

The role of foreign direct investment in the Volgograd region's economy

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Abstract — Attracting foreign direct investment (FDI) can act as a driving force for economic modernization of the recipient country and its regions. The paper focuses on the analysis of FDI role in the economy of the Volgograd region. Historical, comparative, tabular, diagram, relative and absolute indicators methods, and correlation analysis have been used. The analysis of some economic indicators for the period of 2011-2017 has shown that FDI share in GRP of the Volgograd region is smaller than that of Russia, and labour resources are not provided with adequate investment. Despite positive changes in the type and country structures, FDI is not distributed according to the real needs of certain sectors of regional economy. The correlation analysis has revealed that there is moderate or weak correlation between FDI and main economic indicators of the Volgograd region. The findings suggest that special attention should be paid to development of support programs aimed at greater cooperation with foreign investors, and the most positive impact of FDI on the region's economy.

Keywords — investment, foreign investment, foreign investor, foreign direct investment, region's economy

I. INTRODUCTION

The country's active participation in the international division of labour is one of the key factors to ensure the best structure of national economy and sustainable economic growth. Recent decades have seen a dynamic growth of FDI attraction as a promising form of cooperation with foreign partners.

Over the past fifty years, foreign direct investment has been used in all successful projects aimed at modernization of national economy. Taiwan, Malaysia, Singapore, and China began the transformation of their economies with establishing favourable environment for foreign direct investment.

However, scholars debate the nature of the relationship between FDI and economic growth. Some argue that FDI which encourages advanced technologies and know-how can accelerate technological changes, production and export diversification, employment and income growth – all factors that promote economic growth in a recipient country.

J. De Gregorio (1992) in his study shows that FDI is three times more effective as compared to domestic investment in terms of its impact on economic growth [1].

E.J. Borensztein, J. De Gregorio, J.-W. Lee (1998) in their joint research conclude that FDI being one of the tools of international technology transfer can promote economic growth more effectively than domestic investment provided that a recipient country has highly qualified labour force [2].

L. Alfaro, C. Areendam, S. Kalemli-Ozcan, and S. Selin (2000) believe that FDI can have a positive impact on economic growth in the countries with developed financial markets [3].

According to J. Rappaport (2000), FDI can increase productivity not only of the companies that receive investment but also of all companies in recipient countries [4].

Others believe, however, that FDI does not have positive effect on economy but also can crowd out domestic companies.

M.V. Carkovic и R.E. Levine (2000) justify that FDI does not have a positive impact on economic growth in a recipient country. Moreover, they argue that it's growth and a favourable macroeconomic environment that drive FDI rather than the reverse [5].

R.E. Lipsey (2002) argues that there is no strong relationship between the amount of FDI accumulated in the country or the amount of annual FDI and GDP and economic growth [6].

E. Braunstein и G. Epstein (2002) in their study show that transnational companies in a recipient country can control supply of resources in some sectors and have tax advantages granted by the government. All these factors can improve competitive advantages of foreign transnational companies as compared to domestic firms. As a result, the number of domestic companies and their scale of activities will reduce [7].

Despite mixed views about the role of FDI in the economy of recipient countries, the amount of FDI has been steadily increasing. According to UNCTAD, FDI has increased 6.5 times for the past twenty-five years [8].

FDI inflows in Russia have not shown a steady trend for the same period. However, FDI in the Russian economy has increased 20.9 times, and its share in FDI global annual amount has increased from 0.6% to 1.8%. FDI is characterized

by unequal distribution in Russia's economy which in turn affects different modernization rates in the regions of the country.

The present paper focuses on the analysis of FDI role in the Volgograd region's economy. This involves the assessment of FDI amount based on comparison of the size of the region's economy and FDI amount; analysis of FDI structure in the region's economy; correlation analysis of FDI and key economic indicators of the region.

II. MATERIALS AND METHODS (MODEL)

FDI role in the economy of the Volgograd region has been analyzed in several directions.

A. The assessment of FDI amount in the Volgograd region's economy has been conducted using absolute and relative indicators, and diagram method.

Annual FDI and gross regional product (GRP) have been compared to illustrate how the amount of FDI corresponds to the size of the region's economy.

We assess how labour resources are provided with investment on the basis of correlation analysis of accumulated FDI and the number of employed. FDI amount per one employee characterizes the investment climate in the region and its investment activity level that are considered to be the drivers of economic growth.

B. FDI structure has been analyzed depending on its type, adequacy to the needs of specific types of economic activity in the Volgograd region, and a donor country.

The Central Bank of Russia distinguishes two types of FDI: capital participation and debt instruments. In terms of stability, capital participation seems to be more preferable. We compare the structures of FDI in the Volgograd region's economy and that of Russia as a whole.

The adequacy of FDI distribution in different economic sectors according to their actual needs in investment is shown by comparing the level of wear rate of fixed assets and the amount of investment in different segments of region's economy.

FDI origin can indirectly characterize its quality. Currently, a large part of global FDI comes from offshore zones or associated territories. Among them are Cyprus, the Netherlands, British Virgin Islands, and others.

The investments from the countries mentioned above usually have Russian origin. Although investors from these countries are well aware of the overall economic situation and specific character of doing business in Russia, the investments nevertheless have little positive impact on Russia's economy. The paper gives an assessment of changes in FDI country structure for the analyzed period.

C. The correlation analysis has revealed a relationship between some indicators of the Volgograd region: FDI, on the one hand, and GRP, number of employees, personal average monthly income, wear rate of fixed assets, and productivity index, on the other.

The analysis covers the period from 2011 to 2017. The choice of the period is motivated by the available data on the amount of accumulated and incoming FDI in Russia and its regions. The Central Bank of Russia has published statistical data on FDI since 2011. The data cover both finance and non-finance sectors of the Russian economy. The previous data provided by the Russian Federal State Statistics Service include only information on the organizations that report statistics but without taking into account financial and monetary authorities. This peculiarity of statistical data has made it impossible to extend the period under analysis.

The statistical information provided by the Central Bank of Russia, the Russian Federal State Statistics Service, and the Volgograd Division of the Russian Federal State Statistics Service has been used as the database for the research.

III. RESULTS AND DISCUSSION

The Volgograd region is characterized by a relatively high investment attractiveness. This results from diverse natural resources, developed multisectoral industrial production, climate favourable for agriculture, advantageous geographic location, current liberal investment legislation, support system for investment projects, etc.

According to the National Rating Agency, the Volgograd region is listed among the sixth group of regions of the nine groups (Group IC6) with moderate investment attractiveness [9].

According to the Investment Attractiveness Rating, conducted by the Expert RA Agency in 2017, the Volgograd region was rated as "Reduced potential – moderate risk (3B1)" (50 out of 84 regions) [10].

A. FDI dynamics in the Volgograd region's economy

Despite its moderate investment attractiveness and potential, only the period of 2013-2015 saw a positive balance, i.e. FDI amount exceeded the amount of the capital outflowing the region. The maximum amount of 288 million dollars was reported in 2015. In the periods of 2011-2012 and 2016-2017 FDI amount exported from the Volgograd region abroad exceeded the amount of inflowing capital (Figure 1).

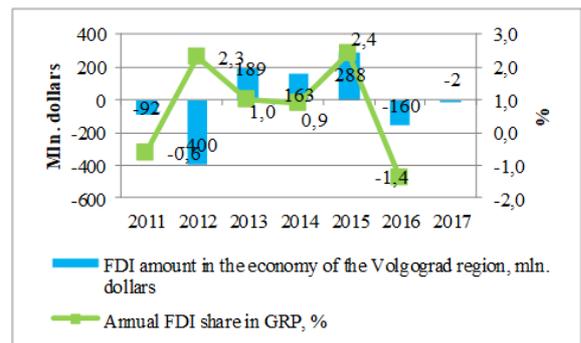


Fig. 1. The dynamics of FDI inflows to the economy of the Volgograd region in 2011-2017 (Made on the basis of: [11]).

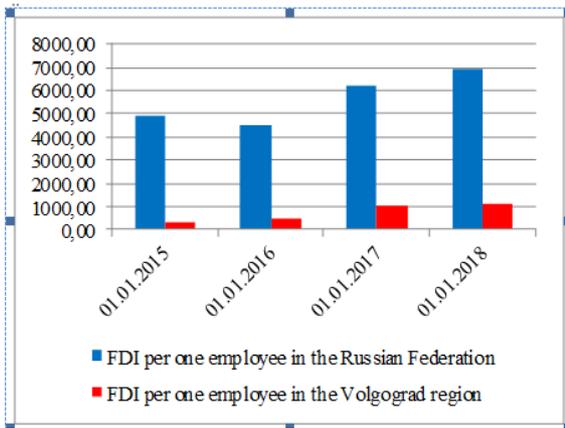


Fig. 2. The dynamics of the FDI-employment ratio in 2015-2018 (Made on the basis of: [12]).

The ratio of FDI inflow into the region’s economy to GRP ranged from -1.4% to 2.4% that is lower than that of Russia (0.3%-4.0% in the period of 2011-2016).

Despite the positive trend, labour resources of the Volgograd region are much less provided with investment resources as compared to Russia as a whole (Figure 2).

This indicator for the Volgograd region has more than tripled for four years and reached 1,100 dollars. The average Russian growth rate for the same period was lower (about 41%). However, in Russia 4,540-6,959 dollars fall per one employee.

B. FDI structure in the Volgograd region’s economy

At the beginning of 2018, the share of FDI accumulated in the Volgograd region amounted to 0.26% (0.27% in 2017) in the total volume of FDI accumulated in Russia [11].

In the period of 2015-2018, FDI structure of the Volgograd region improved (Figure 3). In 2015-2016, the share of FDI in the form of capital participation was lower than that in the form of debt instruments – 44.8% at the beginning of 2015, and 28.4% at the beginning of 2016.

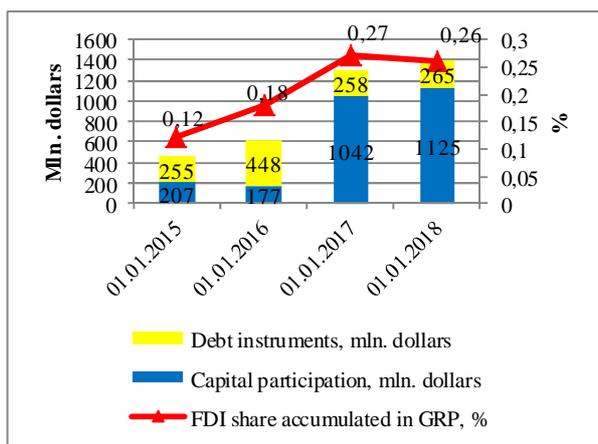


Fig. 3. The structure of FDI accumulated in the Volgograd region in 2015-2018 (Made on the basis of: [11]).

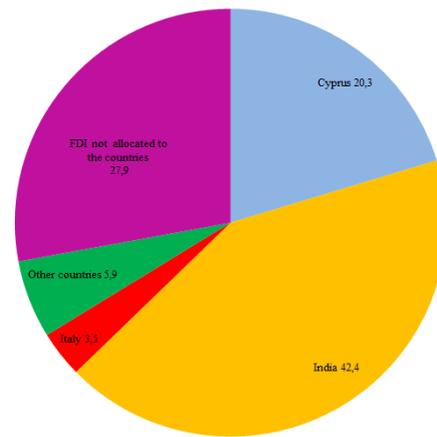


Fig. 4. The structure of FDI in the economy of the Volgograd region with respect to major donor countries, % (Made on the basis of: [11]).

In 2017-2018, capital participation became the main form of direct investment of foreign partners – 80.2% and 80.9% respectively, that is higher than that of Russia in the same years (70.4% and 71.9%).

FDI country structure for the Volgograd region also changed positively. For instance, in 2010, offshore FDI accounted almost 60% of total FDI accumulated in the region’s economy. At the beginning of 2018, this share decreased significantly and was 20.3%. Almost all investment came from Cyprus (Figure 4).

Currently, India is the major Russia’s investor with FDI share of about 42% at the beginning of 2018.

We will further analyze whether FDI distribution in the economic sectors of the Volgograd region meets the real needs in investment.

According to the data provided by the Russian Federal State Statistics Service, wear rate of fixed assets in the region was 56.1% at the end of 2017, i.e. it increased by 5.5% for the ten years. For the same period, the wear rate of non-current assets was reported higher than the regional average wear rate in such sectors as electricity, gas and water production and distribution; transport and communications; housing and communal services, social and private services[13].

However, foreign investors are interested in other sectors of the region’s economy. As of the beginning of 2018, almost 50% of all FDI accumulated in the region was concentrated in real estate transactions (9.3% as of 1st January 2015), and almost 43% - in manufacturing sector [11].

Such uneven distribution of FDI results in larger disparities in the sectors of the region’s economy and renovation of fixed assets with the greatest rate of wear.

C. Correlation analysis

While studying the role of FDI in the region’s economy, it seems appropriate to establish correlation between FDI amount and some economic indicators of the region (Gross Regional Product (GRP), employment rate (ER), personal average

monthly income (PAMI), wear rate of fixed assets (WRoFA), and labour productivity (LP) (Table 1).

TABLE I. THE DYNAMICS OF ECONOMIC INDICATORS OF THE VOLGOGRAD REGION IN 2011-2017

Indicator	2011	2012	2013	2014	2015	2016	2017
FDI inflows in the Volgograd region, mln. dollars	-92	-400	189	163	288	-160	-2
GRP of the Volgograd region, mln. roubles	508433	571516	607472	715410	740458	746795	771441
Average annual number of employed, thousand people	1243,0	1251,9	1256,8	1229,7	1213,3	1200,6	1193,3
Personal average monthly income, thousand roubles	16192	18584	21046	22828	24361	26554	27962
Wear rate of fixed assets at the end of the year, %	56,5	57,4	57,9	56,4	56,1	56,4	56,1
Productivity index, % compared to the previous year	103,9	102,3	101,3	106,4	94,7	100,9	101,8

Made on the basis of: [11].

The correlation analysis of the indicators has revealed that there is a direct correlation between FDI and GRP and average monthly income of the Volgograd region's population. It means that changes of one of the factors lead to the same changes of the other. However, closeness of the correlation is moderate, correlation coefficients are 0.40 and 0.33 respectively (Table 2).

FDI has a reverse correlation with the other factors. The closeness of correlation between FDI and labour productivity in the region is considered as moderate (-0.32); between FDI and rate of wear of fixed assets and average annual number of employed – weak as correlation coefficients are -0.21 and -0.14 respectively.

It should be noted that correlation analysis does not allow us to establish casual relationships which is possible to do using econometric models. However, the lack of statistical data makes it impossible to use this method.

TABLE II. CORRELATION ANALYSIS

	FDI	lnGRP	ER	lnPAMI	WRoFA	LP
FDI	1	0,401516	-0,13982	0,331001	-0,21033	-0,321
lnGRP	0,401516	1	-0,82952	0,973995	-0,55815	-0,3293
ER	-0,13982	-0,82952	1	-0,84107	0,820149	0,30439
lnPAMI	0,331001	0,973995	-0,84107	1	-0,47145	-0,3383
WRoFA	-0,21033	-0,55815	0,820149	-0,47145	1	0,16557
LP	-0,32102	-0,32926	0,304395	-0,33832	0,165566	1

IV. CONCLUSION

The analysis has led to main conclusions regarding FDI impact on the economy of the Volgograd region.

A.

Over the past few years, the dynamics of FDI inflows to the economy of the Volgograd region has not been stable. The analysis has revealed that FDI contribution indicator for the Volgograd region is lower than that for the Russian Federation. A small share of FDI in GRP indicates that foreign capital does not contribute significantly to GRP of the Volgograd region. Labour resources are not sufficiently provided with investment, and this indicator for the Volgograd region is lower than that of Russia, thus impeding GRP growth.

B.

In recent years, FDI share in the form of capital participation has increased considerably in the Volgograd region. This illustrates long-term character of cooperation between foreign investors and regional partners, and best responds to the interests of recipient enterprises.

FDI country structure of the Volgograd region has also changed: an offshore investment share has reduced. These changes encourage deriving full benefit from investment cooperation with foreign partners.

FDI distribution in the region's economy is uneven and does not meet the real need in investment thus making economic development in the region more disproportionate.

C.

The correlation analysis has shown that there is maximum correlation only between FDI and GRP. However, the closeness of this correlation is moderate. The correlation between FDI and employment rate, personal average monthly income, wear rate of fixed assets, and labour productivity is much weaker.

The findings suggest that special attention should be paid to development of new and renovation of existing federal and regional FDI support programs aimed at FDI equal distribution in all regions of the country. Moreover, the Volgograd region needs further adjustments and improvements of the investment legislation and renovation of support programs to promote investment cooperation with foreign partners – all factors which ensure the most positive impact of FDI on the region's economy.

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