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Infrastructural Component in Maintenance of Competitiveness of Region

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Abstract: In article are offered the theoretical and methodological bases of research of increase of competitiveness of regional economy by means of definition of an innovative component are considered, defined specificity of the analysis to innovative sphere and modern approaches to management of competitiveness in the conditions of innovative economy.

Key words: Innovations · Competitiveness · An infrastructure · Region · Innovative activity

INTRODUCTION

An important role in economic development of the countries of the world plays aspiration of regions to reach long-term competitiveness. Competitive fight for resources of potential investors wins the region having a favorable combination of competitive advantages, forming competitive position of the region [2]. Formation and development of competitive advantages promotes accelerated economic growth, increase of welfare of the population, more effective and rational use of resource capacity of the region.

Reliable competitive positions of regions and increase of level of their competitiveness are important conditions of a sustainable development of economy of the region. Thus competitiveness of the region is under the influence of a set of various factors, such as level of investment and innovative activity, security of the region raw, manpower, elements of the developed infrastructure, favorable business climate, investment appeal and others.

Data: One of major factors of competitive development of economy of the region is security with developed infrastructure.

In literature there are a lot of approaches to treatment of concept and essence of infrastructure of the region. In our opinion, the infrastructure of the region can be defined as set of the conditions necessary for development of factors of production of one or another kind of activity. According to variety of kinds of activity it is possible to allocate constituent elements of infrastructure of the region: transport, industrial, power, innovative, investment infrastructure and others

Management of strategic development of infrastructure is considered as the catalyst of economic growth of the region and increase of its competitiveness in comparison with other regions. In other words, increase of competitiveness of the region is promoted by security with objects of the developed and steadily functioning infrastructure.

For example, transport infrastructure influences competitiveness of the region from the point of view of providing access to the markets. The social infrastructure plays key role in increase of competitiveness of the region in view of growth of quality of living of the population and inflow of investments in regions with developed social infrastructure. The power infrastructure is an important factor of competitiveness of the region proceeding from access to reliable sources of power supply provided by it.

Process of influence of infrastructure of the region on its competitiveness can be presented as follows (Fig. 1).

Increase of investment appeal of the region requires development of its factors of competitiveness. Being one of factors of competitiveness of the region, the developed infrastructure defines prospects of development of other factors. Achievement of a positive effect from development of factors of competitiveness of the region is impossible without development of the corresponding infrastructure components, elimination of infrastructure

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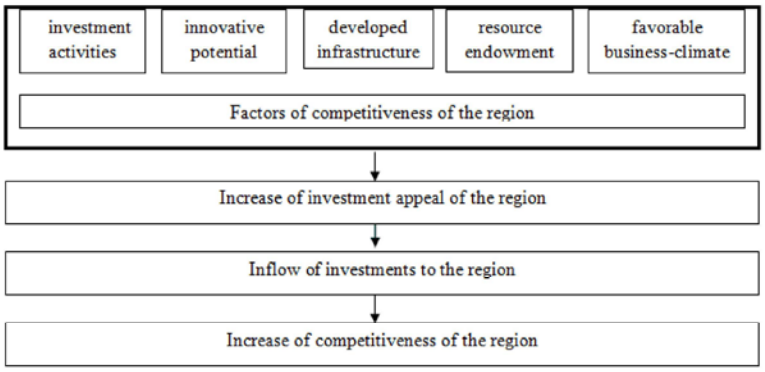

Fig. 1: Influence of infrastructure of the region on its competitiveness

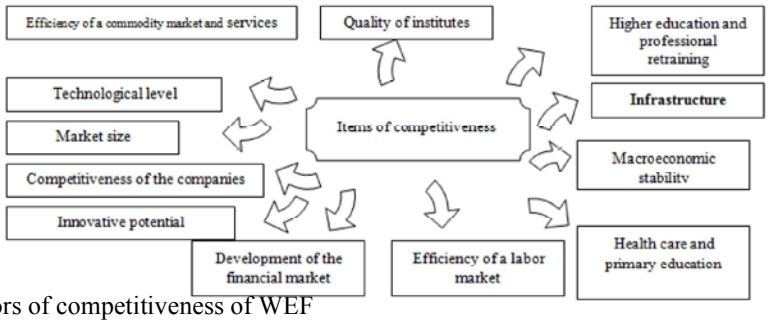

Fig. 2: Groups of factors of competitiveness of WEF

restrictions of growth of economy of the region [5]. For example, existence of the developed innovative infrastructure promotes effective use of innovative capacity of the region by introduction of the created fundamental knowledge in the main fields of social activity.

Improvement of condition of factors defining competitiveness of the region, promotes increase of investment appeal of the region for potential investors. Actually, the investor makes the decision about place of investment taking into account a combination of factors of competitiveness and chooses the region with the combination of factors of competitiveness of the region optimum for this specific investor.

For competitiveness increase region needs investments. Growth of investment appeal of the region will promote inflow of investments to the region as a result of choice of potential investors of this region as an object for investment. Thus, the higher infrastructure level of development is, the quicker innovative capacity of the region develops, then business climate and also other factors of competitiveness of the region get better, its investment appeal grows, investments arrive into the region, economic development is accelerated, life and welfare of people improves and, as a result, competitiveness of the region grows.

Ratings of competitiveness of the countries of the world point to a key role of infrastructure, defining infrastructure as one of competitiveness factors. So, according to the Index of global competitiveness (Global Competitiveness Index, GCI) the World Economic Forum (WEF) competitiveness of the country makes a number of factors which are grouped in 12 groups (Fig. 2).

At this GCI estimates a factor of competitiveness of the country "infrastructure" by means of the following 9 indicators: quality of the general infrastructure, quality of roads, quality of railway infrastructure, quality of port infrastructure, quality of the air-transport infrastructure, available aviation seat-kilometer (in a week), quality of the power supply, the established telephone lines (on 100 people), a monthly fee on mobile phones (on 100 people). Quality of roads, railway, port, air-transport infrastructures allows businessmen to ensure safety of delivery of the goods and services on the market and to carry out it in time. Development of economy also depends on quality of power supply without breaks, having impact on work of all enterprises. The significant role is played also by infrastructure of telecommunications promoting fast flow of information, guaranteeing that decisions will be made by economic agents on the basis of all available relevant information and, finally, having impact on growth of economic efficiency.

By drawing up a rating of competitiveness of World Competitiveness Yearbook of the International institute of management development (IMD) four factors are considered: state of the economy, efficiency of the government, efficiency of business and condition of infrastructure which are subdivided into more than 300 indicators [4]. We presented components of infrastructures and criteria by which it is possible to characterize it, the developed by the International institute of management development.

RESULTS

The main infrastructure includes: the territory (in sq.km); cultivated territory per capita (in sq.m); water resources per capita (in m3); access to water resources; access to consumer goods; urbanization; population – the market size; the% of the population is more younger than 15 years; the percentage of the population more senior than 65 years; dependence coefficient (percentage of the population younger than 15 years and older than 65 years/percentage of the population of from 15t to 65 years); roads; railroads; air transportation; quality of air transportation; infrastructure of system of distribution; transportations by a water transport; maintenance and infrastructure development; power infrastructure; power supply; the general level of internal development of energy (in one million tons of conditional oil); the general level of internal development of energy (in% from demanded level of conditional oil); the general consumption level of energy (in million tons of conditional oil); the general consumption level of energy per capita (in million tons of conditional oil); costs of electricity for product companies (in dollars for 1 kw); petrol prices (in dollars for liter).

Technological infrastructure includes: investments into telecommunications (in percent from gross domestic product); the established telephone lines on 1000 people; costs of telephone conversation (3 minutes of a local call, in dollars); users of cell phone on 1000 people; expenses on cell phone (1 minute of a local call, in dollars); technical means of communication; possibility of network interaction; number of computers being in operation on global scale; number of computers on 1000 people; number of people using the Internet on 1000 people; monthly payment for broadband network (in dollars); users broadband network on 1000 people; Internet speed; skills in the field of information technologies; qualified engineers; technological cooperation; projects of the state and private sectors; development and application of technologies; improvement of technological development; technological regulation; high-tech export (in million dollars); high-tech export (in percent from the made export); safety in cybernetic space.

Scientific infrastructure includes: general expenses on researches and development (in dollars); general expenses on researches and development (in% from gross domestic product); general expenses on researches and development per capita (in dollars); expenses of business on researches and development (in dollars); expenses of business on researches and development (in% from gross domestic product); cumulative number of the people occupied with researches and development; cumulative number of people occupied with researches and development per capita; people who are engaged in researches and development at the commercial enterprises; people who are engaged in researches and development at the commercial enterprises per capita; existence of scientific degrees; existence of scientific articles; Nobel Prizes; Nobel Prizes per capita; number of patent demands; number of patent demands per capita; number of the patents, granted to residents; number of existing patents on 100 thousand people; scientific researches; researchers and scientists; the legislation regulating scientific researches; rights to objects of intellectual property; transfer of knowledge; innovative potential.

The health care and environment is characterized by such criteria as: general expenses on health care (in% from gross domestic product); general expenses on health care per capita (in dollars); public expenditures on health care (in% from the general expenses); health care infrastructure; expected birth rate; expected level of health care; level of child mortality; medical care (number of people on one doctor and one nurse);% of urban population; index of human development; problems with health; intensity of energy; paper and cardboard processing; extent of development of sewer treatment facilities; intensity of a water consumption; co2 emissions; intensity of emissions of co2;% of renewables; ecological technologies; general biodiversity; ecological zone; ecological balance; sustainable development; environmental pollution problems; nature laws; climate changes; quality of life.

Education is represented by criteria: general public expenditures on education (in% from gross domestic product); general public expenditures on education per capita (in dollars); relation of students to teaching staff (primary education); relation of students to teaching stuff (secondary education);% of the population getting secondary education;% of the population which is getting higher education; students arriving from abroad on 1000

people; students getting an education abroad, on 1000 people; the report in 15 years according to the program of an assessment of foreign students (pisa); results of examination of TOEFL; education system; scientific work at schools; education at universities; administrative education;% of the illiterate population; language skills.

The emphasis on infrastructure is traced also in messages of Presidents. In particular, in the Message of the President of the Republic of Dagestan to People's Assembly in 2008 special attention was paid to creation of the developed infrastructure as the bases of providing favorable conditions for attraction of investments and in 2010 the emphasis was placed on dependence of competitiveness and efficiency of economy on quality of transport communications and modern transport infrastructure.

In the Budget Message of the President of the Russian Federation about the budget policy in 2010-2012 it is noted that the main part of the budget programs have to be composed, first of all, of development of infrastructure and in 2011-2013 one of priorities of the budgetary expenses will be development of transport infrastructure as necessary condition of economic growth and increase of investment activity. In the Message to Federal Assembly of Russia of November 5, 2008 the President of the Russian Federation noted that it is necessary to create bases of national competitiveness where it is possible to receive future benefits and advantages and specified that actions of the Russian Federation in economy will be based on the concept of four "I" - institutes, investments, infrastructure, innovations.

In the third report on economic and social integration of the European Commission (European Commission, Third Report on Economic and Social Cohesion, Office for official publications for the European Communities, Luxembourg, 2004) two factors of competitiveness of the region are allocated:

- Providing with physical infrastructure and human capital;
- Innovative potential and ability of effective use of new existing technologies.

Development of infrastructure is defining direction of increase of competitiveness of the Republic of Tatarstan, as indicated by the programs approved in the republic. For example, one of the main objectives of social and economic development program of the Republic of Tatarstan till 2020 and for the period till 2030 of the "Development and placement of productive forces of the Republic of Tatarstan on the basis of cluster approach till 2020 and for the period till 2030" is: "Creation of the transport, power and information infrastructure providing competitive development of key branches of production, comfortable conditions of accommodation and communicative freedom of the population, creation of the transport and logistics centers on the territory of the republic".

According to the Program of social and economic development of the Republic of Tatarstan for 2011 - 2015 creation of infrastructure is an effective form of placement of productive forces and a basis of economic development. And for the purpose of implementation of the balanced policy in the sphere of development of public infrastructure by the Resolution of the Cabinet of Ministers of the Republic of Tatarstan No. 358 of 03.06.2009 the Long-term concept of development of public infrastructure of the Republic of Tatarstan was accepted.

CONCLUSIONS

Infrastructure is some kind of structure forming and maintaining competitiveness of the region. Quality of living of people, degree of satisfaction of their requirements, investment appeal and competitiveness of the region depends on level of its development. However it should be noted that strengthening of state regulation of activity of infrastructure for the purpose of formation of such system of infrastructure which would reliably and effectively satisfy all necessary requirements and thus would promote, using of reserves of growth of investment appeal and competitiveness of regions.

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