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The Development of the Logistics System of Kazakhstan as a Factor in Increasing its Competitiveness

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Abstract

Efficient logistics system is an important factor for stable economic growth of the state. Rational use of transport and logistics capabilities of the country stimulates the rapid development of related industries and sectors of the economy. In a globalizing world economy and the expansion of integration processes with the introduction of the Eurasian Economic Union, Kazakhstan is implementing an ambitious strategic goal of building a competitive economy. In this context, a key role in achieving these goals must go to efficient transport and logistics system, which should provide not only a high and efficient transport connectivity in the country, but also the necessary level of integration of Kazakhstan into the global transport and logistics network. And in today's Kazakhstan, the level of logistics costs in the manufacturing complex is one of the highest in the world, the share of logistics costs in the final cost of production is approximately 20-25%. In this case, the global average is 11%, in China - 14% in the EU - 11% in the US and Canada - 10%. At present, the lack of efficiency of the transport system of Kazakhstan is a brake on the development of the economy as a whole. In this regard, there is a question of logistics research in Kazakhstan and its impact on the country's economic growth. This article discusses the problems and obstacles to the development of the logistics system of Kazakhstan and ways of their solutions, the analysis of the logistic capacity of the country

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1. Main text

To assess the development of logistics in different countries the World Bank experts suggested Logistics Performance Index - LPI. Since 2007, four surveys had been carried out during which the methods of analysis have undergone some changes (Connecting to compete. Trade logistics in the global economy, 2014).

Method of determining the LPI is based on a synthesis of information received from international companies engaged in the order of transport and movement of goods, including urgent ones. In the normal course of business, companies have to choose the most advantageous scheme of delivery of goods.

Questionnaires from more than 800 international companies are processed. In the questionnaire survey each participant with which his company works assesses 8 countries by 5-point scale on 6 positions:

- customs; • infrastructure; • international shipments; • logistics quality and competence; • tracking and tracing; • timeliness (Connecting to compete. Trade logistics in the global economy, 2014).

Strictly speaking, the method of the World Bank's does not evaluate logistics performance as such (cost-effectiveness) but the level of infrastructure development and the degree of perfection of functioning logistical chain.

In the analysis of logistics performance Russia and Belarus are selected in comparison with Kazakhstan (Partners for the Common Economic Union). (Table 1 and Table 2)

If we compare the LPI 2014 with LPI 2012, we can see a decrease of Kazakhstan's LPI rank from 86 to 88, but the LPI score has not changed. Indicators fell by sections «Infrastructure», «International shipments», «Tracking and tracing», «Customs», «Logistics and quality competence». At the same time there is a significant improvement on the position «Timeliness» (Connecting to compete. Trade logistics in the global economy, 2014, Connecting to compete. Trade logistics in the global economy, 2012).

Belarus has the lowest rate in the position «Logistics and quality competence» - 116 place with the ratio of 2.46 which is followed by «Tracking and tracing» and «Timeliness». The state of «Customs» has been improved.

Russia improved its position in almost all indicators except «Tracking and tracing», which remained at the same level and the rating raised from 95 to 90 place.

Kazakhstan is ahead of Russia and Belarus on the overall logistics performance index (combined indicator of LPI).

Table 1. LPI 2012 (Connecting to compete. Trade logistics in the global economy, 2012)

| | LPI | | Customs | | Infrastructure | | International shipments | | Logistics and quality competence | | Tracking and tracing | | Timeliness | |
|--------------------|------|-------|---------|-------|----------------|-------|-------------------------|-------|----------------------------------|-------|----------------------|-------|------------|-------|
| | Rank | Score | Rank | Score | Rank | Score | Rank | Score | Rank | Score | Rank | Score | Rank | Score |
| Kazakhstan | 86 | 2.69 | 73 | 2.58 | 79 | 2.60 | 92 | 2.67 | 74 | 2.75 | 70 | 2.83 | 132 | 2.73 |
| Belarus | 91 | 2.61 | 121 | 2.24 | 65 | 2.78 | 107 | 2.58 | 89 | 2.65 | 98 | 2.58 | 114 | 2.87 |
| Russian Federation | 95 | 2.58 | 138 | 2.04 | 97 | 2.45 | 106 | 2.59 | 92 | 2.65 | 79 | 2.76 | 94 | 3.02 |

Table 2. LPI 2014 (Connecting to compete. Trade logistics in the global economy, 2014)

| | LPI | | Customs | | Infrastructure | | International shipments | | Logistics and quality competence | | Tracking and tracing | | Timeliness | |
|--------------------|------|-------|---------|-------|----------------|-------|-------------------------|-------|----------------------------------|-------|----------------------|-------|------------|-------|
| | Rank | Score | Rank | Score | Rank | Score | Rank | Score | Rank | Score | Rank | Score | Rank | Score |
| Kazakhstan | 88 | 2.70 | 121 | 2.33 | 106 | 2.38 | 100 | 2.68 | 83 | 2.72 | 81 | 2.83 | 69 | 3.24 |
| Russian Federation | 90 | 2.69 | 133 | 2.20 | 77 | 2.59 | 102 | 2.64 | 80 | 2.74 | 79 | 2.85 | 84 | 3.14 |
| Belarus | 99 | 2.64 | 87 | 2.50 | 86 | 2.55 | 91 | 2.74 | 116 | 2.46 | 113 | 2.51 | 93 | 3.05 |

Due to logistics GDP consists of 10-12% in member countries of the Common Economic Union (the transport sector - 8.7% of GDP). In EU countries, the figure is 20-25% (LPI Index The World Bank, 2014).

There is a study where the LPI data is analyzed in quartiles (Kurganov, 2013). According to the study, if we analyze the distribution of all 166 countries by quartile, the evaluation of the first quartile (top 40 countries) are in the range from 3.26 to 4.12 (on a 5-point scale). The difference between the minimum and maximum estimates of the first quartile is 0.89 points. Kazakhstan, as well as Russia and Belarus fall into the third quartile at intervals of grades from 2.49 to 2,75 (Table 3).

Table 3. Quartile distribution of logistics performance of LPI assessments

| | I quartile (Q ₁) | | II quartile (Q ₂) | | III quartile (Q ₃) | | IV quartile (Q ₄) | |
|------------------------|------------------------------|---------|-------------------------------|--------|--------------------------------|----------|-------------------------------|---------|
| Country | Germany | | Israel | | Bosnia and Herzegovina | | Bolivia | |
| | | Romania | | Rwanda | | Botswana | | Somalia |
| Rank | 1 | 40 | 41 | 80 | 81 | 120 | 121 | 160 |
| Score | 4.12 | 3.26 | 3.26 | 2.76 | 2.75 | 2.49 | 2.48 | 1.77 |
| The range of estimates | 0.86 | | 0.5 | | 0.26 | | 0.71 | |

There are 40 countries in each quartile. If one focuses on the ranges of estimates within quartiles, the country's second and third quartiles have roughly similar Logistics Performance Index. They could be combined into one group, but it will outnumber twice the groups of leaders (first quartile) and outsiders (fourth quartile), although the range of estimates within it will be only 0.77 points.

So it makes sense to implement a different principle analysis of the distribution of countries in the ranking of logistics performance (Table 4).

Table 4. Uniform distribution of LPI logistics performance assessments

| | Group 1 | | Group 2 | | Group 3 | | Group 4 | |
|------------------------|---------|-------|---------|--------|--------------|-------------------|----------|---------|
| Country | Germany | | Qatar | | Bahamas, The | | Zimbabwe | |
| | | China | | Brazil | | Equatorial Guinea | | Somalia |
| Number of countries | 28 | | 36 | | 70 | | 24 | |
| Rank | 1 | 28 | 29 | 65 | 66 | 136 | 136 | 160 |
| Score | 4.12 | 3.53 | 3.52 | 2.94 | 2.91 | 2.35 | 2.35 | 1.77 |
| The range of estimates | 0.59 | | 0.59 | | 0.59 | | 0.59 | |

If we distribute the countries in intervals with a uniform range of LPI (in increments of 0.59 points from the maximum to the minimum grade rating), in this case the first group of leaders will include 28 countries, Kazakhstan, Russia and Belarus will be in the third group, which is represented by 70 countries. Along with 24 countries - LPI rating outsiders - the countries of the third group are distinguished by the fact that the development of their economy hampered by the lack of logistics development.

2. Logistics - GDP - Competitiveness

Sometimes one may encounter some skepticism to the Logistics Performance Index, since scores are calculated on the basis of subjective expert assessments without objective quantitative indicators. It appears, however, that

countries with high assessment of logistics are characterized, as a rule, by a high level of gross domestic product (GDP) per capita. LPI analysis ratings and the list of countries in per capita GDP (Connecting to compete. Trade logistics in the global economy, 2014; GDP per capita, 2014) enabled us to discover an interesting phenomenon: the first 20 countries in the ranking of Logistics Performance occupy the top 33 positions in the list of countries in terms of GDP per capita.

A group of 14 countries are among the top twenty countries both in Logistics Performance Index and Global Competitiveness Index and GDP per capita. Mathematical and statistical analysis on the example of the G20 group has shown that there is a clear relationship between these values: the correlation coefficient was greater than 0.7.

According to the procedure of the World Economic Forum (Global competitiveness report, 2015), 12 indicators divided into 3 groups are used to calculate the index of global competitiveness of the country:

Group 1 (the basic needs of the economy):

- the quality of institutions;
- infrastructure;
- macroeconomic stability;
- health and primary education.

Group 2 (factors of economic performance):

- higher education and training;
- the effectiveness of market goods and services;
- labor market efficiency;
- development of the financial market;
- the level of technological development;
- the size of the domestic market.

Group 3 (innovation and complexity of doing business):

- the competitiveness of companies;
- innovative potential.

Study by the World Economic Forum in 2014 seized 144 countries. Kazakhstan took 50th place, and the value of the index of global competitiveness is 4.4 at the highest possible rating of 6.0.

Global competitiveness rating as the other ratings is often rightly criticized for its impact on the final evaluation of the subjective opinions of experts. However, we must take into account not only the specific value of the index or the country's place in the same or a different rating but also the belonging of the country to a group of leaders or outsiders. The further the country in the ranking of the top ten or even twenty is, the less reason to rely on subjective assessments and the more urgent the need to take effective measures to improve their situation.

Analysis of the distribution of grade logistics efficiency and the level of GDP per capita suggests the hypothesis which lies in the fact that Kazakhstan bringing the effectiveness of logistics to the level of Turkey, China, Ireland and countries such as Poland, Malaysia and Portugal could lead to a doubling of GDP per capita. Such an outcome could be achieved only by improving logistics without any changes in other sectors of the economy.

3. Necessity of mutual efforts

The discrepancy between the possibilities of Kazakhstan in the field of logistics and transport and the real state of the country in this area requires an analysis of the factors which conditioned such a significant lag compared to other countries.

At present, the lack of efficiency of the transport system of Kazakhstan is a brake on the development of the economy as a whole.

Low rating of Kazakhstan on LPI is explained not only by the lack of development of transport infrastructure, but also by insufficient efforts of state and business structures - an effort that would be aimed at improving the functioning of all parts of the supply chain.

The role of business in improving transport efficiency is very high and should not be confined only to the formulation of the requirements of the state. For example, currently in Kazakhstan the speed of delivery is 2-3 times lower than in Europe and the USA. The violation of the compliance regime of work and rest of drivers are a common practice. The reason for this situation is the inability and unwillingness of employers to organize safe and

efficient transportation and technological schemes, e.x. on the system of traction shoulder or on the change of drivers at reporting points of the vehicle with the load. There is no need to build new roads or to buy additional number of cars. It requires competence and organizational measures. Efforts are also needed by entrepreneurs for workflow when converting the traffic on an electronic basis.

These and other actions are possible with the appropriate organizational and technological culture of transport business. Meanwhile in Kazakhstan, about half of transportation is performed by vehicles of cargo owners on the principles of «natural economy» and the rest is by cars owned by individuals whose purpose is not the development of efficient transportation technologies, but the basic survival. They are unable to update the fleet of trucks and optimize its structure. Therefore, competitive foreign logistics and freight forwarding companies win in the Kazakhstan's market.

The state should ensure the formation of social institutions that encourage business structure to function the way so that it will meet its long-term strategic goals and interests of society.

There is a need for coordination of the business community and government agencies, including improvement of the quality of existing infrastructure and fleet of trucks. It is necessary to increase the carrying capacity of the roadway to increase the permissible axle load and the maximum weight of vehicles with cargo. It is necessary to expand the number of lanes on the Kazakhstan's roads to increase their capacity and reduce transport accidents. And even the solution of all these urgent tasks gives expected effect only if we learn how to effectively use the existing transport capacity.

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