). The Pavlodar region has unique salt reserves. A raw material resources base for the production of all types of building materials has been established.

The land fund of the region amounts to 12,475.5 thousand hectares, including 11,168.2 thousand hectares of agricultural land, of which 1,402.2 thousand hectares is arable land. The total area of the forest fund of the region is 478.7 thousand hectares, including 242.5 thousand hectares covered with forest.

The region possesses very significant resources of surface water and groundwater. The main waterway within the region is the navigable part of the Irtysh River, 720 kilometers long. The Irtysh-Karaganda canal with a length of about 300 kilometers is of great importance.

The Pavlodar region has strong competitive advantages for investment. Huge reserves of mineral raw materials are concentrated here. A powerful mining and metallurgical complex has been created, which meets the predominant part of the country's needs in coal, ferroalloys, alumina and aluminum. Large strategic enterprises operate on the basis of the explored deposits.

The Pavlodar region belongs to the most energy-intensive territories of Kazakhstan. The power plants of the region provide electricity for the needs of the economic complex and the population of the region, part of the electricity is exported. The energy heart of Kazakhstan is the largest Ekibastuz power plants, the Aksu State District Power Plant (hereinafter SDPP), as well as a number of large heat stations that serve the energy-intensive enterprises of the Pavlodar industrial complex. The proximity of these power plants to coal sources and to consumers of electrical and thermal energy is their advantage.

The region possesses sufficient potential for the development of enterprises of chemical, machine-building and metal-working industries.

The degree of influence of individual sectors on the regional economy varies. The industrial structure includes the following key branches of the economy: the mining industry (coal industry), the processing industry (metallurgical, petrochemical industries), the production and distribution of electricity, gas and water.

Volume of the gross added value of the Pavlodar region is formed through the development of the branches of agriculture, industry, construction, trade, transport and communications, as well as other services.

The development of the real sector of economy on the basis of the full and efficient use of the economic strength of the region and its competitive advantages was chosen as the main focus of the economic policy in the Pavlodar region.

The diversified industrial complex, which is defined by large export-oriented industrial companies, is a key factor that defines the competitiveness of the region. These companies produce coal, electricity, heat, alumina, ferroalloys, aluminum and steel. The share of enterprises producing intermediate products in the region amounts to 90 percent.

The efficiency of the process of shaping regional economy is largely defined by its structural shifts towards industrialization of the economic sectors. Under current conditions, the industrial sector is of great importance for achieving the sustainable development of the regional economy, along with the development of the agrarian sector.

Industry forms the core of the economy of the Pavlodar region; its share in the total republican industrial output amounts to seven percent on average. It employs more than a quarter of the working population of the region and produces 41.5 percent of the gross regional product.

Regional development is illustrated by the key performance indicators of the industry of the Pavlodar region over the past five years, presented in Table 4.

Table 4. Key economic indicators of the industry

Indicators	2010	2011	2012	2013	2014
Industrial production volume, million tenge	843,970	964,739	1,202,392	1,334,756	1,110,598
Indices of actual volume of industrial output, percentage	115.2	103.4	103.0	99.2	96.1
Share of products in the total republican production volume, percentage	7.0	6.1	7.1	7.5	6.0
Number of industrial enterprises and productions – total	904	947	995	1005	813
Headcount of personnel in core activity, thousand people	63.6	64.5	65.8	72.2	69.1

Note: Data from the statistical book 'Industry of the Pavlodar region. 2010-2014', the Department of Statistics of the Pavlodar region www.pavlodarstat.gov.kz (Industry of the Pavlodar Region. 2010-2014, 2015).

It can be seen from the data in the table that the growth in the volume of industrial production was observed, which increased by 1.3 times in 2014 in comparison with 2010, amounting to 1,110,598 million tenge in absolute terms.

A relative index – the index of actual volume – is used to describe the change in the volume of industrial output over comparable periods. The dynamics of this indicator, both in the regional and in the republican context, is shown in Table 5.

Table 5. Indices of actual volume of industrial output

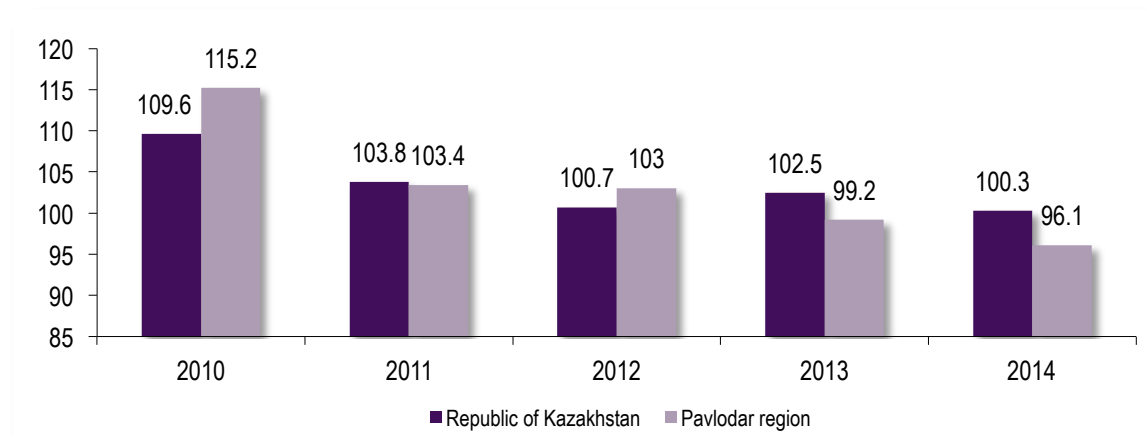
Indicators	2010	2011	2012	2013	2014
as a percentage of the previous year					
The Republic of Kazakhstan	109.6	103.8	100.7	102.5	100.3
The Pavlodar region	115.2	103.4	103.0	99.2	96.1
as a percentage of 2000					
The Republic of Kazakhstan	208.5	216.4	217.9	223.3	224.0
The Pavlodar region	221.1	228.6	235.5	233.6	224.5

Note: Data from the statistical book 'Industry of the Pavlodar region. 2010-2014', the Department of Statistics of the Pavlodar region www.pavlodarstat.gov.kz (Industry of the Pavlodar Region. 2010-2014, 2015).

It can be seen from the data in the table that the index of industrial output of the Pavlodar region has had a steady downward trend over the analyzed period: its value amounted to 96.1 percent in 2014 to the level of the previous period against 115.2 percent in 2009 compared to 2008. At the same time, the values of the indicator significantly differ from the republican level. For example, while the index of actual volume (hereinafter IAV) was 5.6 percentage points higher than the republican level in 2010, it was 4.2 percentage points lower than the republican level in 2014.

It must be noted that the downward trend is also characteristic for the average republican index of actual volume of industrial output, which Figure 3 clearly demonstrates.

A drop in the IAV is associated with a drop in production in the cities of the region, which account for 97.3 percent of the total industrial volume (Pavlodar – 95.0 percent, Aksu – 95.3 percent, Ekibastuz – 91.5 percent).

Figure 3. Dynamics of the index of actual volume of industrial output as a percentage of the previous year

Sufficient raw materials capacity and production facilities of the Pavlodar region allow developing chemical, machine-building and metalworking industries. The largest Ekibastuz and Pavlodar power stations, Aksu SDPP, as well as a number of large heat stations all service the energy-intensive enterprises of the Pavlodar industrial complex. Proximity to coal sources and consumers of electrical and thermal energy is an advantage of these power plants.

The industrial potential created in the region has determined the need to expand transport communications, transport and economic ties. Sustainable operation of industrial enterprises in the region in the base-load regime and availability of reserve capacity make the region attractive to investors in terms of developing production and siting new enterprises.

The Pavlodar region is generally described as a potentially positive region with an increasing trend of investment attractiveness.

The dynamics of the volume of investment attracted to the Pavlodar region has had a positive trend over recent years, as evidenced by the following data in Table 6.

Table 6. Key indicators of investment activity

Indicators	2007	2008	2009	2010	2011	2012	2013	2014
Investment in fixed assets, million tenge	120,020	129,981	148,435	165,788	185,492	207,716	263,513	266,236
to 2006, %	X	108.30	114.20	111.69	111.89	111.98	219.6	221.8

Note: Data from the Department of Statistics of the Pavlodar region, www.pavlodarstat.gov.kz (Investment and Construction Activity in the Pavlodar Region. 2010-2014).

It can be seen from the data in Table 6 that there has been a steady growth in investment in fixed assets in the region over a significant period.

One of the components of the economic strength is not just its industrial capacity, but also agribusiness, which constitute one of the main reproductive branches of the republican economy. The level of development of the agricultural sector has always been and continues to be a driver in the economic and socio-political stability of the Kazakh society. As one of the priority areas of development of the regional economy, agriculture has huge potential and large reserves.

As of the beginning of 2015, there were 3,619 agricultural units, 280 business partnerships and joint-stock companies, 11 production cooperatives and 3,321 farms registered in the region in accordance with the data presented in Table 7.

The progressive and sustainable development of the agrarian sector of the economy of the Pavlodar region results from the state's policy of regulating and supporting the development of agribusiness.

Table 7. Key indicators of agricultural production in the Pavlodar region

Indicators	2010	2011	2012	2013	2014
Total registered agricultural units, including farms, of which:	3,781	4,114	4,214	3,641	3,619
state-owned enterprises	1	-	-	-	-
business partnerships and joint-stock companies (hereinafter JSC)	108	245	284	292	280
production cooperatives	5	17	19	18	11
other farms	3,627	3,689	3,858	3,293	3,312
Gross output of agricultural products (services) in current prices, mln tenge, including:	77,644	60,690	94,522	79,643	118,681
crop farming	44,109	21,731	44,619	25,245	62,381
livestock breeding	33,460	38,840	49,766	54,215	56,168
auxiliary activities in the field of crop cultivation and animal breeding	-	119	137	183	132
Average annual headcount of employees in agriculture, thous. people	13.9	14.0	13.0	11.0	10.7

Note: Data from the Department of Statistics of the Pavlodar region, www.pavlodarstat.gov.kz (Rural, Forestry, Hunting and Fishing Industries in the Pavlodar Region 2015).

Meanwhile, there are challenging issues in agriculture:

- for agribusiness in general: predominance of small-scale production; weak introduction of innovative achievements; low competitiveness of certain product types;
- in crop farming: poor agricultural technology; non-compliance of storage facilities (elevators, vegetable storehouses) with certain requirements to ensure the safety of grain, potato and vegetable stocks; lack of greenhouses to provide the population of the region with vegetables in the off-season;
- in livestock breeding: prevalence of the headcount of nondescript cattle (68% of livestock in households); low level of mechanization of labor-intensive technological processes, wearing of technological equipment; imbalanced feed; lack of equipped slaughter stations and sites, as well as cattle cemeteries; and
- in the development of processing the agricultural products: weak technical equipment of processing enterprises located in rural areas, along with lack of working capital for their technical re-equipment; incomplete utilization of project capacities due to weak marketing.

Realization of tasks of functioning and development of the agrarian sector of the region is ensured through the development and implementation of the regional agrarian policy, which constitutes a certain spatial cross-section of a single macroeconomic policy implemented in the country as a whole.

Trade is one of the dynamically developing branches of the economy. It is proved by the following data on the dynamics of trade that describe the result of the efficiency of functioning of the trade sector, presented in Table 8.

Table 8. Indicators of trade development in the Pavlodar region

Indicators	2010	2011	2012	2013	2014
Retail trade, million tenge	95,921.2	118,996.4	186,347.4	198,373.3	248,828.6
Share in gross trade turnover, percentage	25.0	23.8	17.1	21.8	29.8
Wholesale trade, million tenge	287,432.1	380,713.5	901,742.6	713,241.8	586,951.1
Share in gross trade turnover, percentage	75.0	76.2	82.9	78.2	70.2
Gross trade turnover, million tenge	383,353.3	499,709.9	1,088,090	911,615.1	835,779.7

Note: Data from the Department of Statistics of the Pavlodar region, www.pavlodarstat.gov.kz (Wholesale and Retail Trade in the Pavlodar Region. 2010-2014, 2015).

Solution of the following tasks must be ensured in order to implement the mission of the Pavlodar region as a region supporting the development of the national economy:

- creation of clusters in the Pavlodar region in the sector of ferrous and non-ferrous metallurgy;
- extraction of fuel and energy raw materials on the territory of the region should be carried out in the amounts necessary to provide the development of the national economy with energy resources and fulfill international energy obligations of the Republic of Kazakhstan;
- intensification of environmental protection;
- addressing the issue of food security;
- development of transport and communications infrastructure; and
- development of the service sector, primarily tourism.

Implementation of these tasks will allow creating a basis for further intensive development of the region in the medium term and promoting the establishment of competitive enterprises in the territory of the region at the interregional and then at the world level. At the same time, the main strategic goal of development of the Pavlodar region is to increase the level of welfare and quality of living of the population. Its increase is ensured by the development of the types of business which the region is highly competitive in and which ensure the sustainable development of the national economy.

As such, quality and high standards of living result from the regional competitiveness.

The standard of living is an integral element of the concept of the quality of living and one of the most important social categories, which is understood as the provision of the population with the necessary material goods and services, the level of their consumption reached and the degree of satisfaction of adequate (rational) needs. The indicators of the standards of living of the Pavlodar region are reflected in Table 9.

The data in the table allow to draw a conclusion that a positive trend of income growth used for consumption was noted over the analyzed period, the amount of which amounted to 37,487 tenge per capita per month in 2014, which is 14,440 tenge or 62.7 percent more than the level of the basic 2010, and 4,391 tenge or 13.3 percent more than the previous year.

Table 9. Indicators of the standard of living

Indicators	2010	2011	2012	2013	2014
Income spent on consumption (average per capita per month), tenge	23,047	27,979	28,907	33,096	37,487
Nominal monetary income of population, average per capita per month, tenge	35,479	39,277	49,116	55,867	61,367
Real monetary income of population, as a percentage of the previous year	95.2	110.0	116.0	107.8	103.9
Monetary expenditures of population (average per capita per month), tenge	21,216	26,169	27,212	31,233	35,052
Average monthly nominal wage, tenge	56,113	64,955	75,338	85,844	93,259
Minimum subsistence amount (average per capita per month), tenge	11,293	12,173	14,860	15,485	16,555
Average monthly minimum wage, tenge	13,470	14,952	15,999	17,439	18,660
Minimum amount of old age pension, tenge	9,875	12,344	16,047	17,491	19,066

Note: Compiled using the data from the Department of Statistics of the Pavlodar region, www.pavlodarstat.kz (Living Standards of the Population of the Pavlodar Region. 2010-2014, 2015).

The data in Table 10 below indicate a current trend towards a decline in the poverty index over the analyzed period.

Table 10. Dynamics of the poverty index, percentage

Regions	2010	2011	2012	2013	2014	Average annual growth rate, %
The Pavlodar region	20.1	19.8	20.7	19.9	18.4	-1.7
The Republic of Kazakhstan	20.1	19.7	20.5	19.3	17.8	-2.3

Note: Compiled using the data from the Department of Statistics of the Pavlodar region, www.pavlodarstat.kz (Living Standards of the Population of the Pavlodar Region. 2010-2014, 2015).

It can be seen from the data in Table 10 that while the poverty index for Kazakhstan amounted to 20.1 percent in 2010, it decreased by 2.3 percentage points by 2014 and amounted to 17.8 percent. In the Pavlodar region, the poverty index of the population decreased by 1.7 percentage points and amounted to 18.4 percent in 2014.

The decrease in the absolute value of the poverty index is associated with the dynamics of the basic indicators, in particular in the Pavlodar region:

- decrease in the share of the population who did not reach the age of 60 from 30.4 to 28.5 percent;
- decrease in the share of the population with income (on consumption) below the subsistence minimum from 17.1 to 8.8 percent; and
- decrease in the unemployment rate from 8.2 to 6.4 percent.

The exception is the basic indicator of the poverty index – the proportion of 16-year-old youth not covered by education, which grew by 8.1 percentage points and amounted to 9.7 percent in 2014. As a result, the position of the Pavlodar region among the regions of Kazakhstan by the poverty index deteriorated in 2014.

However, there are generally positive tendencies in the dynamics of human development in the Pavlodar region.

First, the Human Development Index (hereinafter HDI) calculated based on per capita GRP grew by 0.026 percentage points, rank among the regions did not change.

Secondly, the HDI calculated based on income spent on consumption per capita increased by 0.018 percentage points. Thirdly, the poverty index decreased by 1.7 percentage points, but the rank among the regions of Kazakhstan deteriorated.

Another indicator used to estimate the level of poverty is differentiation of population by income level. The main indicator used to assess the level of poverty and inequality in the region is the share of population with income below the subsistence level and the food basket, the dynamics of which is presented in Table 11.

Table 11. Uneven distribution of income of population of the region

Indicators	2010	2011	2012	2013	2014
Share of population with income below the subsistence level					
in the Pavlodar region	6.2	4.0	4.5	2.9	1.5
in urban area	2.3	1.5	2.9	1.6	0.8
in rural area	12.8	9.9	8.2	5.8	3.0
Share of population with income below the food basket value					
in the Pavlodar region	0.4	0.1	0.5	0.1	0.0
in urban area	0.3	-	-	-	-
in the Pavlodar region	0.5	0.5	1.5	0.3	0.1

Note: Compiled using the data from the Department of Statistics of the Pavlodar region, www.pavlodarstat.kz (Living Standards of the Population of the Pavlodar Region. 2010-2014, 2015).

It can be seen from the data in Table 11 that rural residents are the most socially vulnerable, as the gap between rural and urban areas is significant in terms of income.

The share of poor households in rural areas with income below the food basket has declined over the analyzed period. For example, while the share of the population with income below the food basket amounted to 0.5 percent in 2010, it decreased by 0.4 percentage points by 2014 and amounted to 0.1 percent. However, the targeted social assistance program, aimed at reducing the food poverty, does not cover the entire target group. At the same time, the amount of benefits remains small, 2,950.6 tenge.

The data in the table also show that there are no residents with income below the value of the food basket among the urban population, while their share in rural areas amounted to 0.1 percent of the total number of rural population.

The following factors and issues determine the picture of rural poverty:

- possession of many children in rural families, and hence a high dependent burden;
- migration of the population (especially youth) from rural areas to large cities (caused by the lack of employment opportunities and low wages, as well as the lack of access to vocational training system);
- weak development of the private sector in rural areas, exacerbated by weak infrastructure and hindered access to markets and finance – people are often unable start a business due to the lack of collateral to obtain loans and credits.

In terms of the ratio of monetary income of population to the average in republic, the Pavlodar region is one of the regions whose monetary income exceeds the average republican level.

Taking into consideration that the high quality of life and the sustainability of the development of the region can be only ensured if natural systems are preserved and the quality of the environment is maintained, another important component of sustainability will be further considered – an environmental one.

In terms of natural and climatic conditions, almost the entire territory of the region belongs to an extremely unfavorable arid zone. There are following features of climatic conditions negatively affecting the components of the environment: large industrial enterprises in the region, high solar radiation, dust storms, sharp fluctuations of annual and daily temperatures, and small amount of precipitation.

The landscapes of the region's territory are semi-deserts that are susceptible to anthropogenic influences, due to the fact that climatic conditions are not favorable for the formation of soil and vegetation cover.

The region appeared significantly transformed since the Soviet times and does not currently ensure the normal functioning of ecological systems for the following reasons:

- untimely and unsatisfactory solution of issues of environmental safety, primarily in the coal extraction and processing of intermediate products at the enterprises of ferrous and non-ferrous metallurgy, in petrochemical production;
- violations of environmental norms and regulations in the development of coal mining deposits;
- inefficient use of available land; and
- insufficient protection of land and crop resources from wind and water erosion.

Over many decades, economic activity has led to significant, sometimes irreversible consequences and breaches of the ecosystem of the Pavlodar region, accumulation of huge amounts of dumps and waste and pollution of significant areas. Emissions are described by a multicomponent chemical composition with prevailing sulfur dioxide. Enterprises of power and mining and metallurgical complexes are major stationary sources of emissions of pollutants.

These and other acute environmental problems require the implementation of a set of measures to reduce the anthropogenic pressure on the environment of the region, joint and more efficient actions of the executive bodies and business entities.

Along with the unresolved issues of environmental pollution of the past years, new types of pollution appear, degradation of ecosystems continues, stocks of biological resources decrease while biodiversity reduces.

The following measures aimed at stabilization and improvement of the environmental situation, preservation and restoration of the integrity of natural ecosystems and rational use of natural resources will be taken to solve the problems:

- ensuring the protection and functioning of the specially protected natural areas of the national and regional significance;
- arrangement and implementation of measures to protect forests from fires;
- restoration of forest nurseries for growing planting stock of deciduous and coniferous species;
- introduction of the advanced technology to improve atmospheric air at industrial enterprises;
- reduction of negative man-made impact on the environment through the use of bio-additives to fuel and other measures; and
- development of a summary volume of maximum permissible emissions for the cities of the Pavlodar region.

The Pavlodar region suffers from high technogenic pollution, as such large economic sectors as energy, ferrous and non-ferrous metallurgy, mining, oil refining and chemical industries function on the territory of the region. The great bulk of emissions in the Pavlodar region fall for the industrial enterprises located in Ekibastuz (47%), Aksu (26%) and Pavlodar (25%), while the rest of the region accounts for only about two percent of emissions. As such, the production process of these industries is accompanied by large emissions of pollutants, the data of which are provided in Table 12.

Table 12. Emissions and capturing harmful substances emitted by the stationary sources of atmospheric air pollution

Indicators	2010	2011	2012	2013	2014
Pollutants released into the atmosphere, thousand tons	561	572	632	676	650
Pollutants captured and neutralized, thousand tons	12,863	13,435	14,261	15,487	17,327
Captured as a percentage of the amount of pollutants	95.8	95.9	95.8	95.8	96.4

Note: Data from the statistical book 'Environmental protection in the Pavlodar region' – Department of Statistics of the Pavlodar region, 2015 (Environmental Protection in the Pavlodar Region, 2015).

State of the air pollution. Heating and electric stations operating on high-ash coals are the main sources of air pollution in the Pavlodar region. The share of gross emissions from the energy sector amounts to 85 – 86 percent of the total emissions of the region.

The state of the Irtysh River, an international trans-boundary waterway, is important for the Pavlodar region. The water pollution index for this river within Pavlodar and the Pavlodar region in 2014 amounts to 1.03, which allows to describe the Irtysh River as a water body of the third class for water quality, moderately polluted, at the level of the previous year in accordance with the data presented in Table 13.

Table 13. Wholesomeness of the Irtysh River

Water object	Pollution index				
	2010	2011	2012	2013	2014
Irtysh River	1.20	1.02	1.01	1.01	1.03

Note: Data from the Department of Subsoil Use, Environment and Water Resources of the Pavlodar region, <http://www.tabigatpv.gov.kz>

The water disposal system in the Pavlodar region is specific due to the fact that most of the industrial enterprises of the regional center – Pavlodar, Aksu and Ekibastuz, where the main objects of industry and energy are concentrated, – discharge sewage waters into sewage pond. Besides, storm and thawed waters enter the Irtysh River in spring and autumn in an unorganized manner, throughout nearly its entire length.

Wastewater disposal to the Irtysh River within the region is carried out through the two organized outlets from the following major water users:

- conditionally clean heat exchange waters from the power plant of the joint stock company 'Eurasian Energy Corporation', which bring thermal pollution to the river water in the amount of 1,838,974 thousand cubic meters, which is 33,952 thousand cubic meters more than in 2010 due to increased power generation;
- purified mixed wastewater after the city treatment facilities of the limited liability company (hereinafter LLC) 'Pavlodar-Vodokanal' (a complex of mechanical and artificial biological cleaning with the capacity of 170 thousand cubic meters per day) – 32.000 thousand cubic meters per year.

Besides, insignificant volumes (about 200.000 cubic meters per year) of washing water are released to the Irtysh River through the Karamyrza floodplain and the Kachirk channel after washing the filters of the water treatment plants of the drinking water treatment stations in Aksu and Terencol settlement. Currently, there are a total of 29 enterprises in the Pavlodar region with 49 wastewater outlets, including outlets to: water objects – 4, all types of storage – 22, filtration fields – 16, landscape – 7. The key indicators describing the protection and use of water resources of the Pavlodar region are provided in Table 14.

Table 14. Key indicators describing the protection and use of water resources in the Pavlodar region

Indicators	Pollution index				
	2010	2011	2012	2013	2014
Withdrawal of water from natural sources	2,818	2,698	2,906	3,158	3,154
Loss of water during transportation	13	10	10	11	11

Water usage	2,612	2,491	2,704	2,961	3,025
Use of fresh water for production needs	1,721	1,705	1,901	1,978	2,031
Use of fresh water for household and drinking needs	42	44	43	45	45
Use of fresh water for irrigation, watering and agricultural water supply	764	665	684	910	261

Note: Data from the Department of Subsoil Use, Environment and Water Resources of the Pavlodar region, <http://www.tabigatpv.gov.kz>.

The most important result of the implementation of the main goal of the economic policy in the region is creation of a dynamically developing, balanced and competitive economy that provides a high level of welfare of the population, high standards of quality of living in healthcare, social services, education, culture, sports, developed transport and household infrastructure and comfortable housing.

3. Discussion

In general, the current hypothesis of the study is to recognize the need to form a system of economic mechanisms focused on establishment of equal conditions for ensuring the competitiveness of the regions of the RK and ensuring the efficient use of their economic strength. This in turn involves the development of a methodology and selection of appropriate tools for assessing the potential of the competitive advantages of the region, the use of which will help improve the information and methodological support of institutional structures engaged in shaping the key areas of the regional economic policy.

The scientific novelty of the outcomes of the study lies in the development of a theoretical justification and practical recommendations for assessing the competitive advantages of the region in order to identify ways and means to intensify its economic strength. At the same time, the main components that define the economic strength and competitive advantages of the region and the points of economic growth of the Pavlodar region have been identified.

Conclusion

In general, the following key positive factors contributing to the economic strength of the Pavlodar region with a positive impact on the sustainability of the development of the regional economy can be identified:

- sufficiently high provision of resources for the development of agricultural production, which contributes to achieving the self-sufficiency of the population of the region in food products;
- availability of wide opportunities for vertical integration of industries based on the development of local raw materials and the organization of their deep processing;
- great opportunities for broad cooperation with neighboring regions, neighboring countries and beyond, expansion of the geography of shipments of products of the enterprises;
- availability of scientific and innovative potential for creation of new science-intensive high-tech industries that bring quick returns;
- availability of compact industrial sites for the formation of industrial and territorial complexes;
- availability of unique advanced technology in some industrial sectors;
- significant scale of accumulation of fixed production assets in manufacturing;
- real possibilities of producing the cheapest electricity – foundations of scientific and technological advances;
- preservation of demand for products of metallurgy in the world commodity markets;
- large-scale production of export and import-substituting products;
- high paces of economic reforms, laying the foundation for the functioning of free market economy mechanisms; and
- constant mastering of market mechanisms for regulating the economy by public officials in the executive bodies of the region and many other factors.

However, the following problems have been identified in the region that affect its competitiveness and reduce the efficiency of its economic strength:

- insufficient provision of manufacturing industries with components of domestic production;
- overall technical and technological backwardness of enterprises;
- slow innovative activity of enterprises;

- low investment attractiveness of non-energy manufacturing industries;
- shortage of monetary resources affecting the innovative activity of the production of the real sector of economy;
- limited connection of science with production and lack of efficient mechanisms for bringing academic and technological products to the level of goods;
- lack of a flexible system of training and retraining of specialists and workers;
- underdevelopment of the field of small innovative enterprises that have the necessary flexibility for rapidly changing market conditions; and
- underdevelopment of the innovation infrastructure.

In general, it must be noted that the Pavlodar region will become the center of the dynamic manufacturing industry that combines vertical diversification in traditional export-oriented sectors and innovative and technological production in the priority sectors of the economy with modernized infrastructure of the transport, communications and energy complexes; the region with a positive dynamics of the quality of the economic space and the conditions for the development of human potential.

At the same time, the Pavlodar region is positioned as one of the largest industrial bases of the Republic of Kazakhstan and an area of the location of transnational production facilities.

However, it should be noted that despite the improvement of the economic situation, some restrictions remain that can slowdown the growth of the economy, including external and internal conditions of development of the region.

External conditions of development. Taking into consideration that major strategic enterprises of the Pavlodar region are export-oriented, the external factors have a certain influence on the development of the region.

High dependence on the change in metal prices on the world market is one of these factors. The Pavlodar region is a large exporter of alumina, aluminum and ferroalloys. The drop in metal prices on the world market may lead to a reduction in production volumes and the number of employees at such enterprises as JSC 'Aluminum of Kazakhstan', JSC 'Kazakhstan Electrolysis Plant', 'Aksu Ferroalloy Plant' – branch of JSC 'TNC 'Kazchrome'.

Another factor is dependence on demand for products. Operation of LLC 'Bogatyr Komir' directly depends on the consumption of coal by Russian power plants. Drop in demand reduces the volume of production in the enterprise.

High dependence on the world grain prices has the most significant impact on the development of agriculture.

Dependence of the agro-industrial sector on the natural and climatic conditions is also an important factor. Fluctuations in weather conditions have a serious impact on the yield of agricultural crops, volume of their production and supply of livestock with feed that can significantly affect the pace of achievement of the estimated indicators. Dependence of the industry operation on natural and climatic conditions also reduces its investment attractiveness.

Internal conditions of development. Taking into consideration the influence of external conditions of development, the economy of the region will develop under the influence of the following internal factors:

- maintaining a favorable investment climate, high economic activity in the raw materials sectors;
- developing priority sectors of the economy that ensure its diversification and growth of competitiveness.

The three most important Kazakh trends can stimulate the development of the region and its competitiveness in the current adverse conditions:

- (1) State program of industrial and innovative development of the Republic of Kazakhstan for 2015-2019 (second stage) (hereinafter SPIID-2). Application of its tools will contribute to the development of 14 basic sectors of the region, since they are all priorities for SPIID-2, as well as territorial clusters in machine building. Prospects of the socio-economic development of the Pavlodar region for the medium-term period.
- (2) The Asian (Chinese) vector will allow the take advantage of the geographical location to process the flow of goods from China and create the conditions for attracting Asian investors. At the same time, dependence on Chinese capital markets will increase.
- (3) Focus on import substitution in Russia. Opportunities to launch high-tech industries for implementing the potential of import substitution in Russia (including in the oil and gas industry, defense industry complex (hereinafter DIC), agrifood industry), as well as to participate in the relevant federal programs of the RF emerge (Program of Development of the Territory of the Pavlodar Region for 2016-2020).

At the same time, the development of the region in the medium and long term, taking into consideration the above development trends, is aimed at:

- ensuring the efficient integration of the region into the domestic and world market, accelerating the socio-economic development of the region through the efficient distribution of productive powers across its territory and the development of the settlement system, which should open the access for the entire population to sources of the socio-economic growth;
- strengthening the status of the region as a 'locomotive' of development of Kazakhstan and an active participant in the creation of a new spatial framework of the country from the 'backbone regions';
- establishing innovative industries and accelerated modernization of existing enterprises in the structure of the territorial production clusters;
- developing natural resources and their deep processing;
- developing agribusiness as a factor of food security, diversification of the economy and boosting the employment;
- improving all forms of infrastructure, including innovation; and
- improving the environment as the foundation of the sustainable development of the region.

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