

Investments as an Accelerator of Regional Innovation Development

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Abstract: The study studies the role of investment processes in regional innovation development. The analysis of regional investment processes allows to identify main trends and to evaluate possibilities of investing in development of innovation environment. The researchers propose to expand possibilities of investment activities in regional development. The researchers substantiated the correlation between investment policy and innovational regional development. The results of the survey proved the possibility of practical use of indicators of investment policy's efficiency when developing directions of regional innovation development.

Keywords: Investments, investment activity, innovation processes, assessment of the effectiveness of the innovation process, Russia

INTRODUCTION

The key strategic priorities of socio-economic development of regions in modern conditions are the scientific and technological progress and innovations. The processes of regionalization of the economy increase the role and responsibility of regional authorities and administration in the implementation of the relevant investment policy which should contribute to acceleration of socio-economic development of the subjects of the Russian Federation, increase in high-tech sectors in the structure of regional economies, promotion of scientific-technical sphere and consequently, increase of the standard of living.

The increasing need for investment is the result of the necessity for maintaining development of innovation activity both on regional and state levels. Compelling reasons for investment and innovation activities can be seen as the need to gain a competitive advantage in the market or as the requirement of scientific and technical progress which defines demand for the production of new goods (Parakhina *et al.*, 2015; Proshkina, 2015; Barinova, 2014).

THEORETICAL JUSTIFICATION OF THE RELATIONSHIP BETWEEN INVESTMENT POLICY AND INNOVATION DEVELOPMENT OF A REGION

The innovation process becomes the main driving force of economic development and reproduction. It is carried out on a basis of extended implementation of new technology and processes. In this regard, there is an urgent need to improve investment and innovation policy meeting modern economic and socio-political realities and providing large-scale capital inflows for production

Gaps in the Federal Law System in the sphere of foreign investments	Administrative barriers and high risks	Unclear distinction of powers between the Federal and regional authorities
Low indicators of Russia in world economic rankings	The lack of corporate governance in the Russian	Poor investment climate and external political environment

Fig. 1: The main problems of investments attraction in Russia

modernization on a basis of high-end technology. The main objective of this investment and innovation policy should be functioning of the selective mechanism of investment attraction for development of innovative activities shown in Fig. 1.

The main problems of investment and innovation policy include. In order to ensure a new quality of economic growth, basic innovations should be developed. They are necessary in the long wave of the growth phase and able to give rise to the further supplementing wave. This relationship determines the multiplier effect which manifests itself in terms of stimulating investment policy and innovative development of economy.

One of the main elements of investment and innovation policy should be the mechanism initiating the increased demand for innovation on the part of economic entities which are now basically do not have enough funds because the cycle of production investment and innovation goes beyond short-term interests. The formalization of the impact of investment-innovative multiplier on the growth of the Gross Regional Product

Table 1: Dynamics of main indicators of investment processes in the Belgorod region, 2009-2014

Indicator	2009	2010	2011	2012	2013	2014
Investments in non-financial assets (rub, million)	50124.3	63807.3	75855.2	84126.4	78035.2	73091.1
The growth rate to the corresponding period of the previous year (%)		127.3	118.9	110.9	92.8	93.7
Financial investments (rub, million)	174019.3	161151.4	378823.4	293515.2	311529	376465.7
The growth rate to the corresponding period of the previous year (%)		92.6	235.1	77.5	106.1	120.8
Foreign investments, (USD, million)	48.1	45.7	3315.6	47.7	1448	...
The growth rate to the corresponding period of the previous year (%)		95.0	×72 times	1.4	×30 times	...

Table 2: Dynamics of investments in fixed capital for 2009-2014

Indicators	2009	2010	2011	2012	2013	2014
Investments in fixed capital (rub, million)	73126.6	96313.0	125993.5	136201.6	129405.2	120390.6
The growth rate to the corresponding period of the previous year (%)	-	122.3	118.4	101.4	89.7	90.5
The GRP of the Belgorod region (rub, billion)	304.3	398.4	507.8	546.2	569.4	604.1
The share of investment in fixed capital in GRP (%)	24.0	24.2	24.8	24.9	22.7	19.9

Source: (Vaganova, 2011)

(GRP) in conjunction with the effect of investment multiplier-accelerator should include an assessment of the contribution of knowledge capital and innovation in GRP growth. As a result, the intensification of investment activity and formation of a favorable investment climate become an indispensable requirement for sustainable innovative development of the region.

ASSESSMENT OF EFFICIENCY OF DEVELOPMENT OF INVESTMENT AND INNOVATIVE PROCESSES IN THE REGION

In the ranking of investment attractiveness among the Russian regions, Belgorod region has stable qualitative indicators of positive dynamic of investment processes, their concentration in socially-oriented sectors of the economy and in the priority segments of the productive sector which can ensure the development of regional innovation activities.

According to the annual rating of investment attractiveness of Russian regions in 2014, prepared by RA "Expert", Belgorod region is among the regions with an average investment potential and minimal risk (2A). It took 8th place in the rating of investment risk among regions of the Russian Federation and the 17th place in terms of investment potential (Vaganova *et al.*, 2015a). Main indicators of investment processes in the region are presented in Table 1.

The data of Table 1 shows that in the period of 2013-2014, there has been a slowdown in investment activity. Despite this, the positive dynamics of investment processes during the period in question contributed to realization of unique, large-scale investment projects in the region. The indicator of investment activity is the scope of investments in fixed capital. Dynamics of investments into fixed capital of the Belgorod region for 2009-2014 as well as their share in the Gross Regional Product (GRP) are shown in Table 2.

The growth of this indicator has had a positive impact on the change in the value of GRP: GRP growth over the past few years has been 80% and reached in 2014 its maximum of 604.1 billion rubles, i.e., an average increase of this index every year is 16%. The share of investment in fixed capital in relation to gross regional product in the Belgorod region each year is increasing and corresponds to the level of developed countries (at least 20-25%). This trend is beneficial to solving the problems of economic growth in the region at the expense of the investment component.

The main purpose of investment in fixed assets in 2014, as in previous years, has been to replace worn-out machinery and equipment. Investments to increase the efficiency of production (automation or mechanization of the existing productive process, the introduction of new production technologies, reduction of products' cost price, energy saving measures) were carried out by 29-54% of organizations in the region (Moskovkin Munenge, 2015). Purposes related to the increase in production capacity with constant product range was pursued by 24% of organizations and the increasing range of products -44%.

At the expense of all raised funds in 2014, organizations mastered to 35.5 billion rubles investments in fixed capital or 48.9% of total investment in fixed assets. The raised funds are mainly used by organizations producing food products, beverages (61.4% of all investments in this type of activity), the chemical industry (54.7%), manufacture of other non-metallic mineral products (by 53.9%), manufacture of vehicles and equipment (91.3%), construction (76.2%), financial activities (87.2%), real estate transactions, lease and provision of services (88.4%), public administration and military security; social insurance (99.9%), education (98%), health and social services (91.8%), other community, social and personal services (85.9%) .

Table 3: Main indicators of innovative activities of the Belgorod region, 2009 - 2014

Indicator	2009	2010	2011	2012	2013	2014
Innovative activity of organizations (the share of organizations engaged in technological, organizational and marketing innovations in the reporting year in the total number of the surveyed organizations) (%)	11.1	10.9	12.2	9.2	9.6	11.5
The growth rate to the previous year (%)	-	98.2	111.9	75.4	104.3	119.8
The share of organizations engaged in technological innovation in the reporting year in the total number of surveyed organizations, %	7.9	8.7	9.9	7.6	9.4	10.5
The growth rate to the previous year (%)	-	110.1	113.8	76.8	123.7	111.7
The share of organizations engaged in organizational innovation in the reporting year in the total number of surveyed organizations (%)	3.2	8.2	8.7	3.9	2.5	2.6
The growth rate to the previous year (%)	-	2.6 p	106.1	44.8	64.1	104.0
The share of organizations engaged in marketing innovation in the reporting year in the total number of surveyed organizations (%)	2.1	4.2	2.3	1.6	1.4	1.7
The growth rate to the previous year (%)	-	2.0 p	54.8	69.6	87.5	121.4
The share of organizations engaged in ecological innovation in the reporting year in the total number of surveyed organization (%)	1.5	4.2	3.3	2.1	1.8	2.2
The growth rate to the previous year (%)	-	2.8 p	78.6	63.6	85.7	122.2
Expenditure on technological innovations (mln. rub).	1197.8	3072.3	2136.6	1629	1107.4	4108.8
The growth rate to the previous year (%)	-	2.6 p	69.5	76.2	68.0	3.7p
Shipped innovative goods, works, services (million rubles)	10437.5	9391.6	15457.4	21683.4	21246.5	23098.3
The growth rate to the previous year (%)	90.0	164.6	140.3	98.0	108.7	

Source: (Vaganova, 2011)

To formulate basic priorities and directions of investment policy of a region and clear practical recommendations for the development of innovative activities in large scale it is necessary to obtain a quantitative and qualitative assessment of the status of the innovative environment in Belgorod region. Priority directions of implementation of the strategy in the investment area are:

- The development of traditional branches of economy of a region on the basis of innovation implementation (area of priority development of agro-industrial complex, mining, construction clusters)
- The creation of conditions for realizing the potential of emerging and new sectors of economy (priority development area “Engineering sector”, tourism and recreation, transportation and logistics clusters)
- The foundation of the new economy, the knowledge economy, the creation of the high-tech industries, the development of bio, nano, information technologies, alternative energy, energy efficiency and energy saving
- Creating high-performance workplaces
- Establishment of the export-oriented and import-substituting productions
- The development of social entrepreneurship of multicomponent social cluster (Vaganova, 2011)

Given that innovative activity encompasses a wide range of activities enterprise, the system of criteria for the assessment needs to include all aspects and be carried out throughout the hierarchical chain from processes of implementation of innovative projects and technologies to objective and reliable assessment of innovative activity like private industrial enterprises and the state of innovation sphere of the region as a whole.

At the regional level, the system of evaluation indicators of innovation activity includes: the share of organizations engaged in technological, organisational and marketing innovations; the volume of innovative goods, works, services; share of innovative goods, works, services in total volume of shipped goods, performed works and services; expenses for technological innovations; the share of expenditure on technological innovations in total volume of shipped goods, performed works and services; patent applications and issuance of security documents in Russia; advanced production technologies (Vaganova *et al.*, 2015a, b; Vaganova and Kucheryavenko, 2013).

Analysis of the main indicators of innovative activity of the Belgorod region, presented in Table 3, allows to see the overall picture of development and to highlight both positive and negative trends. The background of the overall innovation activity of organizations engaged in technological, organizational, marketing and ecological innovation is characterized by unstable dynamics. Throughout the period in question there was a decline in the studied parameters. However, in the general assessment in 2014, there was a steady growth of all indicators. Negative indicators for assessing innovation activities of the Belgorod region should include:

- Low activity of organizations engaged in technological, institutional, marketing and eco-innovation
- Low weight of expenses for technological innovations in GRP (average of 0.45% of the GRP)
- Low specific weight of innovative goods, works, services in the total volume of shipped products (on average 3.6% of the total)

Table 4: The dynamics of innovative activity of the Belgorod region in 2009-2014

Variable	2009	2010	2011	2012	2013	2014
The number of innovative enterprises, units	19.00	16.00	16.00	14.00	14.00	15.00
The rate of growth, to the previous year (%)	-4.00	-3.00	0.00	-2.00	0.00	1.00
The increase in the number of innovative enterprises, units	8.70	9.90	7.60	9.40	10.50	7.90
The rate of growth, to the previous year (%)	-	10.10	13.80	-23.20	23.70	11.70
Filed patent applications for inventions	132.00	117.00	136.00	117.00	54.00	63.00
The rate of growth, to the previous year (%)	-	-11.40	16.20	-14.00	-53.80	16.70
Filed patent applications for utility models	58.00	103.00	95.00	104.00	63.00	87.00
The rate of growth, to the previous year (%)	-	77.60	-7.80	9.50	-39.40	38.10
Granted patents for inventions patents for inventions	122.00	93.00	104.00	130.00	47.00	40.00
The rate of growth, to utility models for inventions (%)	-	-23.80	11.80	25.00	-63.80	-14.90
Granted patents for utility models	53.00	68.00	89.00	74.00	68.00	63.00
The rate of growth, to the previous year (%)	-	180.00	-21.40	-36.40	-14.30	22.20
The ratio of issued/ filed for patents for inventions	0.92	0.79	0.76	1.11	0.87	0.63
The ratio of issued/ filed for utility models for invention	0.91	0.66	0.94	0.71	1.08	0.72
The share of enterprises implementing organizational innovations (%)	4.20	3.30	2.10	1.80	2.20	1.50
The rate of growth, to the previous year (%)	-21.40	-36.40	-14.30	22.20	-31.80	-21.40

Calculated based on ()

A key indicator of innovative activity of the region is the level of innovative activity. At the regional level innovation activity can be assessed by the following indicators, presented in Table. 4.

Dynamics of the level of innovative activity in the Belgorod region is characterized by unsustainable trends that lead to the decline of major economic indicators with the exception of 2014. So, the following indicators were decreased:

- The share of enterprises engaged in technological innovation (-0.16%)
- The number of patent applications for inventions (and 13.8%)
- The number of issued patents for utility models (-16.4%)

Summing up, it can be noted that the current policy promotes the development of innovative activities in the region. Innovative environment of the Belgorod region, characterizing the readiness of the socio-economic system for innovational transformations, reflects the level of development and effectiveness of functioning of its main components, regional institutions, infrastructures, business and society. It is a premise for successful implementation of national and inter-regional investment projects in the field of nanotechnology. According to the Institute for Infrastructure Innovations and Investments, the Belgorod region is ranked the 19th place in the ranking of Russian regions by level of development of the innovative environment.

CONCLUSION

The positive trends in social and economic development of the region as well as the government's investment policy is aimed at creating conditions for sustainable development innovation.

Dynamics of the level of innovative activity in Belgorod region is characterized by unstable trends 2014 demonstrates some positive aspects on the general negative background. The development of regional innovative activity is constrained by lack of financial institutions and of platforms for exchange of information, lack of objects of technology transfer and prototyping products required to support the innovation teams in the early stages of the innovation cycle.

However, in order to improve the efficiency of innovative development, the regional government has developed and is implementing a complex of measures on stimulation innovative activity in the region, also by creating a favorable climate for the development, attraction and implementation of investment projects in the sphere of high technologies. As, the result of implementation of measures to encourage innovative activities in the sphere of production, science and material services, the region will be able to solve the problem of changes in the structure of the economy in favour of manufacturing industries based on current programs, capable to ensure sustainable economic growth.

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