

Investment Risks of a Depressed Region in the Context of the Sustainable Development Paradigm



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Abstract The relevance of this research is due to insufficient knowledge of the state of investment risks and mechanisms to reduce them in depressed regions. The research aims to analyze the current state and dynamics of investment risk development in a depressed region. To achieve this goal, the authors used the data of the rating of investment attractiveness of the regions of the Russian agency “Expert RA” for 2011–2020 in depressed regions. State and municipal authorities of depressed regions can use the obtained results for developing measures to reduce the level of investment risk, increase investment inflows, and provide sustainable development of the regional economy.

Keywords Investments · Investment risk · Investment risk factors · Depressed region · Kirov region

JEL Classification R11 · R58 · Z18

1 Introduction

The sustainable development of the economy of any region is connected with investment flows. In turn, the speed and scale of the investment flows into the region depend on the state of the investment climate of the territory. Although many different factors

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influence the state of the investment climate in the region, the key one is investment risk. Therefore, the reduction of investment risk is the priority task. Its success depends on the investment flows and the sustainable development of any region. Reducing investment risk is the most acute task for the authorities in depressed regions. Palkina and Kislitsyna [1], Savelyeva and Saidakova [2], Soboleva et al. [3], and others have studied the problems of depressed regions. There are some depressed regions in the Russian Federation, for example, the Oryol Region, the Ulyanovsk Region, the Smolensk Region, the Kirov Region, the Pskov Region; the Volgograd Region, the Ivanovo Region, the Chuvash Republic, the Kurgan Region, and the Altay Territory.

This research aims to analyze the state and development trends of the investment risk of a depressed region and develop proposals for their reduction. For this purpose, the authors had to solve the following tasks:

- To analyze the state and dynamics of the investment risk of one of the depressed regions over a decade;
- To determine directions for reducing the investment risk of the studied depressed region.

2 Methodology

Manifestations and factors of sustainable development of the contemporary economy are considered by such scientists as Andronova et al. [4], Fokina et al. [5], Karanina et al. [6], Patsyuk [7], Sergi et al. [8], Sergi et al. [9], Sozinova and Meteleva [10], Sozinova et al. [11, 12], and Zabaznova et al. [13].

Articles and methodological developments on regional risk management by Gorbunov et al. [14], Kabirova [15], Narolina [16], Sekletsova et al. [17], Snegireva [18], Tkhakushinov [19], Vladimirova [20], Zakharov and Ivanova [21], Trachenko and Dzhioev [22], Shevchenko and Zhabin [23], and Shirinkina [24] describe many approaches to interpreting the concept of investment risk in a region or regional investment risk. A distinctive feature of this risk is that it can occur while implementing investment activities within the boundaries of a particular region. The likelihood of such a risk depends on the state of the investment climate in the region. We used data from the rating of investment attractiveness of Russian regions by the Russian agency “Expert RA” as a basis for the analysis of investment risk. The methodology for compiling the rating of investment attractiveness of Russian regions by the Russian agency “Expert RA” makes it possible to study the structure of investment risk, make a general conclusion about the state of investment risk at the regional level, and conduct an analysis. According to the methodology of the Russian agency “Expert RA,” the investment risk of the region consists of the following six private risks (investment risk factors):

1. Economic (general trends in the development of the region’s economy);
2. Social (the degree of social tension in the region);

3. Financial (the level of balance between the budget of the region and the finances of enterprises);
4. Ecological (the degree of environmental pollution);
5. Criminal (the state of crime in the region);
6. Managerial (the level of management in the region).

Each investment risk factor is characterized by a group of indicators. The contribution of these components to the overall investment risk rating is assessed according to a survey of experts, potential investors, and representatives of the banking community. The process of data aggregation has several stages. At the stage of calculating the index of each type of investment risks in the region, the methodology uses the “minimax method.” At the stage of calculating the integral investment risk index for each region, the weighted average sum of private investment risks (investment risk factors) of the region is calculated. In the next stage, all regions are ranked by the value of the integral investment risk. The region with the lowest integral risk gets first place. According to the methodology of the Russian agency “Expert RA,” investment risk, together with investment potential, make up the investment attractiveness of the region and affect the state of the investment climate in the region.

3 Results

The research object was the Kirov Region, one of the depressed regions of the Russian Federation. The data for the calculations were the materials of the Russian agency “Expert RA.” The calculations were performed in the Excel software environment.

The analysis of the state and development trends of the investment risk of the Kirov region was carried out in comparison with other depressed regions of the Russian Federation based on the data of the investment attractiveness rating of the regions of the Russian agency “Expert RA” for 2011–2020. According to the results of the analysis, we can make the following conclusions.

The depressed regions of the Russian Federation are characterized by a rather low value of the rank of investment risks (Table 1). Among the depressed regions, the least risky in terms of investment are the Volgograd Region (26th place) and the Altay Territory (37th place). The riskiest is the Oryol Region (64th place) and the Pskov Region (62nd place).

A comparison of the investment risk ranking of the Kirov Region for 2020 with the average median investment risk ranking for all depressed regions has shown (Fig. 1).

The values of three (financial, managerial, and social) of the six components of investment risk in the Kirov Region were below the average median values of these factors calculated for all depressed regions of the Russian Federation (Fig. 1). The largest gap with the average median value of the rank of depressed regions and the lowest value of the rank of the Kirov Region was in terms of social risk.

The Kirov Region had an excess of investment risk in three components: environmental, economic, and criminal risks. The greatest excess of the value of investment

Table 1 The structure of investment risk in depressed regions by its constituent factors for 2020

Indicator	Regions									
	Kirov region	Volgograd region	Ivanovo region	Pskov region	Ulyanovsk region	Oryol region	Chuvash republic	Smolensk region	Kurgan region	Altay territory
Investment risk	39	26	57	62	41	64	55	53	37	27
Social risk	39	37	27	59	54	33	62	52	10	57
Economic risk	54	46	77	50	69	45	44	61	21	41
Financial risk	37	34	70	69	38	64	58	43	28	22
Criminal risk	32	19	36	60	13	17	31	43	11	26
Environmental risk	56	40	34	31	16	23	32	15	4	43
Managerial risk	39	48	51	63	36	58	26	43	24	60

Source Compiled by the authors based on RAEX-Analytics [25]

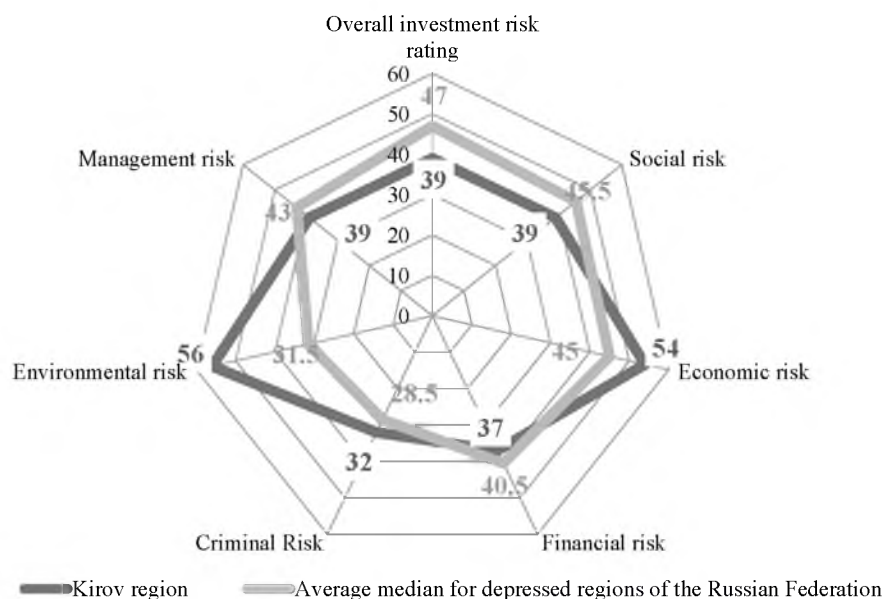


Fig. 1 The structure of the investment risk ranking and its constituent factors by depressed regions for 2020. *Source* Compiled by the authors based on RAEX-Analytics [25]

risk over the average median value of investment risk was for environmental risk (the excess amounted to 24.5 points).

We have analyzed the data on the ranks of its components for 2011–2020 (Table 2) to form a complete picture of the state and development trends of investment risk and determine adequate measures to reduce it.

Table 2 Dynamics of the investment risk of the Kirov Region by its constituent factors for 2011–2020

Indicator	Years									
	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Investment risk	55	58	64	61	40	42	44	41	45	39
Social risk	72	77	63	46	24	23	44	38	38	39
Economic risk	57	59	70	74	63	54	42	52	56	54
Financial risk	67	54	52	50	41	39	33	43	40	37
Criminal risk	3	10	30	42	38	58	54	39	35	32
Environmental risk	54	55	55	55	59	57	43	57	56	56
Managerial risk	20	21	51	49	34	51	48	25	46	39

Source Compiled by the authors based on the Federal State Statistics Service of the Russian Federation [26] and RAEX-Analytics [25, 27–35]

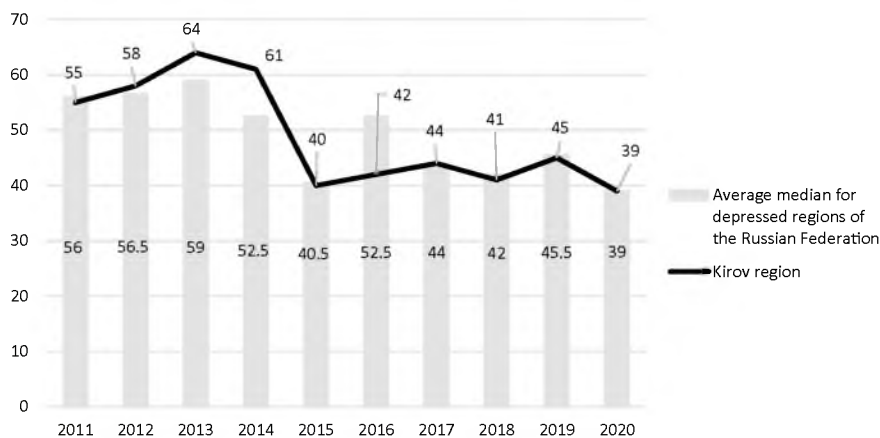


Fig. 2 Dynamics of the investment risk ranking in depressed regions for 2011–2020. *Source* Compiled by the authors based on the Federal State Statistics Service of the Russian Federation [26] and RAEX-Analytics [25, 27–35]

In general, there is a decrease in investment risk in the Kirov Region; the values of its rank are significantly lower than the median values of the investment risk of the depressed regions of the Russian Federation (Fig. 2). It distinguishes the Kirov Region from other depressed regions in terms of attracting investment.

Let us consider the dynamics of the investment risk components of the Kirov Region for 2011–2020. There is a positive trend in rank values for three components of investment risk (social risk, financial risk, and economic risk).

In particular, in 2011, the Kirov Region ranked 72nd in terms of social risk ranking. By 2020, it has improved to 39th place. The difference in ranks was 33 points. Similar dynamics were observed for financial risk. The Kirov Region ranked 67th in 2011 and improved its position to 37th place by 2020; the difference in ranks was 30 points. In terms of economic risk, the Kirov Region experienced significant fluctuations in rank over the analyzed decade: a decrease from 57th place in 2011 to 74th place in 2014, followed by an increase to 54th place by 2020.

Only two components of investment risk—criminal and managerial ones—had negative dynamics of the rank value during the entire analyzed period.

The strongest change in the rank was found in the criminal risk: the Kirov Region moved in the ranking from 3rd place in 2011 to 32nd place in 2020. The influence of criminal risks has increased three times over the decade. The dynamics of the managerial risk ranking can also be characterized as negative. By 2020, the Kirov Region had shifted from 20 to 39th place in this component of investment risk. Moreover, in terms of managerial risk, the Kirov region periodically (in 2013, 2016, and 2019) experienced a significant drop in rank.

According to the environmental component of the investment risk in the Kirov Region, the situation can be characterized as relatively stable: for 20 years, environmental risk fluctuations were within four points. The region managed to improve its rank to 43 only in 2017.

As the Kirov Region has a significant deterioration in the state and dynamics of development in terms of the managerial and criminal components of investment risk, it is advisable to consider the factors that reduce these types of risks.

Managerial risk characterizes the level of management in the region, and its assessment can be carried out based on the following indicators:

- Index of the physical volume of investments in fixed assets;
- Investment in fixed assets per capita;
- Infant mortality rate (number of deaths under the age of one year per 1000 live births).

During the analyzed period, the Kirov Region has a low level of the index of the physical volume of investments in fixed assets. The values of this indicator are significantly lower than all-Russian values. The volume of investments in fixed assets per capita in the Kirov Region for 2018–2020 is also lower (almost 2.5 times) than in Russia. These facts adversely affect the level of managerial risk in the Kirov Region. The situation is more favorable in terms of the infant mortality rate in the Kirov Region: its values for 2018–2020 were below national. Simultaneously, the dynamics of the values of this coefficient in the region are unstable; there are decreases and increases in values. This adversely affects the level of managerial risk as well. Thus, ensuring the investment inflows in fixed assets and reducing infant mortality in the region can be defined as priority areas for the regional authorities to reduce managerial risk.

Criminal risk characterizes the level of crime in the region; its assessment can be carried out based on the basis of the following indicators:

- Total registered crimes per capita;
- The number of economic crimes registered in the reporting period per capita.

In the dynamics for three years in the Kirov region, the total number of registered crimes per capita decreased. Simultaneously, in terms of the number of economic crimes, there has been a growing trend, which adversely affects the level of criminal risk in the region. Thus, the decrease in the number of crimes in the Kirov Region, in general, and the economic focus, in particular, requires close attention from the authorities to reduce the criminal risk of the region.

The emphasis on these areas of reducing the investment risk of the Kirov Region does not negate the need to develop and implement measures to improve its other components (economic, financial, etc.).

4 Conclusion

The research makes it possible to establish the level of investment risk and identify priority areas for its reduction in a depressed region. The level of investment risk in the Kirov Region can be characterized as moderate. Two components are of the greatest importance for reducing investment risk: managerial and criminal risk. The development and implementation of measures to reduce managerial and criminal risk should be included in the priority tasks by the state authorities of the region. It will reduce investment risk, attract additional investment to the depressed region, and create conditions for its sustainable socio-economic development.

Data Availability Data on the dynamics of the investment risk rank of the Kirov region, its components for 2011–2020, and indicators of managerial and criminal risk for 2018–2020, which are described in the next section of the research, are available at <https://figshare.com/> with ID <https://doi.org/10.6084/m9.figshare.21563796>.

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