

PEDTR 2019**18th International Scientific Conference “Problems of Enterprise Development:
Theory and Practice”****REGIONAL CORRUPTION PREVENTION IN THE CONTEXT OF
RUSSIAN ECONOMIC DEVELOPMENT: ASSESSMENT
METHODS**

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Abstract

The article considers the importance of preventing regional corruption as one of the areas of economic and legal policy in Russia, presents the author's methodology for a comprehensive analysis of corruption, and develops forecasts for its development in the short and medium term. The purpose of the study is to formulate and justify a number of new scientific provisions at the theoretical level, which in the future can serve as the basis for the prevention of official crime in the regions and improve the economic climate in Russia. To achieve this goal, a number of strategic and tactical tasks must be completed. It involves generalization of criminological, social and economic indicators of the development of the territorial entities of the Russian Federation, the identification and evaluation of hidden systemic dependencies between social indicators and the level of corruption, the definition of sustainable relationships between individual indicators and the development of methods of anti-corruption rating. The nature of the goal allows to expand the functional direction of the study by assessing not only the criminological, but also the socio-economic development parameters of the Russian Federation territorial entities. Multifactor analysis allowed determining how the socio-economic and criminological indicators relate to each other, as well as finding the way to reduce the number of causes and conditions of corruption.

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Keywords: Corruption, economic development, multi-factor index, correlation, corruption risks, corruption potential.



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1. Introduction

According to the National anti-corruption plan for 2016-2017 one of the priority tasks of the state is to increase the effectiveness of anti-corruption measures in federal executive bodies and state bodies of territorial entities; activation of constituent and territorial entities' work for the prevention of corruption and other offenses, as well as work of commissions to coordinate anti-corruption activities in the regions of the Russian Federation.

Increased attention to the prevention of corruption in the regions is associated with the traditionally low effectiveness of preventive activities in the Russian Federation territorial entities due mostly to the lack of a common and coordinated understanding of the anti-bribery strategy by the legislative, executive and judicial authorities of the regions.

Currently, the problem of regional corruption in the Russian legal literature is practically not considered. There are only a few scientists who study in depth and in detail the specifics of regional corruption and the parameters of its assessment (Campbell & Göritz, 2014; de Graaf, 2007; Rose-Ackerman, 1999; Solnick, 1996; Wu & Huang, 2013).

Issues of preventing corruption are the focus of scientists. In science, ethical aspects of corruption, its nature, causes and conditions (Campbell & Göritz, 2014; Gopinath, 2008; de Graaf, 2007; Rose-Ackerman, 1999; Solnick 1996; Wu & Huang, 2013;), the prevention of corruption in the private sector (Breit, Lennerfors, & Olaison, 2015; Goel, Budak, & Rajh, 2015; Gopinath, 2008; Johannsen, Pedersen, Vadi, Reino, & Sööt, 2016) and at the level of international corporations are considered in depth and in detail (Cuervo-Cazurra, 2016).

However, the issues of criminological parameters and corruption assessments remain outside the interests of state bodies and research centers. Lack of scientific study of the problem affected the quality of monitoring of official crime. While developing separate anti-corruption measures, the subjects of prevention are limited to the study of certain criminological criteria (registration of crimes and persons committing them), without adequate comparison with the socio-economic indicators of regional development. As a result, the measures taken are isolated from the real problems of the region, and their preventive effect is much less than expected.

Comparison of time series of corruption crime in the subjective composition for the 2011-2018 showed that among the subjects of bribery representatives of the executive bodies of the Russian Federation are most commonly leading, ahead of the interior bodies for more than 25%.

In order for the anti-corruption strategy to be more thought-out, and the results of its implementation to be more transparent and unconditional, it is necessary to develop a crime assessment methodology that could not only monitor the correlation of corruption with the economic development of the region, but also identify vulnerable points of the policy and build forecasts of corruption in the medium term (Kabanov, 2013).

2. Problem Statement

Currently, the regional assessment of corruption, in addition to solving purely practical issues of its prevention, can be of strategic importance and determine the economic activity of the Russian Federation

subjects in the short and medium term perspective. Obviously, the corruption has a negative impact on the Russian economy, but this impact is most manifested at the regional level.

First, the corruption entails a violation of the market competition mechanism. Advantages are obtained by a subject of corruption relations, not by the competitive business. And if this imbalance can be weakened or leveled by other economic processes and factors in the framework of the country's economy, in the subjects of the Russian Federation the corruption advantages of individual subjects significantly affect the overall economic climate and competitiveness of economic entities. As a consequence, there is a problem of emergence and development of effective enterprises.

The analysis of statistical data gives grounds for the conclusion that in 2018 the number of newly created productions in the federal subjects of Russia with a high level of corruption was on average 25% lower than in the subjects with a low official crime level.

Secondly, the corruption leads to a decrease in the confidence to authorities. The investment climate in the region is changing significantly. Large enterprises with foreign investments consider such subjects of the Russian Federation as highly risky and refuse to enter them. It is no coincidence that the Index of Economic Freedom, developed by the research center the Heritage Foundation and the newspaper the Wall Street Journal and defining the main barriers to the investment growth, identified corruption among other barriers (costs of creating and eliminating business, taxes, labor and trade barriers).

Thirdly, in the subjects of the Russian Federation with a high corruption level, budgetary funds are used inefficiently. Because of the corruption "overheads", prices and inflation are rising. The consumer suffers, the quality of the rendered goods and services decreases. The least noticeable, but no less acute, economic losses from corruption are reflected in the decline in the quality of the labor force. Because of the lack of funding, people are not provided with adequate medical care, education and other services. Active working population prefers to move to other, more developed economic regions. As a result, human capital degrades and the quality of life decreases.

Fourth, the market efficiency is reduced under the influence of the shadow economy growth. Using corruption ties, some business structures prefer to stay in the shadow segment and do not pay taxes. And the weakening control of law enforcement agencies leads to the fact that gradually the shadow business begins to penetrate into the legal segment and merge with it.

As a result, the regional economy suffers twice: it receives less taxes and has no opportunity to develop the legal sector which simply cannot compete with the shadow business. The corruption becomes a financial basis of the shadow economy, and the shadow economy is the financial basis for corruption in this case. The direct correlation between the regional economy and corruption makes it necessary to pay special attention to the criminological trends of corruption in the development of measures for its criminological prevention and the development of the regional economic policy.

3. Research Questions

Taking into account the above presented aspects, the issue of measuring the corruption impact on the regional economy on the basis of modern statistical and legal indicators is of particular relevance. A detailed scientific study is also needed on what economic parameters should form the basis for assessing the regional corruption and how they can be applied in the real practice to determine promising areas of the

crime prevention. Based on the thesis that corruption significantly affects the overall economic development of the country, it is important to determine the direct and inverse systemic links between the state of the economy and the corruption level.

4. Purpose of the Study

The purpose of this study is to determine the main trends and parameters of corruption behavior in the regions, search for patterns of the regional economic development with low and high levels of corruption and present the author's methodology for mathematical evaluation and modeling of the corruption behavior.

A distinctive feature of the author's methodology proposed in the work is the widespread use of mathematical methods for assessing corruption and its systemic links with economic development indicators in the territorial entities of the Russian Federation.

Multivariate analysis itself is a multidimensional research method based on the identification of stable relationships between the values of individual variables (Kim & Mueller, 1978). From a mathematical point of view, some known variables depend on a certain number of unknown variables, and the main task of the multivariate analysis is to determine which of the unknown variables of the socio-economic order are in a stable relationship with the corruption dynamics.

Multivariate analysis allows to solve the following scientific and practical problems: to determine how socio-economic and criminological indicators of the regional development are related to each other, as well as to reduce the number of causes and conditions of corruption by eliminating random factors for the region (Sotnikov, 2012).

The detection of averaged correlations between the corruption level and economic data allows to reveal a criminogenic picture in the region and rank criminological data in accordance with the obtained system indicators (Sidorenko, 2015).

In addition, the establishment of hidden dependencies between the corruption level and individual social and political indicators allows to diagnose any deviations in the corruption dynamics that go beyond the statistical error, and on this basis to adjust the anti-corruption policy.

5. Research Methods

The complexity of the regional analysis of corruption is achieved through the use of a combination of general scientific and private scientific methods of perception, but first of all, through the testing of the author's method of the multivariate corruption index, which combines methods of comparison, analysis, synthesis, mathematical modeling, correlation comparisons and extrapolation. The novelty of the work is manifested in the fact that in domestic criminology, for the first time, an algorithm for studying and forecasting regional corruption based on a multivariate analysis of economic, criminological, social and political indicators is proposed. The practical significance of the study is expressed in the possibility of using its results in the development of economic development strategies. In addition, the stable relationship between the economic situation in the region and the qualitative and quantitative indicators of corruption crime, noted in the work, allows you to adjust existing methods for preventing corruption by ranking territorial units on the "pain points" of certain regions.

6. Findings

In order to thoroughly and comprehensively study regional aspects of corruption, a model for its monitoring and forecasting was developed based on the measurement of the regional corruption potential (RCP). It shows what proportion the region occupies in terms of qualitative and quantitative indicators of official and other corruption crimes in the country.

The total corruption-related potential is built up from the correlation of corruption with six particular indicators: 1) the region's production potential (RPP), 2) the investment climate (IC), 3) the natural resource complex (NRC); 4) consumer activity of the population; 5) subsistence level of the population (SLP); 6) unemployment rate (UR).

The above indicators are calculated by the ratio of corruption crime and individual socio-economic indicators of the region. The inclusion of these indicators in the number of criteria for assessing the corruption potential of a region is explained by the continued dependence of corruption on the productive resources of the state or a specific region, investment activity, the presence or absence of natural resources and certain indicators of the economic well-being of the population.

The calculation of the indicator of corruption in the region is made up of the arithmetic average of the correlation indicators of corruption with the production potential of the region (RPP), investment climate (IC), and the natural resource complex (NRC); consumer activity, living wage (SLP) and unemployment rate (UR).

The correlation index for each indicator X1-6 is calculated by the linear correlation formula.

Based on the calculations of the arithmetic mean value of these indicators, the level of corruption is derived.

RCP consists of the arithmetic average of the correlation of corruption with the socio-economic indicators of the region's well-being and can be represented as a formula:

$$RCP = (g \text{ RPP} + r \text{ IC} + r \text{ NRC} + r \text{ CAP} + r \text{ SLP} + r \text{ UR}) / 6,$$

where $r \text{ RPP}$ is an indicator of the correlation of corruption with the region's production potential (RPP), $r \text{ IC}$ is with the investment climate (IC), $r \text{ NRC}$ is with the state of the natural resource complex, $r \text{ CAP}$ is consumer activity, $r \text{ SLP}$ is the subsistence minimum of the population, and $r \text{ UR}$ - with the unemployment rate. II) the corruption-related risks of the region (RCR) characterize those areas of the social, economic and political system of the region that are a vulnerable link in the construction of a regional anti-corruption policy.

The use of these calculations allows minimizing the risks of distortion of results due to inaccuracies of official statistical indicators due to the fact that the latter do not directly affect the calculations made, but are considered relative to other indicators.

The assessment is based on the correlation of corruption with individual socio-economic factors, and therefore, the official data on the level of corruption, gross domestic product of the region, unemployment rate, etc. internal system dependencies between them, presented in the form of an indicator from - 1 to 1.

Where the indicator from 0.7 to 1 indicates a direct stable relationship between the phenomena (cause-effect relationship), the indicator from 0.4 to 0.7 allows you to see a causal relationship between the

phenomena (the link condition-effect), and the indicator from 0 to 0, 4 indicates a mediated (random) relationship between the analyzed phenomena.

Method validation. The method proposed above allows not only to assess the state of corruption in Russia and determine the “painful points” of modern criminal policy, but also to rank the Russian Federation territorial entities into four groups:

- Regions with a high level of anti-corruption security (low RCP);
- Potentially corrupt (high RCP).

Unlike other types of anti-corruption rating of regions, the proposed model is based on the ratio not of the primary statistical indicators of the socio-economic well-being of particular territorial entities of the Russian Federation, but on the so-called correlation indicator of their ratio with criminal data.

In order to test this methodology, the Multifactor corruption index (MCI) was evaluated in ten regions of the Russian Federation: Moscow city, Moscows, Tver, Kirov and Irkutsk regions, Stavropol, Krasnodar, Krasnoyarsk and Primorsk Territories and the Republic of Dagestan.

The choice of regions was predicated by the need to consider the indicators outlined above in relation to entities with different economic, social and political infrastructure.

7. Conclusion

The conducted research allowed differentiating the regions within the framework of the model proposed above into four groups:

- Regions with a high level of anti-corruption security (low RCP): Irkutsk Region, Kirov Region;
- Potentially corrupt regions (high RCP): Moscow, Stavropol Territory, Moscow Region, Tver Region.

In addition, the study allowed us to identify a number of the following stable characteristics of regional corruption:

1) Corruption crime in the Russian Federation territorial entities shows inclusivity properties. The main distinctive feature of intrusive corruption is that it penetrates, integrates and begins to play a significant role in the system of social, legal, financial, economic and other relations, gradually changing the political and cultural life in the region.

The presence of intrusive properties is indicated by: a high level of criminotropic risks, a stable inverse relationship between the growth of corruption and the material well-being of the population, a direct link between corruption and the size of the state apparatus and local governments;

2) Regional corruption is characterized by a destructive start. In contrast to constructive crime, which leads to the development of the shadow economy and the emergence of new jobs, modern office crime focuses on extracting criminal income from the destruction of economic and social relations, from undermining the foundations of statehood, from the destruction of the spiritual and moral foundations of society (indicates the direct dependence of corruption on the degree of depreciation of fixed assets and the reverse - on the gross regional product), etc;

3) Comparison of corruption indicators with the main socio-economic parameters of regional development allows us to divide the territorial entities into two main groups:

a) Subsidized regions, which are characterized by the development of corruption in the framework of the traditional model “civil servant”. They are distinguished by the presence of direct causal links with indicators of federal contributions to regional budgets and the degree of depreciation of fixed assets, the restoration of which is an essential item of expenditure of subsidized subjects;

b) Investment-attractive regions are characterized by the presence of feedbacks between corruption and the pace of economic development, the volume of construction, production indices and consumption. In such entities, corruption takes the features of the shadow economy and fuses with business crime;

4) Depending on the socio-economic specifics of the region, two main models of corruption and, accordingly, two strategies of anti-corruption policy should be developed in Russia:

a) Counteraction of crime through prevention of bribery at the level of officials of the Russian Federation territorial entities and local governments;

b) Prevention of corruption at the level of the merger of government and business, where the source of criminal income is not taking bribes, but a system of kickbacks.

5) In investment-attractive regions, the inverse relationship between corruption and the volume of foreign direct investment was revealed. This trend is especially evident in Moscow and Primorsk Territory. It shows that modern foreign investors prefer to build business on the basis of transparent relations with the government and encourage it to take active measures to prevent bribery;

6) Regional corruption is weakly dependent on the volume of gross regional product, which allows us to consider it not much as an economic, but rather a systemic bureaucratic phenomenon that exists in parallel with economic reforms and social transformations in the plane of management decisions;

7) Measures to protect the federal budget funds aimed at the implementation of priority national projects have proved to be an effective means of preventing corruption in the region. In the regions where a large number of budget expenditures were checked as part of the national projects “Housing”, “Education”, “Agroindustrial Complex” and “Health” in subsequent years, the number of offenses related to inappropriate or ineffective spending of budget funds was significantly reduced;

8) Data comparison by categories of persons who commit crimes of corruption in the regions, indicates a noticeable rotation of bribe takers on the basis of official status. If 5 years ago the bulk of criminal proceeds were distributed among representatives of the executive, law enforcement and legislative bodies of the Russian Federation entities, there has been a significant reduction in the last two years as to the number of identified bribe takers among representatives of the legislative branch and controlling organizations with a steady increase in crimes committed by representatives of the executive branch of the entities. This trend is explained not only by the high efficiency of prevention of bribery in law enforcement agencies, but also by a significant change in the modification of regional corruption. It is no longer limited to giving and receiving bribes, but is shifting to more complex models of inappropriate spending of budget funds, the practice of kickbacks and the use of other corruption mechanisms in the field of public procurement. It is not by chance that the prevention of corruption in public procurement is marked among the priority directions of the National Plan for 2016-2017;

9) The study revealed an inverse relationship between the level of corruption and the introduction of modern information technologies: ICT technologies, video recorders on uniforms of police officers, cashiers - supervisors, etc., cloud data storage models on transactions in cash registers (in the latter case in

view of the approbation of new models in the framework of Moscow city, Moscow region, Kaluga region and Tatarstan in 2015). Taking into account the prolonged effect of these activities, as well as the initial results of project implementation, it is possible to predict a decline in household corruption rates by an average of 10-15% a year.

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