



Dynamics of Development of Investment Processes in the Belgorod Region

Natalia I. Lyakhova*

Sary Oskol Branch, Belgorod State National Research University, 18 Solnechny Micro District, 309502 Sary Oskol, Russia

Natalya O. Gordeeva

Sary Oskol Branch, Belgorod State National Research University, 18 Solnechny Micro District, 309502 Sary Oskol, Russia

Ekaterina N. Manaeva

Sary Oskol Branch, Belgorod State National Research University, 18 Solnechny Micro District, 309502 Sary Oskol, Russia

Eduard V. Zhilin

Sary Oskol Branch, Belgorod State National Research University, 18 Solnechny Micro District, 309502 Sary Oskol, Russia

Abstract

This paper deals with the results of the analysis of the dynamics of changes in the investment structure of the Belgorod region, conducted on the basis of private and integral indicators characterizing the dynamics of structural changes. The structural changes in the Belgorod region concerning investment capital are different from the corresponding figures calculated in the Central Federal District. The revealed differences characterize features of the development of investment processes and indicate a change in the priorities of those investing in the economy of the region.

Keywords: Investment processes; Investment dynamics; Structural changes.



CC BY: [Creative Commons Attribution License 4.0](https://creativecommons.org/licenses/by/4.0/)

1. Introduction

The formation of the investment climate in the framework of the implemented investment policy of countries and regions, which affects the development of investment processes, in theory and practice of state regulation of the economy is associated with actions aimed at their respective organization (Afonso and Fernandes, 2006; Geys and Moesen, 2009; Kobińska and Kubik, 2017; Szłęk and Bojar; Teresa and Prior, 2009; Union, 2014).

The generally accepted approach to the study of the intensity of investment processes is related to the study of the dynamics of investment volumes, the directions, and the evaluation of investment efficiency. However, such an approach does not allow for a comprehensive study of the consequences of the investment policy being pursued, therefore, this study applies an approach to evaluate structural changes in investment sources, identify the development features of investment processes within the subject of the Russian Federation, and identify the main problems in this area of activity of the territorial administration bodies.

2. Conditions and Methods of Research

The financial dictionary explains the concept of “investment climate” as a combination of socio-economic, political and financial factors that determine the degree of attractiveness of the investment market and the amount of investment risk (Panova, 2002).

The development of investment processes provides the possibility of investing in fixed assets, while investors can act as a state, regions, municipalities, and Russian and foreign private companies. An increase in participants in the investment process contributes to reduction in the level of risk of each of them.

In accordance with Russian legislation, investment is possible from sources of various forms of ownership. The most common approach involves the allocation of the following groups by forms of ownership: private, public, foreign and mixed (joint) investment (Bakhyt *et al.*, 2018; Стрижков, 2014). The dual name of the fourth group (mixed or joint) is associated, according to the author, with the fact that the Russian statistical service identifies both joint and mixed forms of ownership.

A study was conducted to assess changes in the investment structure of the Belgorod region in the form of ownership over five years, covering the period 2010-2014. Years are chosen subject to the pre-crisis period. The statistical reporting of the Russian Federation, associated with the reflection of the movement of investment, characterizes the distribution of investment in fixed assets in the context of state, municipal, private, and mixed Russian ownership. The rest of the investment in the study is considered as other investments, which potentially include foreign investment, investment of public associations, and a mixed form of investment with foreign participation (Regions of Russia, 2016).

The study used an index method for analyzing structures, and partial and integral indicators of structural changes were calculated. As particular indicators, the following are taken: the mass, speed, intensity, direction, measure of monotony of structural changes; integral indicators are the coefficient of structural activity.

*Corresponding Author

2.1. Main Part

A rather developed number of indicators is due to the task of performing a complete structural analysis using absolute, relative and integral indicators (Abuziarova, 2011; Eliseeva, 2004; Kharin and Maliugin, 2000; Krasilnikov, 2000; Samonova, 2014; Shevchenko and Razvadovskaia, 2013; Sukharev, 2012;2015; Vatiukova, 2016).

To identify the specifics of the development of investment processes occurring in the Belgorod region, the calculations of private indicators are duplicated within the Central Federal District and the Russian Federation in general, and relative and integral - in the CFD.

Table-1. Calculation of the mass of structural shifts in investments within the framework of property forms in the Belgorod region for 2010-2014, million rubles

Years	Type of investments				
	State	Municipal	Private	Mixed Russian	Others
2010-2011	-965365	-115756	-1362773	-385492	-138714
2011-2012	151904.2	12506.6	-1136977	-69977.2	-40056.2
2012-2013	633629	64774	312815	-271273	1554.5
2013-2014	425432	28844.8	-6573.1	310189.8	143506.5

The mass of the structural shift, as one of the particular indicators, is calculated in terms of value. This indicator is determined by the number of economic elements that make up the structural shift (Table 1).

The results of the analysis demonstrate that the mass of the structural shift in all forms of ownership is negative in the initial period; in the next interval the mass is positive within the state and municipal sources of investment and is negative for all the rest. In subsequent periods, the negative mass was noted only in the mixed Russian ownership.

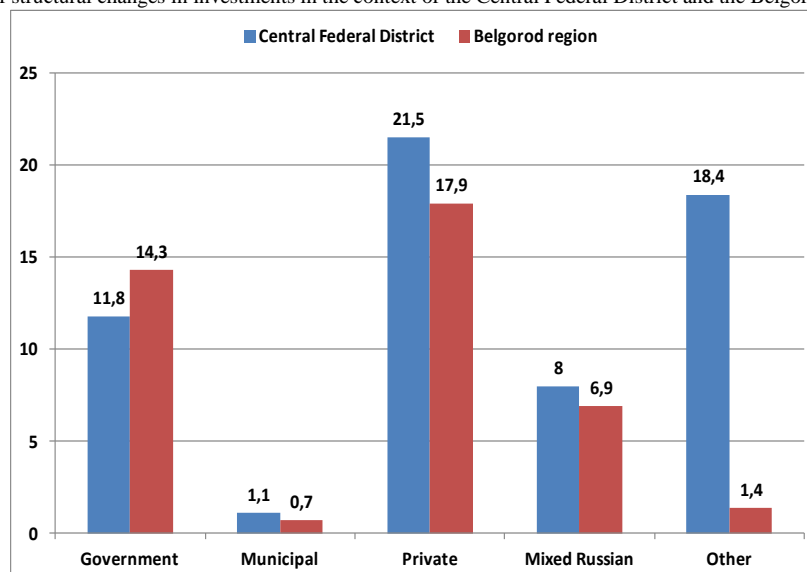
The rate of structural changes, reflecting the dynamics over time, was calculated over a five-year period in monetary terms. This indicator is also absolute. The highest rate of structural shifts was noted in the framework of private investments (563.8 billion rubles), followed by state (435.3 billion rubles) and mixed with Russian participation (207.4 billion rubles). The rate of structural shifts in municipal and other investments is significantly lower. The calculations are shown in Table 2.

Table-2. Calculation of the rate of structural shifts in investments by forms of investments made in the Belgorod region for 2010-2014, million rubles

Subject	Type of investments				
	State	Municipal	Private	Mixed Russian	Others
Russian Federation	23364536	4571624	52662129	22379206	16653522
Central Federal District	11841331	1276226	12548271	3628580	12415582
Belgorod region	435266.1	44376.26	563827.7	207386.4	64766.16

The intensity of structural changes characterizes the degree of change in the mass of a structural shift and is a relative indicator, calculated on average for the considered period. The calculation results presented in Figure 1 show that the intensity of structural changes in the Belgorod region reaches almost 18% in private investment, 3.6% less in public investment. According to the mixed Russian form of ownership, the intensity of structural changes is almost 7%, while for the other forms of ownership, the indicators fluctuate around 1%.

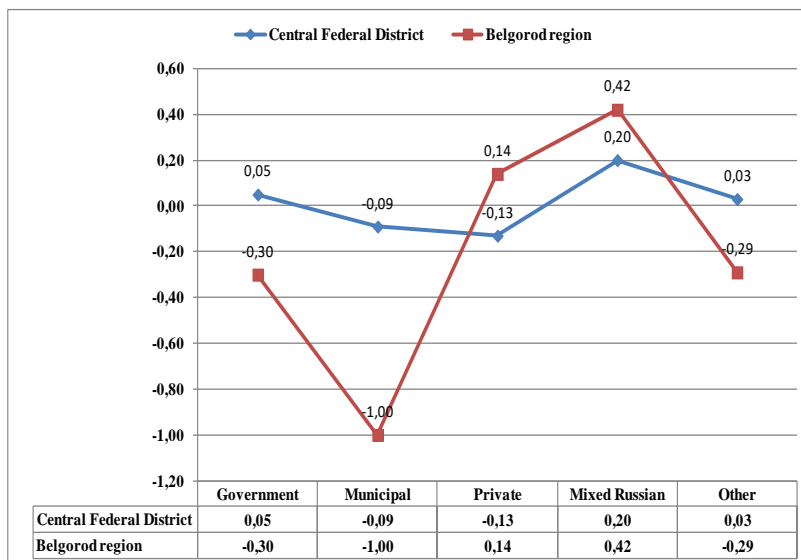
Figure-1. Intensity of structural changes in investments in the context of the Central Federal District and the Belgorod region in 2010-2014



Similar indicators for the whole CFD make it possible to draw conclusions that significantly higher (by 17%) than the intensity of structural shifts in other forms of investment, which is not surprising, since their significant part belongs to foreign and mixed with foreign investments. This is due to the fact that in the Russian Federation there are regions whose investment attractiveness is much higher than in the Belgorod region. The intensity of the shifts is by 3.6% higher - in private investments, by 1.1% - in mixed Russian investments. The excess of this indicator in the Belgorod region compared to the Central Federal District is observed in public investment.

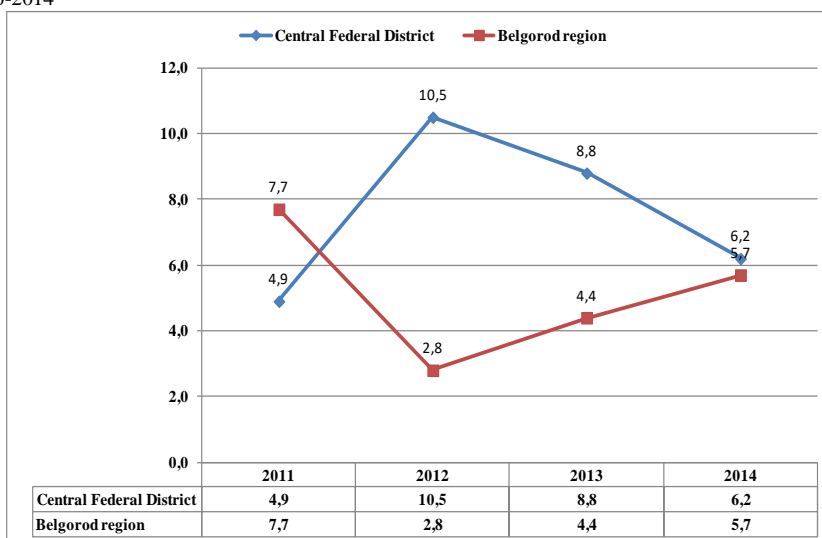
The direction of structural changes, which characterizes their monotony and nature, is a very important indicator for analyzing the development of investment processes. The results of calculations of this indicator in the context of the Belgorod region and the Central Federal District are presented in Figure 2.

Figure-2. Directions of structural changes in investments by forms of ownership in the context of the Central Federal District and the Belgorod region in 2010-2014



The regressive nature of the direction of structural changes in the Belgorod region is marked by state, municipal and other (foreign) investments. Progressive nature is observed in private and mixed Russian types of investments, while the absolute values of the indicator under consideration for mixed investments are almost three times higher. A comparison of indicators with data from the Central Federal District allows us to note general trends in the regressive nature of the movement of municipal investments, although in absolute values these indicators are hardly comparable (-1 and -0.09, respectively). The analysis shows a significant reduction in municipal investment in the Belgorod region. The outlined features of the structural shifts in municipal investments in the Belgorod region, which stand out sharply among the other subjects of the Russian Federation in the Central Federal District (the same indicator is only in the Kursk region), are explained by the fact that the specialization of the administrative districts of the Belgorod region is mainly agricultural, which is accompanied by a low level of tax levies, the predominance of the subsidized formation of local budgets.

Figure-3. The coefficient of structural activity of investments by forms of ownership in the context of the Central Federal District and the Belgorod region in 2010-2014



The general trend of structures in terms of the nature of the intensity of structural shifts is the progressive nature of mixed Russian investments. At the same time, the indicators of the Belgorod region are twice as high as in the Central Federal District in general.

The integral indicator of structural changes - the coefficient of the structural activity of investments, reflecting the nature of investment flows in the context of ownership forms, shows the propensity of movement of the analyzed structure (Fig. 3).

The activity coefficient was determined for 2010-2014 and on average for the entire period. It is calculated as the half-sum of structural shifts, taken modulo.

The highest activity coefficient in the Belgorod region was observed in the first interval (7.7%), then there was a sharp decline, gradually leveling, but not reaching the initial level. In general, the reverse trend is observed in the Central Federal District: the largest coefficient is recorded in the second period accompanied by a gradual decline.

The coefficient of activity of structural shifts in the Belgorod region in the analyzed period is lower on average than in the Central Federal District.

3. Summary

The conducted research of the development of investment processes by means of the analysis of the investment structure by forms of ownership in Belgorod region allows us to draw the following conclusions: the greatest positive mass of the structural shift in public investment is observed in the range of 2012-2013, further there is a decline by 33%; in the last interval there was a significant growth in the mass of other investments, which increased 95 times over the previous period;

- Belgorod region occupies a leading position among the subjects of the Central Federal District in the rate of structural changes. The rate of structural changes is higher only in the Moscow and Voronezh regions. In terms of private investment, the leaders are the Moscow and Voronezh regions, while Belgorod region is in the top ten in this indicator;

- analysis of the intensity of structural changes in the context of the Central Federal District showed the need to increase the share of private investment; but special attention should be paid to attracting foreign investors, as evidenced by the need to expand the share of both foreign and mixed investment with foreign participation;

- the lowest average coefficient of structural activity for the analyzed period among the subjects of the Central Federal District in the Belgorod region shows a fairly stable structure of investments in the framework of ownership, thus, the structure of investments is quite stable, with no abrupt changes observed. This characterizes the progressive implementation of the investment policy of the Belgorod region

References

- Abuziarova, M. I. (2011). Methodological foundations of structural changes in the economy. *Economics*, 4(77): 181-85.
- Afonso, A. and Fernandes, S. (2006). Measuring local government spending efficiency, Evidence for the Lisbon region. *Regional Studies*, 40(1): 39-53.
- Bakhyt, S., Kalimbetov, B. and Khabibullayev, Z. (2018). Possibilities of mathematical problems in logical thinking. *Development of Secondary Education Pupils*, 34(85): 321-38.
- Eliseeva, I. I. (2004). *General theory of statistics, Textbook*, I.I. Eliseeva, M.M. Iuzbashev. I.I. Eliseeva. 5th ednM. Finance and Statistics. 656.
- Geys, B. and Moesen, W. (2009). Measuring local government technical (in) efficiency, An application and comparison of fdh, Dea, And econometric approaches. *Public Performance & Management Review*, 32(4): 499-513.
- Kharin, I. S. and Maliugin, V. I. (2000). Statistical analysis and forecasting of macroeconomic processes using the economic modeling and forecasting system. *Aktualnaia Statistika*, 2: 13-20.
- Kobiałka, A. and Kubik, R., 2017. "Efficiency of the investment activity of Polish communes in rural areas." In *International scientific conference rural development*. pp. 1087-91.
- Krasilnikov, O. I. (2000). *Structural changes in the economy of modern Russia*. Publishing house Nauchnaia kniga: Saratov. 183.
- Panova, G. S. (2002). Financial and credit encyclopedic dictionary, A group of authors; ed. A.G. Griaznov. *Finance and Statistics*: 1168.
- Regions of Russia (2016). Socio-economic indicators. *P32 Stat. Col. / Rosstat*: 1330.
- Samonova, K. V. (2014). Structural shift, The essence, Causes, Parametric characteristics. *Modern Scientific Research And Innovation*, 10: 67-72.
- Shevchenko, I. K. and Razvadovskaia, I. V. (2013). Models of analysis of structural changes in the industrial sector of the economy, specificity and parametric characteristics, News of SFU. *Technical science*, 6(143): 153-59.
- Sukharev, O. S. (2012). On the development of a comprehensive methodology for analyzing structural changes, Investments in Russia. 12: 36-46.
- Sukharev, O. S. (2015). Regional economic policy, Structural approach and tools, Theoretical formulation. *Ekonomika Regiona*, 42(2).
- Szłęzak, R. and Bojar, M. Innovative development of the Lublin region—a case study of eastern ICT Cluster. *Innovative regional development*. 78.

- Teresa, B.-C. M. and Prior, D. (2009). Short-and long-term evaluation of efficiency and quality. An application to spanish municipalities. *Applied Economics*, 41(23): 2991-3002.
- Union, I. (2014). *Communication from the commission to the european parliament, the council, the european economic and social committee and the committee of the regions*. European Economic and Social Committee and the Committee of the Regions: Brussels.
- Vatiukova, O. I. (2016). Interrelation of structural changes and development of the economic system. *Basic Research*, 9: 555-59.
- Стрижков, А. А. (2014). Опорная модель инвестиционной среды. Определение инвестиционной привлекательности интегрированных промышленных структур, универсальный подход. *Вестник Самарского государственного университета*, 8(119).