

THE
IIOAB
JOURNAL

VOLUME 11 : NO 1 : APRIL 2020 : ISSN 0976-3104

SUPPLEMENT ISSUE

**Institute of Integrative Omics and
Applied Biotechnology Journal**

Dear Esteemed Readers, Authors, and Colleagues,

I hope this letter finds you in good health and high spirits. It is my distinct pleasure to address you as the Editor-in-Chief of Integrative Omics and Applied Biotechnology (IIOAB) Journal, a multidisciplinary scientific journal that has always placed a profound emphasis on nurturing the involvement of young scientists and championing the significance of an interdisciplinary approach.

At Integrative Omics and Applied Biotechnology (IIOAB) Journal, we firmly believe in the transformative power of science and innovation, and we recognize that it is the vigor and enthusiasm of young minds that often drive the most groundbreaking discoveries. We actively encourage students, early-career researchers, and scientists to submit their work and engage in meaningful discourse within the pages of our journal. We take pride in providing a platform for these emerging researchers to share their novel ideas and findings with the broader scientific community.

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Our journal continues to serve as a hub for knowledge exchange, providing a platform for researchers from various fields to come together and share their insights, experiences, and research outcomes. The collaborative spirit within our community is truly inspiring, and I am immensely proud of the role that IIOAB journal plays in fostering such partnerships.

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I would like to extend my gratitude to our authors, reviewers, editorial board members, and readers for their unwavering support. Your dedication is what makes IIOAB Journal the thriving scientific community it is today. Together, we will continue to explore the frontiers of knowledge and pioneer new approaches to solving the world's most complex problems.

Thank you for being a part of our journey, and for your commitment to advancing science through the pages of IIOAB Journal.



Yours sincerely,

Vasco Azevedo

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ARTICLE

DEVELOPMENT OF A MULTIFACTOR MODEL FORECASTING THE INVESTMENT ATTRACTION OF THE REGION

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ABSTRACT

A high level of investment activity is a necessary factor in the sustainable socio-economic development of the regions, due to their investment attractiveness. In this regard, the development of research methods for the conditions that determine the nature of the investment activity of entities, the optimization of the management of investment processes in the regions is of particular importance, both for economic science and in the practice of managing regional systems at various levels. The lack of a unified approach to the study of investment attractiveness of the regions, the imperfection of methods for its determination and implementation practices hinder the effective management of the investment process at the regional and federal levels. The relevance of the topic is due to the increasing competition of the constituent entities of the Russian Federation for attracting investments and the need to create a model capable of predicting the flow of investment flows into the economy of the region. To solve this problem, a simulation modeling toolkit is proposed. The procedure for conducting simulation experiments involved the consideration of various factors contributing to the formation of the investment climate, taking into account possible scenarios. The components of the assessment of the investment attractiveness of the region were: consumer potential, scientific and technological potential, production potential, financial potential. An array of initial data necessary for the experiment was formed using VAR tools. Econometric processing of the obtained results was based on the interpretation of descriptive statistics. Based on the results of the study, a prognostic model is constructed that allows us to assess the dynamics of the investment climate in the medium term.

INTRODUCTION

Investments play a crucial role in maintaining and enhancing the economic potential of the state. The growth of their volumes in the real sector has a positive effect on doing business in certain territories, which leads to an increase in gross national product as a whole, and increases the country's activity in the foreign market. Investment activity occupies a key place in carrying out political, economic and social transformations aimed at creating favorable conditions for sustainable socio-economic development of the state. Thus, from the position of successful implementation of the Government's course of modernization of the economy of the Russian Federation, the problem of increasing investment activity and improving the investment climate is currently one of the priorities.

The priority task of the state investment policy in Russia is to create optimal conditions for realizing the investment potential of the country's regions. Its main directions are related to measures to create favorable conditions for the activities of domestic and foreign investors, to increase profitability and minimize risks in the interests of stable socio-economic development, to increase the level and quality of life of the population, and to improve the economic situation in the country.

MATERIALS AND METHODS

The topic of the investment climate has attracted the attention of many researchers in different countries, and a lot of research has been devoted to the analysis of the search for methods for improving the regional investment policy. Among them, in the context of our research task (to identify and explain which factors have the greatest influence on the formation of the investment climate, as well as develop a prognostic model), articles are particularly interesting, analyzing, firstly, indicators that determine the investment attractiveness of territories, and secondly, studies focused on modeling future revenues in the regional economy.

The richest in statistical data (and, as a consequence, relevant studies) is the American market. As a starting point, we can consider an article by P. Juhl of the late 1970s, which presented a list of indicators that determine the investment climate [1]. In subsequent years, researchers have made many attempts to model investment flows for various sets of indicators [2, 3]. In most cases, conclusions were drawn that for investors the following indicators have the greatest impact on the attractiveness of territories: geographical location, climate, natural resources, labor force qualifications, infrastructure, as well as financial indicators. M. Joarder in his work summarized the work on this topic [4]. The studies of Antwi S. and Nosheen M. continued [5, 6]. In their works, they showed that creating a favorable investment climate contributes to the economic growth of territories.

A number of works are devoted to the search and development of the methodological apparatus, with the aim of modeling investment flows in the economy. Some researchers use traditional methods of economic-mathematical analysis in their works [7, 8]. In their studies, the authors found that the use of this tool with a high degree of certainty allows us to predict the volume of investments.

KEY WORDS

Investment climate,
investment
attractiveness,
economic and
mathematical methods,
simulation, forecasting,
VAR-method

Received: 22 Sept 2019
Accepted: 28 Nov 2019
Published: 3 Jan 2020

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RESULTS

The structure of the region's investment attractiveness is manifested in the complex characterization of the socio-economic object in many ways, showing the investor the degree of advisability of investing in it. The parameters by which attractiveness is assessed are determined by the purpose and object of investment.

The determining parameters are the parameters characterizing the effectiveness and riskiness of investment: socio-political, economic, industrial, natural-climatic and environmental.

Using the identified set of factors affecting the state of the investment climate, this study attempts to use them in the framework of building an integrated index. In this connection, an important methodological element was the definition of this kind of common factors.

In this study, the following areas are identified as the directions that have the greatest impact on the formation of the investment climate in the region: consumer potential, scientific and technical potential, production potential, and financial potential [Fig. 1].

A factor reflecting consumer potential was the average per capita cash income. The size of the population's income determines both the level of consumer demand and the most priority types of goods and services consumed by the population.

The state of the scientific and technical potential of the region may be indicated by the costs of technological innovations. The efficiency of production potential can be expressed by the indicator "Balanced financial result of organizations".

As a factor testifying to the state of financial potential, "The amount of debt on loans in rubles granted to legal entities" was selected. The feasibility of choosing this indicator is justified by the fact that in their desire to expand production, entrepreneurs are increasingly turning to borrowed funds.

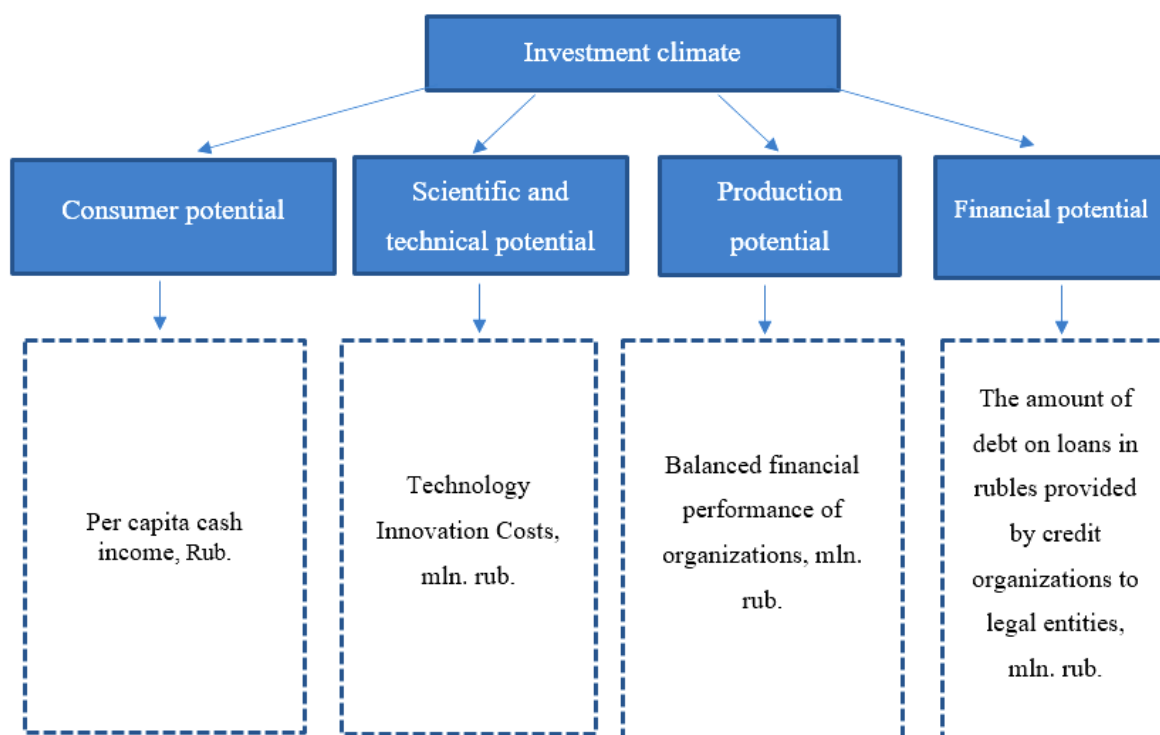


Fig. 1: Indicators determining the investment climate

In order to develop a forecast of the investment climate based on the selected indicators, it is proposed to implement simulation modeling tools. The Republic of Tatarstan acted as an object of study. The source data are shown in the [Table 1].

Table 1: Retrospective information on the state of indicators characterizing the investment climate of the Republic of Tatarstan in 2002-2017

Year	The average per capita cash income of the population, rub ¹ .	Costs of technological innovation, million rub ¹ .	Balanced financial performance of organizations, million rub ¹ .	Amount of debt on loans in rubles provided by credit organizations to legal entities, million rub ² .
2002	3249	5219,1	27474	26 782
2003	4273	4548,4	42849	37 083
2004	5355	9298,4	86090	57 042
2005	7383	9887,4	98997	86 986,30
2006	9369	17568,4	91731	132 200
2007	11577	18893,1	139578	198 184,26
2008	14180	23731,3	98200	243 837
2009	15915	8262,5	122076	250 342
2010	18158	14351,1	140791	249 827
2011	20223	44166,4	194617	323 184
2012	24004	38101	245658	393 695
2013	26161	64436,5	219449	420 711
2014	29830	95720,7	201333	463 243
2015	32155	53353,8	308585	498 566
2016	32614	57571,1	358366	542 005
2017	31719	78404,6	314185	396 707

Source: 1. Federal State Statistics Service [9], 2. The Central Bank of the Russian Federation [10].

To carry out the simulation procedure, it is necessary to form a block of initial data necessary to determine the forecast values for the next period. The calculation of the boundaries of the range of changes in dependent factors was carried out based on the VAR technique.

VAR modeling is based on a statistical estimation of the distribution law of a selected variable. The basis for calculating the VAR was the data on the relative changes in the selected indicators in dynamics (growth rate). Based on the calculated indicators of the arithmetic mean value and standard deviation for each position, average values were determined for the optimistic, probable and pessimistic scenarios.

The algorithm for calculating forecast values by the VAR method is considered on the example of the indicator "Per capita cash income of the population".

[Table 2] presents retrospective data covering the period from 2001 to 2017, on the basis of which the average growth rate was calculated, the value of which was 17.81%, and the standard deviation of the growth rate, the value of which turned out to be at the level of 11.01 percent

Table 2: Initial data for predicting the boundaries of the range of changes in per capita monetary incomes of the population using the VAR method

Period	Value	Growth Rate, %
2002	3249	x
2003	4273	31,52%
2004	5355	25,32%
2005	7383	37,87%
2006	9369	26,90%
2007	11577	23,57%
2008	14180	22,48%

2009	15915	12,24%
2010	18158	14,09%
2011	20223	11,37%
2012	24004	18,70%
2013	26161	8,99%
2014	29830	14,02%
2015	32155	7,79%
2016	32614	1,43%
2017	31719	-2,74%
Average growth rate, %		17,81%
Standard deviation of growth rate, %		11,01%

The next step in the calculation of forecast values is the determination of absolute changes (left and right quantiles). In statistics, a quantile is understood to mean the value of the normal distribution function for given random variables at which the function does not exceed a given value with a fixed probability. To calculate the right quantile, the probability level was used, the value of which was 95%, for the left 5%.

According to the calculation results, the left quantile corresponds to a value of -0.3%, the right one is 35.93%, which indicates that with a 95% probability the increase in per capita incomes will not exceed 35.93% (maximum value 43,114 rubles), and not decrease by more than -0.3% (the minimum value is 31,622.9 rubles).

At the next stage, a range of changes in values was formed. To this end, it is necessary to lay a certain amount of error. The size of the error is directly related to the volatility of the indicator in question. The calculation of the ranges of changes was based on the calculated indicators of standard deviation. So, the following ranges were obtained: (31623; 35453) - for the pessimistic scenario, (35453; 39284) - for the inertial and (39284; 43114) for the optimistic. For other factors, the calculation was carried out in a similar way. The results are presented in [Table 3].

Table 3: Initial data for a simulation experiment

Indicator	Change range		Extended interval			
	min.	max.				
Gross regional product, million rubles	2 116 117	2 780 390	2 116 117	2 337 541	2 558 965	2 780 390
Average per capita cash income of the population, rub.	31623	43114	31623	35453	39284	43114
Costs of technological innovation, million rubles	22 814	185 802	22 814	77 144	131 474	185 802
Balanced financial performance of organizations, mln. Rub.	193 226	551 448	193 226	312 633	432 040	551 448
The amount of debt on loans in rubles provided by credit organizations to legal entities, million rubles	333 726	634 160	333 726	433 871	534 015	634 160

The results obtained allow us to move on to the next stage of the study - conducting simulation. The method is based on conducting many experiments with randomly specified values of indicators. 100 experiments were carried out, the results of the first 5 are presented in [Table 4].

Table 4: Simulation Results

Experiment Number	1	2	3	4	5
Gross regional product, million rubles	2 333 213	2 705 433	2 449 588	2 439 278	2 640 516
Average per capita cash income of the population, rub.	31978	42469	36353	38281	40148
Costs of technological innovation, million rubles	62 286	168 892	99 356	97 607	158 968
Balanced financial performance of organizations, mln. Rub.	248 986	443 157	337 941	433 097	514 673
The amount of debt on loans in rubles provided by credit organizations to legal entities, million rubles	383 788	623 074	490 621	457 671	578 597

Obtaining forecast values for each of the indicators allows us to move on to the main objective of the study - the determination of the integral index of the investment climate.

Undoubtedly, the selected list of indicators is not exhaustive, however, in our opinion, it forms to a significant extent the basic foundations that reveal the parameters and development trends of the investment attractiveness of the territories.

At the initial stage, for the purpose of comparability of indicators, the initial data were normalized relative to the gross regional product. The basis for the choice of the form of standardization is the direction of the relationship of the initial factors with a complex integral indicator.

Indicators of descriptive statistics for the calculated values are shown in the [Table 5].

Table 5: Descriptive Statistics Indicators

Indicators	Per capita cash income	Technology Innovation Costs	Balanced financial performance of organizations	The amount of debt on loans in rubles provided by credit organizations to legal entities, million rubles
The average value.	0,000015	0,0449	0,1551	0,2008
Standard deviation	0,000001	0,0168	0,0308	0,0217
Coefficients variations	4,20%	37,51%	19,87%	10,83%
Minimum	0,000014	0,0100	0,0941	0,1569
Maximum	0,000017	0,0698	0,2092	0,2455

As the data in the table show, the coefficient of variation of indicators selected as private terms for assessing the investment climate in the region ranges from 4.2% to 37.51%, which indicates a sufficient degree of uniformity of the forecast data array. Based on the results obtained, it can also be concluded that the average predictive values of the indicators are higher than the current ones, which indicates the growth prospects of the investment attractiveness of the Republic of Tatarstan.

The final index value was found as the sum of the values of the normalized indicators:

$$I_{ik} = I_{idd} + I_{techn} + I_{financial\ res.} + I_{cred} \quad (1)$$

Where,

I_{ik} - index "Investment climate";

I_{idd} - subindex "Per capita cash income of the population";

I_{techn} - subindex "Costs of technological innovation";

$I_{financial\ res.}$ - subindex "Balanced financial result of organizations";

I_{cred} - subindex "The amount of debt on loans in rubles provided by credit organizations to legal entities".

Graphically, the results of modeling the index in the first 50 experiments are presented in [Fig. 2].

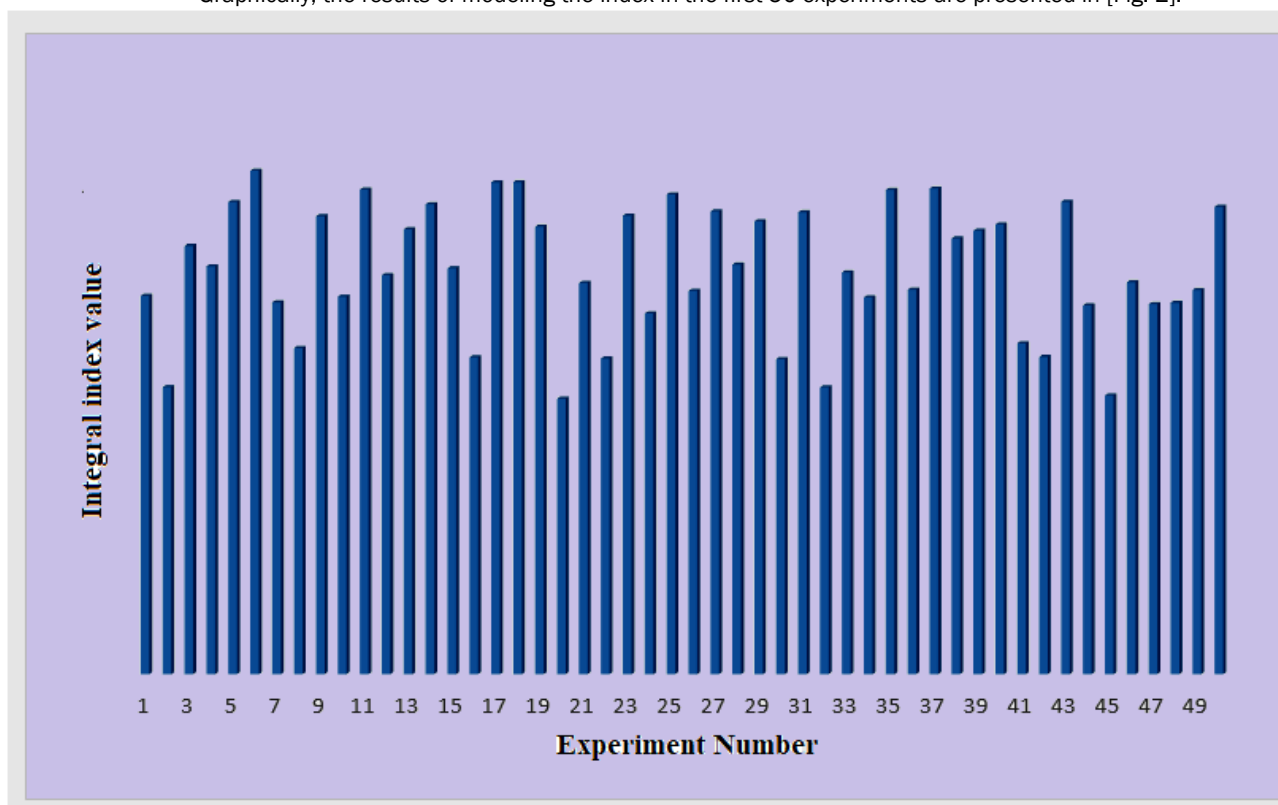


Fig. 2: Predicted values of the Investment Climate Index.

SUMMARY

The results of the analysis revealed the features of the formation of the investment climate of regional economic systems in the framework of the concept of using a unified system of indicators. This opens up additional possibilities for interpreting development directions and developing conceptual proposals aimed at optimizing and improving the mechanisms for regulating regional economic processes.

CONCLUSION

It should be noted that the findings are basically based on the approaches proposed in the study to the use of scenario forecasting techniques in the process of constructing regional models for the prospective assessment of the investment climate. The algorithm laid down in the research tools is aimed at the formation of stable principles of adaptive state policy in the face of significant uncertainty in modern development paths of macroeconomic processes.

CONFLICT OF INTEREST

There is no conflict of interest.

ACKNOWLEDGEMENTS

The work is performed according to the Russian Government Program of Competitive Growth of Kazan Federal University.

FINANCIAL DISCLOSURE

None.

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ARTICLE

INTERNET COMMUNICATIONS IN THE POLITICAL AND ADMINISTRATIVE DECISION-MAKING PROCESS

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ABSTRACT

As Internet communications develop, they influence all spheres of society, including politics. The participation of society in the exercise of power and the influence on the adoption of political and managerial decisions are the most important attribute of a democratic society and a guarantee of taking into account and implementing the interests of citizens. One of the most relevant for the modern world methods of political influence on the decision-making process is the influence mediated by Internet resources. The introduction of Internet communications contributes to the transformation of all elements and stages of the process of political and managerial decision-making: decision-making agents; communication networks, direct and feedback channels between individual agents, which are formed at the preparatory stage; stage of adoption and implementation of the decision.

INTRODUCTION

The active development of Internet communications creates new opportunities for the activities and interaction of citizens, political institutions, and society.

There are different ways of influencing citizens on the adoption of political and managerial decisions. Parties, mass media, public organizations, pressure groups, and other civil society institutions can act as intermediaries between society and the government. The goals of involving society in the political process are mechanisms of political influence such as elections, referenda, and other forms of citizens' will. Political influence is expressed in various forms of political action (voting, appeal to public authorities, rallies, etc.) and less often inaction (for example, boycotting elections as an expression of active hostility to the political system and its institutions). One of the most relevant tools for political influence on the decision-making process in the modern world is Internet resources.

MATERIALS AND METHODS

The theoretical and methodological basis of the study of Internet communications in the process of political decision-making is the works by T.A. Almarabeh[1], D. Bell [2], Clift Steven L. [3], A. Corrado и C. Firestone [4], R. Davis [5], L.K. Grossman [6], D. Morris [7], A. Toffler [8], A.A. Degtiareva[9], A.N. Iurtaeva [10].

To study communication interaction in the political and managerial decision-making process, a systematic approach was applied. The structural and functional method made it possible to consider Internet communications as a factor in the transformation of the process of political and managerial decision-making, as well as to identify the process characteristics (stages) and structural features (mechanism) of decision making, to study the totality of stable relationships and interactions between these elements.

RESULTS

The Internet effect on the decision-making process can be defined as the probabilistic impact on the determination and selection of the best possible alternative to the decision made via Internet communications. Like traditional forms of political influence, Internet influence is an opportunity to achieve the desired effects and, unlike power influence, does not imply a guaranteed change in the behavior of the subject. The peculiarity of Internet influence as a specific type of political influence is that it is exercised mainly through an active form - Internet-mediated political participation.

One of the key elements of the structure of the political decision-making process is agents, which include all the participants in decision-making: leader, elite, civil society, etc. The introduction of Internet communications in the activities of public authorities contributes to the expansion of channels of influence of citizens on the process of making political and managerial decisions and provides the ability to exercise control over the activities of public authorities and officials (for example, through a system of electronic elections and appointments), which will increase confidence to government bodies.

KEY WORDS

Internet communications, political and managerial decision-making process, political participation of citizens in politics

Received: 29 Sept 2019
Accepted: 24 Nov 2019
Published: 3 Jan 2020

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We should also consider the role of Internet communications in providing new foundations for the effective functioning of the state apparatus. Thus, the introduction of Internet resources in the activities of public authorities within the framework of the concept of electronic government forces a radical revision of the public administration system. According to D. Osborne and P. Plastrick, now the public sector is starting to work on fundamentally new approaches:

- decentralization of governance within government structures and delegation of responsibility to lower levels of government;
- reducing the public service system;
- searching for more efficient (in terms of costs and results) methods of production of services, such as the conclusion of contracts for the implementation of services, market mechanisms and paid services for consumers;
- customer orientation, including published standards for the quality of social services, etc. [11]

The introduction of Internet communications moreover leads to a change in the professional requirements for public servants, allowing us to talk about the possible turning of public servants into “knowledge managers”: the introduction of new technologies requires them to be able to use software controls, to understand any situation that has arisen.

As noted by A.N. Iurtaev, a common feature for all countries implementing e-government projects was the reduction of government posts, especially in the area of administrative and service activities. Different steps were taken to solve this painful problem: in Denmark, for example, the hiring of new employees to the place of those who retired was stopped. The Netherlands abandoned the practice of attracting temporary employees to work in government bodies. Released workers in the Netherlands, Spain, and Finland, are being retrained to perform other functions [10].

The next essential element of the structural system of the decision-making mechanism is the network of communications, channels of direct and feedback between individual agents.

Internet communications provide new tools for citizens to apply to public authorities, thereby contributing to the organization of effective feedback channels. Subject to a real consideration and solution of the problem of citizens, the population forms a positive image of power, trust in it. In addition, the time for considering appeals is significantly reduced: for example, e-government systems are equipped with an internal service for monitoring the established deadlines for considering citizens' appeals.

The interaction of citizens with the government is based on the “single window” principle when citizens and private companies can perform all operations in one place, accessible 24 hours a day and 7 days a week. This leads to a significant reduction in time, material, bureaucratic costs and at the same time benefits both citizens, society, and the state.

We should in general note the creation of new tools for citizen participation in politics. The introduction of Internet communications in the activities of public authorities has provided citizens with a great opportunity to express their attitude to what they expect from public services. For example, the introduction of Internet communications as part of the implementation of the concept of e-government, according to Stephen L. Clift, that “E-government provides an opportunity for governments to explain and demonstrate their legitimacy and provide basic civic education online that will increase citizen understanding of the responsibilities of government” [3]. Another researcher notes that “Helping trust-building between governments and citizens. This will help the Electronic government to achieve the main idea from its existence” [1].

Another area of transformation of the communicative component of the decision-making process is the effectiveness of interagency interactions within decision-makers. The introduction of Internet communications helps to increase the interaction of public authorities horizontally and vertically. The use of Internet resources in the activities of political institutions allows us to overcome the main administrative barrier of horizontal interaction - interagency barriers. As the chief designer of the “Electronic Government of the Republic of Tatarstan” A.N. Iurtaev noted, a single portal was created in Tatarstan - tatarstan.ru - which includes on a single basis the sites of all government bodies, operating in a single information field with a single document flow. Numerous attempts to overcome interdepartmental barriers turned out to be unsuccessful, as indicated by A.N. Iurtaev, precisely because of the very organizational principle of bureaucratic structures: the process of making managerial decisions is divided into solutions to relatively simpler tasks and distributed between departments and specialists [12]. In addition, Internet communications within the E-Government project is an additional and operational channel of vertical interaction, for example, in the sphere of relations “state for officials”, “state for state”. Recognizing the fairly wide possibilities of Internet communications in ensuring inter-agency interaction, of course, it should be noted that we are not talking about replacing the “ordinary” government with its electronic form but about decentralizing powers and transferring certain functions of the state in the provision of public

services to the electronic government. The policy of many states includes expanding the possibility of using information technology in their activities, as this allows them to ensure the transparency of their activities and take into account public opinion on many socially significant issues.

Principles that underlay the functioning of Internet communications, among which are usually the transition from the departmental orientation of the state's activity to orientation toward the needs and tasks of citizens, compliance with the rules for working with citizens and business structures, their transparency and accessibility for citizens, contribute to the transformation of the decision-making model. Another important characteristic of the decision-making process is its dynamism and staging. Based on the classical phases of the political and managerial cycle, the following stages of the process of making political and managerial decisions can be distinguished: preparatory stage (formation of an agenda - a set of problems that need to be addressed); decision-making stage (preparation and selection of a draft decision, its agreement and approval); stage of implementation of the decision, which also involves the assessment and monitoring of the results of its implementation [9]. The consistent implementation of Internet communications is transforming all stages of the process of making political and managerial decisions. New resources are being created for the influence of citizens on:

- the preparatory decision-making stage by identifying those problems that need to be addressed (for example, appeals to public authorities);
- the direct selection of the best alternative and decision-making (electronic voting, legislative electronic petitions);
- assessment and monitoring of results in the implementation of political management decisions (information openness of all stages and procedures of budget planning at the local government level).

It is also worth noting that the use of Internet communications leads to an increase in the efficiency of the decision-making process, since it significantly speeds up the workflow, the procedure for coordinating and approving the decision, and improves interagency interaction.

The introduction of Internet communications indeed expands the possibilities of election campaigns and has a significant impact on the process of making political and managerial decisions. An example is an unprecedented case of using the Internet format to develop the Icelandic Constitution in 2012. To prepare the text of the Basic Law, a Council of 25 citizens was established. Throughout the entire process of creating a document via social networks (Facebook, Twitter, and even YouTube), proposals from citizens were collected (a total of 3,600 comments on the work of the Council and 370 amendments to the Constitution). The final version was approved by referendum. In other words, the Internet format made it possible to maximize the number of factors that influence the decision-making process and determined the main form of communication between these actors. Citizens could electronically influence at all stages of the decision-making process: each Internet user could take part in preparing the document, choosing the best alternative and evaluating it. Thus, the use of Internet communications has contributed to the transformation of all elements of the structure and dynamics of the adoption of the Basic Law of Iceland. The experience of Iceland is highly regarded by researchers as a lesson in direct democracy and the wide participation of citizens in the activities of public authorities [13].

SUMMARY

Thus, the extensive development of Internet communications expands the channels of influence of citizens on the political and managerial decision-making process, significantly boosts the workflow, the procedure for coordinating and approving the decision, which in general leads to an increase in the efficiency of the decision process. Governments and parliaments of many countries are expanding the possibilities of using information technology in their activities to ensure transparency of their actions, providing information to citizens, business structures, and taking into account public opinion on many socially significant issues.

CONCLUSION

Summing up, the distinct features of Internet communications are interactivity, the creation of feedback channels, the implementation of the principle of information transparency and new dialogue platforms with state authorities. These features represent a fundamentally new type of political communication.

The introduction of Internet communications in the activities of public authorities contributes to the expansion of channels of influence of citizens on the process of making political and managerial decisions and provides the ability to exercise control over the activities of public authorities and officials. The use of Internet communications in the activities of public authorities leads to a change in professional requirements for officials and increases the effectiveness of interagency interactions. In addition, Internet communications provide new tools for citizens to apply to state authorities, thereby contributing to the organization of effective feedback channels. The consistent use of Internet communications contributes to

the democratic transformation of all elements and stages of the process of political and managerial decision-making.

CONFLICT OF INTEREST

There is no conflict of interest.

ACKNOWLEDGEMENTS

The work is performed according to the Russian Government Program of Competitive Growth of Kazan Federal University.

FINANCIAL DISCLOSURE

None.

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ARTICLE

SOME OF THE ISSUES INTERNAL ENVIRONMENTAL AUDIT

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ABSTRACT

At present, more than ever, the question of the interaction of man and nature is acute. Large-scale deforestation, soil pollution, the discharge of hazardous chemicals into the hydrosphere and emissions of toxic gases into the atmosphere, as well as radioactive pollution, lead to the development of global environmental ones. Together, all of the above leads to the depletion of natural resources and the extinction of living organisms. Due to the aggravation of environmental safety problems throughout the world, conducting internal environmental audits at enterprises is becoming increasingly important. Environmental internal audit involves the involvement of the company in continuous monitoring of the state of the environment and measurement of its impact. It requires competent functioning and interaction among themselves at the enterprise of an audit and accounting system that would fully take into account all environmental factors and impacts, as well as be able to generate easily transmitted and adaptable information and indicators. In turn, in order to organize these two processes and reduce the environmental impact, an environmental management system is required, including, inter alia, just an internal environmental audit. In this regard, it is important to develop a procedure for conducting an internal audit of operations to ensure the environmental safety of business entities. This article outlines the issues of forming the technology of internal audit in the environmental aspect.

INTRODUCTION

KEY WORDS

environmental safety,
internal environmental
audit, environmental risk,
technology of internal
audit.

One of the most important factors contributing to an increase in the efficiency of an enterprise is an internal audit. Today, the problem of environmental safety is becoming increasingly relevant. For this reason, it is necessary to solve this problem at the level of all spheres of public life, including economic, which includes the activities of individual enterprises [1-12].

The internal audit technology includes the following steps: planning, conducting the next substantive audit by the internal auditor, and the stage of completing the internal audit. At the first stage, the main risk zones are determined, a plan and a program of internal environmental audit are developed. The necessary documents include: a plan and an internal environmental audit program; a description of the procedures used and their results; development analytical tables of the internal auditor; test results, analysis of environmental and economic indicators; explanations and references; conclusions of the auditor.

The next step is the so-called "substantive verification", i.e. the actual audit, in which the study of all documentation on environmental issues is conducted. This is an analysis of accounting policies for environmental information, checking for permits, various licenses for emissions of harmful substances [2]. An audit is also being made of measures to ensure environmental safety: the availability and frequency of their implementation, compliance with the requirements. The management staff is also checked by internal auditors: he has a certain qualification, competence, and his actions. Information can be obtained not only directly from managers, but also from staff subordinate to them, for example, it is advisable to conduct interviews, surveys, questionnaires.

Internal auditors inspect machinery, equipment and working conditions for compliance with established standards and requirements. Next, the effectiveness of operations to ensure the environmental safety of the organization is evaluated. At the very last stage, a general assessment of the results and their discussion is carried out. Internal auditors make their recommendations on improving the functioning of the enterprise in the environmental sphere and submit reports to the head of the internal audit service. Next, top managers conduct corrective measures [13-18].

The technology of internal audit as a whole implies procedures that allow for internal audit on a systematic basis, to solve specific tasks based on the essential characteristics, goals of the internal audit. The procedures of internal audit most often mean analytical procedures (analytical procedures) - procedures that include the assessment of financial information based on the study of the logical relationships between both financial and non-financial data. Analytical procedures also cover the study of identified deviations and relationships that contradict other relevant information or differ significantly from the predicted data [5]. When determining the range of internal environmental audit procedures, one should be guided by the Internationally Accepted Auditing Standards (ISAs) officially operating in Russia since 2017 [2, 19-23]. According to ISA 500 "Audit Evidence", the procedures are divided by nature and type [Fig. 1].

Further audit procedures are also subdivided into testing of controls (i.e. the risk of internal controls) and substantive procedures, the components of which are detailed tests and substantive analytical procedures.

The analytical procedures for internal audit to ensure environmental safety can be:

- comparison of account balances for different periods;
- comparison of environmental reporting indicators with planned indicators;

Received: 3 Oct 2019
Accepted: 25 Nov 2019
Published: 6 Jan 2020

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- an assessment of the relationships between various reporting items and their comparison with data from previous periods;
- a comparison of environmental and economic indicators with the average for the enterprise and industry;
- checking the balance of raw materials, materials and finished products.

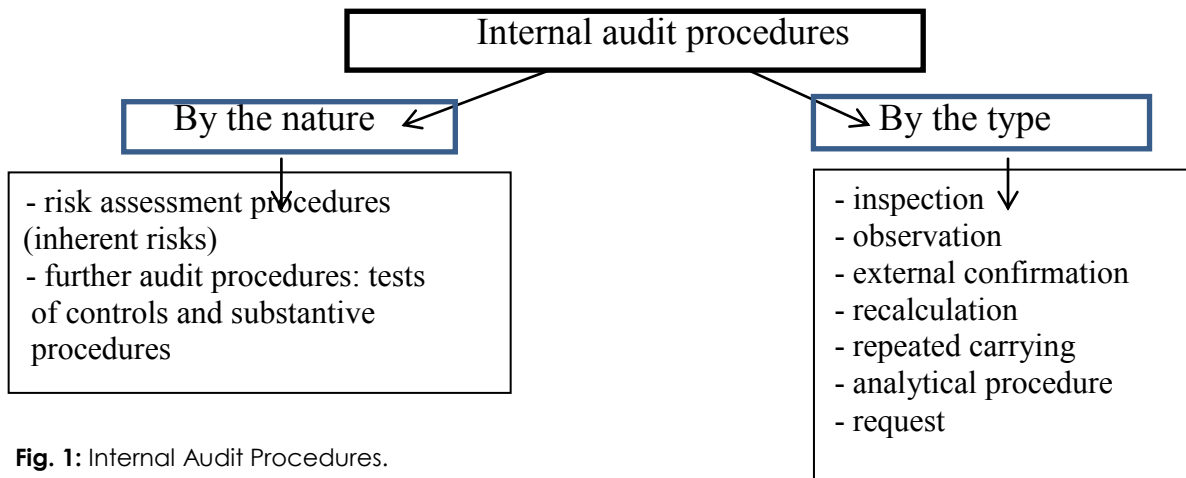


Fig. 1: Internal Audit Procedures.

Some procedures, for example, inventory, inspection, recounting, retesting, help to determine the quantitative (inspection, recounting) and qualitative (documentary verification, verification of accounting compliance rules, tracing) characteristics of the state of the inspection object. Other environmental audit procedures, which include an inventory (for example, harmful emissions or toxic waste) helps to confirm not only the presence, but also the determination of storage conditions, accounting procedures and documentation of inventory objects.

In accordance with Federal Law of December 6, 2011 N 402-FL (as amended on November 28, 2018) "On Accounting", business entities must create an internal control system (ICS), including in the field of the environmental component, we will call it the internal environmental system control (SVEK). Internal auditors should evaluate its organization and performance.

The internal environmental control system is part of the overall internal control system. The basis of SVEC is the procedures for verifying the company's environmental management issues. Environmental management should affect the organizational structure, development of environmental policy and its planning, verification methods.

In addition, attention should be paid to creating the resources necessary to form and maintain effective control over the environmental activities of the company.

METHODS

The main methods used in the study were: comparison, generalization, synthesis and analysis of information.

RESULTS

Conducting audit procedures to assess the risks of material misstatement allows the auditor to pay significant attention to areas in which abnormal and excess changes have been noted, to reasonably reduce the time it takes to check ordinary less significant operations. Thus, the internal auditor gets the opportunity to focus on problem areas, adjusting the nature, scope and timing of the audit procedures.

Next, we consider some aspects of internal audit using the example of Beta LLC, an industrial production company. We test the effectiveness of the functioning of the system of internal environmental control by checking compliance with the main criteria, which may be the requirements of regulatory documentation, and the developed methodology. In this case, the company will act the more efficiently, the higher the ratio of the results obtained, with the costs to achieve them. The company should conduct activities on organizational and administrative and regulatory documents, taking into account the scale and the volume of work that was assigned to a specific department, as well as the goals and objectives of environmental policy. The next parameter is the conduct of the company's activities with the preparation of appropriate documentation, which really objectively reflects the environmental operations and control procedures. Consider [Table 1].

Table 1: Fragment of the Performance Test of the Environmental Safety Department of Beta LLC by the criterion of "organizational compliance"

«Organizational compliance» criterion	Criterion		Note
	Yes	No	
The department of environmental safety conducts its activities on the basis of the developed and approved «Regulations on the department of environmental safety» (hereinafter "Regulations")?	x		
The "Regulations" stipulates the terms of reference and authority of employees of the environmental safety department?	x		
The job descriptions of employees are developed and implemented in detail?	x		
Qualification of employees corresponds to the tasks performed?	X		
The company has all the necessary resources for the department to perform its functions?	x		

According to this fragment, we can conclude that the environmental safety department of Beta LLC meets the criterion of "organizational compliance". Next, we present a fragment of the Performance Test of the environmental safety department of Beta LLC according to the criterion of "documentary compliance" [Table 2].

Table 2: The documentary compliance list

«Document compliance» criterion	Criterion		Note
	Yes	No	
The main duties, responsibilities and department staff procedures of the environmental safety department are documented	x		
Preparation and improvement of personnel qualifications in the field of greening activities is documented	x		
Adequate and sufficient working documentation is generated to assess the environmental management system of the enterprise	x		
The working document allowing to carry out control of efficiency of system of management of environment of the enterprise is developed	x		
The Department prepares a report on the results of the audit	x		

Checking the correctness of the formation and document management showed that the requirements are met. The next criterion is methodological compliance [Table 3].

Table 3: Beta LLC by the criterion of “methodological compliance”

«Evaluation» criterion	Criterion		Note
	Yes	No	
The organization has developed a method of internal environmental audit including procedures for monitoring the preparedness of the enterprise to emergency situations and response to them	x		
Internal audit methodology allows to take into account the results of past audits	x		
In the system of internal environmental control is carried out modeling of environmental activities of the enterprise	x		

Based on the results of the testing, it can be summarized that the environmental safety department of Beta LLC is working efficiently, since the established criteria are met. Let us give an example of a fragment of the internal environmental audit program of Beta LLC:

- Object of internal audit: environmental indicators
- Period: 03/01/2019 - 03/15/2019
- Head of the task Stepankov M. Yu.
- Performers: V. Kolesnikov
- Planned audit risk: 5%
- Planned materiality:

- a) qualitative aspect - compliance with regulatory legal acts;
- b) quantitative aspect - 2% of the balance sheet currency

Internal environmental audit procedures is given in Table-4

Table 5: Internal environmental audit procedures

No	Internal environmental audit procedures	The date	Full name	Working documentation	Note
1	Documentation analysis: availability of certificates, reports, licenses, relevance verification	01.03.2019-02.03.2019	Kolesnikov V.A..	Certificates, reports, licenses, estimates, checks, fines	
2	Determination of efficiency of use of natural resources and energy	03.04. 2019 - 05.04.2019	Kolesnikov V.A.	Certificates, reports, licenses, accounting regulations, estimates, checks, fines	
3	Assessment of the calculation of the amount of environmental liabilities per unit production	06.04.2019 - 08.04.2019	Kolesnikov V.A.	Certificates, reports, licenses, accounting regulations, estimates, checks, fines	
4	Determination of the correctness of the reflection of the formation of investments in fixed assets of an ecological nature per unit of production	09.04.2019 - 11.04.2019	Kolesnikov V.A.	Certificates, reports, licenses, accounting regulations, estimates, checks, fines	
5	Verification of the correctness of reporting obligations for the elimination of environmental accidents for the year	12.04.2019-15.04.2019	Kolesnikov V.A.	Certificates, reports, licenses, accounting regulations, estimates, checks, fines	

Date: 02/28/2019
 Date of possible change: 02/30/2019
 Signature of the performer:
 Signature of the task manager:

An example of an analytical procedure in this case can be a comparison of emissions of air polluting substances with standard indicators [Table 5].

Table 5: Air emissions of pollutants Beta LLC

Pollutant	Mass emission, t / year	Standard t / year	Deviation
Carbon monoxide	42,16	40	-2,16
Nitrogen dioxide	23,41	21,2	-2,21
Nitrogen oxide	5,85	7,2	1,35
Sulfur dioxide	0,167	0,2	0,033
Benzapiren	2,1 · 10 ⁻⁷	4,1 · 10 ⁻⁷	2,0 · 10 ⁻⁷

As can be seen from the table, the enterprise exceeds the allowable level of carbon monoxide and nitrogen dioxide emissions, in this regard, it is recommended to upgrade the air filtration system and water treatment facilities.

Integrating the results, we can distinguish the range of points scored, which will allow us to reasonably apply regulatory measures. who will be given a rating from 1 to 5. Rating after this procedure, depending on the results, apply regulatory measures.

CONCLUSION

Summing up the above, we can summarize that internal environmental audit is a necessary effective function of managing enterprises' environmental safety operations

CONFLICT OF INTEREST

There is no conflict of interest.

ACKNOWLEDGEMENTS

The work is performed according to the Russian Government Program of Competitive Growth of Kazan Federal University

FINANCIAL DISCLOSURE

None.

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ARTICLE

SOCIAL MEMORY AS REGIONAL IMAGE DEVELOPMENT FACTOR (ON EXAMPLE OF REPUBLIC TATARSTAN)

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ABSTRACT

The regional past is a significant source of the region image, as well as the population ideas about their own identity. The article discusses the relationship of social memory and the image of the region on the example of social memory case of the Volga Bulgaria in Tatarstan. This case is interesting as it manifests itself in many forms (the creation of monuments, musical works, events, museums, etc.) both at the institutional and interpersonal levels. As a theoretical framework, a constructivist approach to social memory understanding is chosen. Attention is focused on the features of a regional identity development through a common memory of the historical past. The empirical basis of this text is the author's sociological study of the sphere of memory about the Bulgarian version of the Republic of Tatarstan past. The analysis of the obtained data led the author to the conclusion that the representation and broadcast of a certain image of the past based on an appeal to the ancient history of the region becomes both a source of ideas about one's own identity and the basis for creation of many symbolic cultural objects. Turning to the ancient history of the region allows to develop the ethnopolitical myth of a strong ancestor with a developed culture and economy and to present the positive characteristics of the ancestor to modern residents of the region and their identity.

INTRODUCTION

The current state of society and the vectors of its development in the future are largely determined by social memory. Representations of the past can become the legitimization basis for a number of political and cultural processes and practices, or can block them. Knowing how social memory is able to change society as a whole, as well as the interactions of individual groups and individuals, allows us to understand the multidimensional social reality, the specifics of interethnic and interfaith relations in the multicultural and multinational social space of the Russian Federation. Constructivist discourse presents social memory and the past not as an objective "history", but as a narrative, multiple versions and representations of history. Each society produces and reproduces such social constructions (through textbooks, films, television programs, and so on). Social memory in this case exists in the form of tests, "places of memory" [1] and the practice of common memories (for example, national holidays, memorial processions, etc.).

The object of analysis in this article is the social memory of the regional past. Attention is focused on the development of regional identity through a common memory of the historical past. The empirical case is the social memory of the Bulgarian period in the history of Tatarstan. The Republic of Tatarstan creates the image of one of the leading regions of the Russian Federation, largely due to its positioning as a source of peaceful Islam in Russia and a center for successful interethnic and interfaith interaction. In many ways, this positioning is based on a specific memory policy, which consists in attention to the historical past of the region in the field of religion, tourism, and culture.

The policy of memory can be explained as a process in which various social actors (state, public organizations and movements, cultural and art workers, scientists, etc.) who have material or symbolic resources design and promote to a wide circle of residents of the republic some representations of the historical past, to achieve their goals. These goals can be the changes in interethnic and interfaith relations, the strengthening of old or the formation of new identities. Moreover, in the framework of one case (in this case, the memory of the Volga Bulgaria), various authors offer their interpretations of the historical past, which may contradict each other. Despite the ongoing debate among public figures, historians and journalists about the historical roots of modern Tatarstan, the Bulgarian version finds political support (although it is not the only recognized version of the region past) and is expressed in many forms, which makes it an interesting case for study.

MATERIALS AND METHODS

The empirical base of the study: regional documents (about the creation of organizations (museums, research units) associated with the Volga Bulgaria, included monitoring of events related to the historical past of the Republic of Tatarstan, the publications of regional media and the data from official regional Internet portals, as well as expert interviews (N = 36) with experts (historians, museum staff, archaeologists, guides, history teachers, representatives of the republic Ministry of Culture and Tourism, etc.). Data collection period: September 2014 - March 2019.

KEY WORDS

social institution, social memory, image of a region, cultural memory, communicative memory, region, Tatarstan

Received: 1 Oct 2019
Accepted: 29 Nov 2019
Published: 6 Jan 2020

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RESULTS

To analyze how the "Bulgarian" elements of regional identity are constructed, the ideas by E. Hobsbaum and the metaphor of "Inventions of Traditions" are used [2]. The production and reproduction of the regional past image is associated with the process of clarifying the identity of the ethnic group of the Tatars (since the ancient Bulgars are attributed primarily to their ancestors), as well as with the search for a basis to make the region more attractive in the field of culture and tourism (constructing the significance of the Bulgarian heritage in Tatarstan and including it as the part of the region brand).

When we talk about the impact of social memory on the identity of groups, it is important to note that each group creates its own memory of its own past - the memory that emphasizes its features and distinguishes it from others [3]. This integrates the group, and, which is no less significant, not only determines the attitude to the past, but also affects the ways the members of the group see their future. This is "the expression of collective experience: social memory identifies a group, gives meaning to its past and determines its hopes for the future" [4].

However, attention in this work is focused on the policy of memory about the Volga Bulgaria, due to which the creation and broadcasting of images of the historical past of the Republic of Tatarstan and the ethnic group of the Tatars allows to create an attractive cultural and economic image of the region. This memory policy exists within the framework of cultural memory (created texts, events, places of memory, etc.), at another communicative level (the level of transmission of ideas about the past through direct interaction), the content of memory is largely determined by the images of the past from cultural memory.

Cultural memory feature is that it requires a special institution and artificial formation, often the creation of special institutions for the creation, storage and translation of images of the past [5]. Thus, the policy of memory about the Bulgarian ancestors of the Tatars is transmitted through cultural works on the history of the region, republican Internet portals about the Volga Bulgaria, special chapters in history textbooks, archaeological work, the creation of tourist routes in the "Bulgarian places", museums. Following the logic by E. Hobsbaum, invented "traditions" one can also consider the policy of the elites of Tatarstan aimed at the creation of images and meanings in Bulgaria, as political manipulation of the images of the past in accordance with current political realities and needs [2].

However, with such a formulation of the issue, it is not clear what is the reaction to the politics of memory of the Volga Bulgaria by ordinary members of the group, as well as various groups of professionals and experts (the latter themselves can also conduct their own memory policies), so D. Olik notes that the content of the collective memory is struggled in different fields [6].

Is there always a representation of an image of the past of Tatarstan, how exactly a successful Bulgarian past is the reflection of a political "order" or, on the contrary, the result of free creativity and work of historians, musicians, and other actors? How much do these groups influence each other? Many researchers, such as M. Foucault and B. Schwartz emphasize that the manipulation possibilities concerning the images of the past are often structurally limited, any version of history proposed by the elites may encounter "counter-memory" - the alternative versions of historical events [7].

CONCLUSION

The increase in the regional image attractiveness in connection with the historical heritage correlates directly with the image of the ancestor fixed in social memory of region inhabitants. The works of archaeologists indicate that the traces of Slavic, Finno-Ugric, Turkic and other cultures were found on the territory of the modern Republic of Tatarstan, each of which left its mark [8]. However, officially, the most ancient history of the modern territory of Tatarstan is associated with three periods - the Volga Bulgaria, the Golden Horde and the Kazan Khanate [9]. Although the disputes about the origin and ancestors of modern Tatars are still relevant, this is a normal situation for social memory. For example, V. Schrireilmann introduced the concept of "ethno political myths" about the origin of ethnic groups in which he notes the possibility of several myths about ancestors even for one ethnic group [10].

In general, at the beginning of the XXI-st century, the goal of "search" for the ancestor of the Tatars ethnic group changes: if the Bulgarian heritage was used as a source of political ideas at the end of the XX-th century, today it is used to a greater extent to confirm the special situation of Tatarstan, as a center of Islamic culture and peaceful coexistence for traditions of different cultures. In addition, the historical past becomes the source of the tourist attractiveness development of the region. The policy of memory in this case is a kind of advertising of those monuments and events that are associated with the period of the Volga Bulgaria. It is also interesting that despite the existence of Bulgarian monuments in other regions of modern Russia (for example, in the Samara region, the Republic of Chuvashia), the memory policy in Tatarstan shows this heritage mainly as its own.

The policy of memory is expressed not only in the creation of narratives, but also in practices: around the "Bulgarian" monuments, infrastructure and tourist activities are developing actively, songs are written and so on. The space of social memory of the Volga Bulgaria is becoming more complicated, new meanings and interpretations of the meanings of this period appear.

SUMMARY

Presentation of the past of the Tatars as the Bulgarian past, as well as the statement and proof of its high value for the Tatars, Tatarstan people and the whole world, takes place through several channels, for example, public statements and interviews of politicians, textbooks, excursion programs, museums and monuments, information sites and portals, media, culture and national music.

It is the many forms of ways for the Bulgarian past of Tatarstan actualization, which are associated with the formation of ethnic, religious and regional identities of the region inhabitants, as well as the institutionalization of practices in culture, science, and tourism that make the memory of the Volga Bulgaria in Tatarstan an example that illustrates the mechanism of memory policy through the practices of various social agents, and the ways to actualize the regional past in connection with the tourism economy, regional politics and culture.

CONFLICT OF INTEREST

There is no conflict of interest.

ACKNOWLEDGEMENTS

The work is performed according to the Russian Government Program of Competitive Growth of Kazan Federal University.

FINANCIAL DISCLOSURE

None.

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ARTICLE

INNOVATIZATION OF HOLDING STRUCTURES IN ECONOMIC GROWTH

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ABSTRACT

This article is based on studying the evolution and current state of the innovative components of modern Eurasian political economy. The goals and objectives of the study are to identify the specific dynamics and nature of modern Eurasian political economy and its implementation in practice, as well as the justification of dynamic stability as a key property of the regional economic system for the creation, preservation, accumulation and development of its innovative relationships. The study originality lies in the fact that the innovatization of structures is presented and justified as a process of accumulation, preservation, use and development of the innovative potential of business entities. The methodological foundations of theoretical structures are the idea of two main innovatization forms: innovation and innovativeness. Innovation is the creative opportunities and abilities of business entities to create various types of innovations through creative destruction (the term of J. Schumpeter) of its internal habitat. Innovativeness is the creative opportunities and abilities of business entities of a different and/or other external environment of their habitat. Sustainable acceleration of the development of economic systems is carried out through various methods of strategic planning of the main innovatization forms, which are the basis for increasing the efficiency of economic entities and the innovative saturation of regional structures of economic development.

INTRODUCTION

Innovatization is one of the demanded economic paradigms for most developed and developing countries of the world, including Russia. Currently, innovatization is at the stage that can be defined as a “genetic push.” Its “genetic code” is revealed, the basic principles and vectors of dynamic development are formed and systematized. The adaptation and alignment of the mechanisms of innovative interaction in the hierarchical structures is taking place with an aim of optimizing the solution of theoretical and practical problems concerning innovatization of economic systems.

In this regard, the need for introducing a new category of “innovation” into the scientific circulation of modern Eurasian political economy, its effective conceptualization and formation of a general economic theory of innovation on the basis of this concept is being substantially updated. The latter is an ordered interaction of many provisions of various innovation concepts that exist in modern science.

The genetic beginning of integration of the general economic theory of innovatization into modern Eurasian political economy is discovered and traced in the process of analyzing the formation problems of specific theories of innovation in the works of G. Hospers [1], R. Smiths [2], M. Laranja, E. Huarab and K. Flanaganb [3]. Thus, G. Hospers, in his work “Joseph Schumpeter and His Legacy in the Research of Innovations”, analyzed the results of legacy of J.A. Schumpeter in the framework of neoclassic, evolutionary economic theory. R. Smiths, in his article “Teachings on Innovation in the XXI Century: Questions from Economists”, identifies the emerging “process” and “system” schools in his innovation research. M. Laranja, E. Huarab and K. Flanaganb, in one of their fundamental works “Politics in the Field of Science, Technology and Innovation: Theoretical Justifications of Regional Politics at Different Levels” considers the neoclassical theory of endogenous growth, the neo-Marshallian cluster approach, the evolutionary structuralist paradigm in terms of recommendations for translating them into the innovative policy of the state, regions.

MATERIALS AND METHODS

The analysis results made it possible to formulate a number of provisions relevant for the translation of the theory of innovation into modern Eurasian political economy. Firstly, such parameters as processability and dynamism are inherent in various fields and standards of living for the accumulation, implementation and development of innovations, innovatization. Secondly, it should be noted the insufficiency of a holistic approach in the modern scientific and practical discourse, implemented as a variable systemic innovative interaction of business, government and society as well. The most integrative trends in the development of the “innovation” concept are recorded at the mesolevel of Eurasian political economy and practice, and these processes are more prominent in the specific local entities.

Thirdly, the evolution of the general economic theory of innovation is characterized by structuring into stages, within the framework of which its methodological principles in the form of key fractals have been formed. At the first stage (1910-1940s), key fractals of the fundamentals of the general economic theory

KEY WORDS

Russian economy, social medium, diversification, innovation, investments

Received: 18 Oct 2019
Accepted: 23 Nov 2019
Published: 6 Jan 2020

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of innovation: relationship of innovation and long cycles, "technological" explanation of long waves, main provisions of the theory of innovation, were formulated in the works of N.D. Kondratyev [4] and J.A. Schumpeter [5]. At the second stage (1940-1970), the key macroeconomic fractals laid down at the first stage were described. For example, an analysis of the connection between scientific and technological progress and society made by J. Bernal, incorporation of technology parameter into neoclassical growth models of R. Solow [6]. At the third stage (since the 1970s), publications on innovation topics were intensified: new key fractals related to the innovation of firms and organizational and managerial spheres were substantiated. G. Mensch created the classification of innovations [7], R. Foster developed an 8-curve model [8], A. Kleinkhnet analyzed the innovation clusters [9], K. Freeman substantiated the concept of industrial revolutions [10]. During these years, the Russian school of technological structures was formed, the works of P. Romer in the field of endogenous growth theory emerged [11]. At the same time, at this stage, the ultimate goal of the implementation of economic policy in the structure of social reproduction is shifted to the comprehensive development of the individual.

A symptom of the formation of the innovative component of Eurasian political economy is a significant increase in publishing activity on innovation policy, commercialization, transfer and internationalization of innovations.

RESULTS

Determination of innovatization priorities in our study is based on a number of methodological principles. In addition to the criterion of "novelty" (according to various typologies in economic science, it is used as a synonym for the terms "breakthrough", "basic", "improving", "complementing"), when choosing priorities for the innovation of structures, it is necessary to take into account the form preferred for it - innovative or innovative. Do we need to create our own innovations or borrow them from other economic systems? In this case, the innovatization circumstances of specific spatial economic systems require clarification of the issue of alternativeness or complementarity of the main forms of innovatization.

Focusing on the creation and accumulation of our own breakthrough innovations involves partnerships between business, government and society, which shall support and ensure the development of the research and development sector, as well as the corresponding infrastructure (technology parks, innovative incubators, centers for prototyping and commercialization of technologies, etc.). The choice of the innovative development vector, which is implemented by borrowing technologies, requires a different structural budgeting and strategizing in Eurasian political economy. For example, positive experience of Japan and South Korea shows that the innovative form dominated there at the first stage of innovatization, that is, borrowing foreign technologies. Later, it was balanced with an innovative form, which is dominant and priority at present. Moreover, the output of innovative form to the role of dominant and priority in innovatization is unlikely to take place with such dynamics and at such terms.

The negative consequences of using the innovative form of innovatization strategy were identified by K. Peres. In the 80-90s of the previous (fourth) technological wave, the spread of technologies of the next (fifth) wave has already begun. As a result, the infrastructure corresponding to the borrowed technologies was created with borrowed funds, which could not give a full return due to obsolete technologies of the fourth wave, which provoked a debt crisis in this group of countries [12].

The innovatization priorities in all sectors and spheres of the Russian economy are determined by its specific nature. On the one hand, the country has a scientific and industrial base for an innovative form of development based on its own breakthrough technologies. On the other hand, there is a significant differentiation and inconsistency of the innovatization levels and their serious lag behind the level of foreign countries. At the same time, strategic planning of the innovative form of Russia's development is too risky, and focus on borrowing the foreign technologies may not have the desired effect, fixing its peripheral position in the innovatization processes at the mega-level [Fig. 1].

When choosing Russia's innovatization priorities, it is advisable to monitor the innovative potential of the regions in the field of creating or borrowing new technologies. The analysis showed that part of the regions of Russia can reproduce a development model on its territory based on the creation of breakthrough technologies, another part of the regions can specialize in borrowing the existing technologies. This will contribute to the diversification of the economy and innovation policy of Russia, which will reduce the political risks of the country's development as well.

One of the main elements of the implementation of the regional policy in the field of innovation is its significant federal support, which is implemented in order to achieve a balanced and coordinated interaction and development of individual territories. It is believed that co-financing of the innovatization of local structures for the development of national economic systems, conducting research and implementing their results creates additional opportunities for the socio-economic development of the regions of the Eurasian economy, and makes it possible to increase their competitiveness at the megalevel [13].

It is the most effective at the meso-level, where the individual regions and cluster formations of the Eurasian economy are concentrated. Support can be provided both by alternative approaches, and by complementary forms and methods that provide a local component of national economic systems.

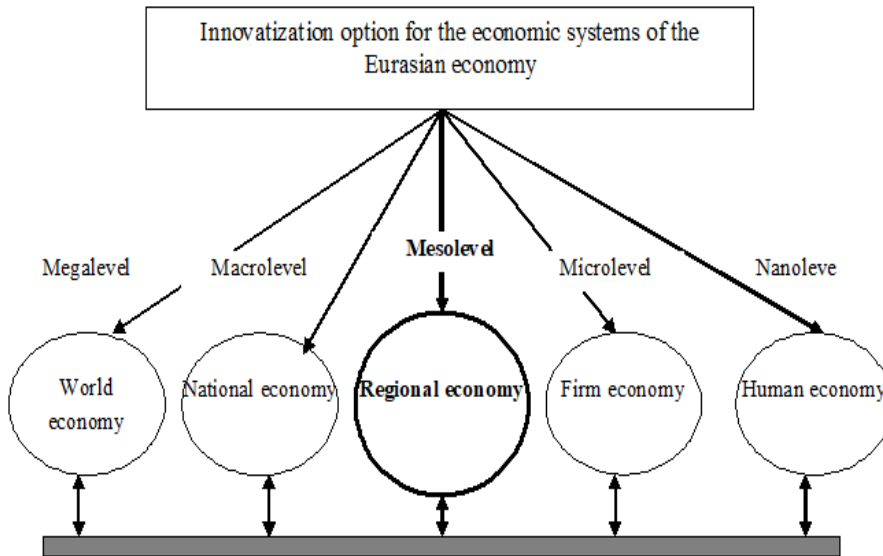


Fig. 1: Support levels for innovating Eurasian economic systems.

SUMMARY

We believe that a fundamental factor in the effectiveness of the Eurasian economy is its ability to generate innovation and innovativeness of conditions, factors and prerequisites at all levels of the hierarchy of the economic system. Sustainability is considered as a property of the economic system to create and maintain such fractal connections between structure-forming elements that allow maintaining all the necessary parameters of its dynamic updating at a given level with an aim of its effective functioning in a competitive environment.

It should be noted the unity of stability and variability, equilibrium and nonequilibrium structures of the dynamic development of the economic system This is what predetermines the innovation algorithm of the Eurasian economic systems.

Strategic transformation of the interests of broad sections of society based on the innovatization of the Eurasian economy involves a change in the proportions of the national wealth ratio. For modern conditions, this ratio is presented in Russia as follows: 65% - natural resource sector, 15% - human capital, 20% - physical capital. The national wealth structure of most Western countries has the opposite relationship: 65% - human capital, 15% - natural resource, 20% - physical capital [14]. Thus, when considering the innovatization of the Eurasian economy from the position of the ratio of its structural elements, it is necessary to choose an effective ratio of these proportions.

The innovatization of the institutional structures and infrastructure of the Eurasian economy is based on the creation of an appropriate institutional matrix. The trends and patterns of innovatization of the institutional matrix are expressed in the intellectualization, intensification and strengthening of the interdependence of all structure-forming institutions. The innovatization of institutions provokes formation of a complex process of economic, social and political relations, contributing to the creation of appropriate structures and requiring formation of an innovative institutional matrix. On this basis, the institutional structure (matrix) of innovative economic development is a set of mutually affecting institutions forming the mechanism of progressive Eurasian innovative socio-economic development.

CONCLUSION

Thus, the innovatization of structural elements of the development of national economic system will increase its competitiveness through acceleration and stabilization of the innovative activity by implementing a number of primary functions:

- The reproduction function of the innovatization of the Eurasian economic sustainable development is expressed in stimulating the production of high value-added products as the basis for economic growth.
- The transformational function of innovatization of the Eurasian economic sustainable development is represented by the need to modernize the economic prerequisites, conditions and processes.

- The structure-forming function of the innovatization of the Eurasian economic sustainable development involves the dissemination of new knowledge, information technology and intellectual potential.
- The geoeconomic function of the innovatization of the Eurasian economic sustainable development is expressed in the dominance of spatial local entities in these processes.

The defining feature of the current state of the innovatization of the Eurasian economic sustainable development is its diversification, complication and acceleration in accordance with the expansion of the interaction of globalization and regionalization of world economic relations.

CONFLICT OF INTEREST

There is no conflict of interest.

ACKNOWLEDGEMENTS

The work is performed according to the Russian Government Program of Competitive Growth of Kazan Federal University.

FINANCIAL DISCLOSURE

This work is performed at the expense of the subsidy allocated to Kazan State University for the fulfillment of the state task in the field of scientific activity (No. 26.8732.2017/BCH (Russian: 26.8732.2017/БЧ)

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ARTICLE

DECOMPOSITIONAL ANALYSIS OF INSTITUTIONAL PROVISION OF TRADITIONALIZATION AND INNOVATIZATION OF THE RUSSIAN ECONOMY

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ABSTRACT

The article considers the theory and methodology of emergence, functioning, development, transformation of the institutions in the process of traditional and innovative development of national economic systems; their variable comparative decomposition is carried out; the functional role of the interaction of traditions, innovations, investments and institutions in the Russian economy and its ambiguous poly furcation consequences are revealed. The study purpose was to identify the nature of traditional and innovative development of the economic systems and to prove its influence on the diversification of institutions; to reveal the interaction of traditional institutions as stable fractals of the national economic system, and innovative institutions as the conditions for its creative destruction and renewal, and investment institutions as ways to ensure sustainable transformation and diversification of these processes in Russia. To achieve this goal, a holistic approach and a variable decomposition method were applied to the study of the traditional and innovative development of national economic systems, which allowed identifying: "genetic resource" - an economic tradition, "genetic push" - an innovative idea, the basis of dynamic transformation and diversification of institutions - intellectual property or intellectual capital. Using deduction, we were able to uncover the logic of emergence, functioning, development, transformation and diversification of the innovation process and its institutional support; to identify the features of open (innovative) and closed (traditional) areas of the national economic system; to define it as a contradictory unity of traditional and innovative institutions, in which their general and specific, hard and soft forms inter-act and diversify. The study originality lies in the fact that the diversification of the institutional matrix is presented and justified as a traditionally innovative development process of the national economic system of Russia, in which traditional and innovative institutions of business, government and society inter-act at different levels and different socio cultures.

INTRODUCTION

The main systemic multifunctional form of institutional support for the traditional and innovative development of any economic system is intellectual capital [1, 2]. Moreover, at all stages of its emergence, functioning and development, intellectual capital generates an adequate system of institutional self-sufficiency and a mechanism for its transformation, diversification and development. An innovative idea is potential intellectual capital. Having arisen on the basis of tradition, an innovative idea is transformed into intellectual capital. It specifies and distances itself in the economic system and the system of its institutions in a certain set of rights. At this stage, it personification occurs. It finds its legitimate or shadowy owner and subjective carrier and, like any capital that "does not like emptiness", rushes to its result - economic innovation - and to systemic effects through it. However, not every innovative idea is embodied in the economic innovation, but only one that finds its application in the economic practice and turns into the intellectual capital, that is, it becomes self-increasing value [3]. Consequently, the economic innovation is intellectual capital applied or put into practice. This is manifested in new benefits, new capital and its new institutions. An innovation applied in the economic system acts as an economic innovation and an adequate form of capital. They have a certain institutional design that transforms the economic innovation and its capital form into an economic tradition. The transformation algorithm of the traditionally innovative process and its institutional support is depicted in [Fig. 1].

MATERIALS AND METHODS

To reveal the trends of traditional and innovative development of the national economic system, to identify the interconnections of its traditions, innovations and institutions, their spheres and subsystems, the laws of their dynamic transformation and diversification, it is necessary to carry out a varied decomposition of the national economic system. In the context of globalization and regionalization, each such system has common and specific properties [4]. Therefore, as an illustrative example, we will turn mainly to the Russian economy to illustrate these processes.

The first decomposition option allows distinguishing three areas of the national economic system in which traditions, innovations and institutions inter-act.

The first field covers the institutions of the state and its executive bodies; the second - the institutions of business, non-profit organizations, households, and individuals as participants in the socio-economic-environmental relations; the third - the institutions of society, legislative bodies of various forms, levels and

KEY WORDS

National economic systems, diversification of institutions, innovations, investments

Received: 9 Oct 2019
Accepted: 26 Nov 2019
Published: 12 Jan 2020

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various public organizations, unions and other associations. The information flows circulate inside each institute and between them [5]. Moreover, the institutions of the sphere of management and control provide ideal economic information (II) in the form of regulatory documents, the institutions of the real sphere - real information (RI) - demand, supply, products, services, prices, etc., and the institutions of society - coordinated ideal and real information (IRI). According to the activity type in each sphere, one can distinguish traditional institutions where reproductive activity and reproduction of traditional information (culture) are carried out and innovative institutions where productive activity is implemented, and innovative information (culture) is created and reproduced. The activity regulator of the traditional sphere of institutions is the law of reproduction of the sustainability of the national economic system, or the law of the stabilizing tradition, and the regulator of the innovative sphere of institutions is the law of renewal of the national economic system [6]. The interaction of these laws gives rise to a pattern of dynamic transformation and diversification of traditions, innovations and institutions

Thus, on the basis of the analysis of the first option of the decomposition of the national economic system, it can be concluded that the traditional and innovative spheres of institutions exist, interact and diversify in it.

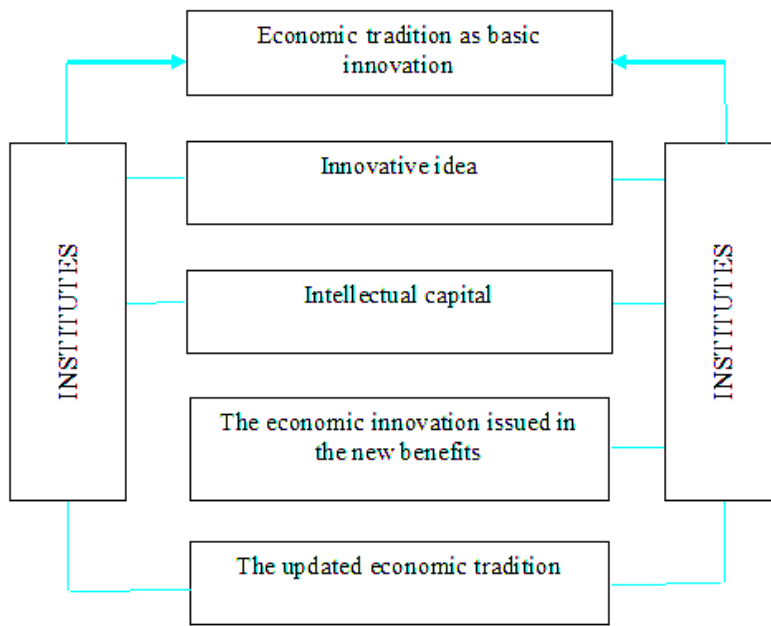


Fig. 1: The transformation algorithm of the traditionally innovative process and its institutional support.

The second option of the decomposition of the national economic system is associated with its characterization as open (innovative) and closed (traditional) areas of diversification of institutions, the regulator of which is the pattern of dynamic transformation of traditions, innovations and institutions of the sphere subsystems of business, government and society.

In this option of the decomposition of the national economic system, three interacting internal sphere subsystems are distinguished and analyzed - business (B), power - legislative and executive (LP, EP), and society (C) with two institutional environments: traditional and innovative. Institutional traditions and institutional innovations interact as systemic utilities. At the same time, traditions are a genetic resource for innovations in the sphere subsystems of business, power and society, and their nutrient medium [7]. It is governed by the law of reproduction of the stabilizing tradition, which accumulates the centrifugal forces of the institutional traditional flows of the national economic system in the circle of optimal opportunities and regulates their dynamic transformation and diversification with institutional innovations through the channels of the internal environment. Diversification of the latter with traditions and their transformation is regulated by the law of renewal, which accumulates the centripetal forces of institutional innovations in the quadrant of the same range of optimal opportunities and, combined with investments, enriches the institutional traditions of the national economic system, adapts new sociocultural through the external environment channels.

The national economic system as an open, innovative sphere of institutions exchanges matter and energy with the external environment, does not impede the exchange of world institutions, allows the updating of its elements - subsystems of business, government and society - and the change of their models in the process of dynamic transformation and diversification of traditional and innovative institutions. In other words, innovative institutions always exist, function and develop in the national economic system, the regulator of which is the innovative law of its renewal [8, 9]. But on the other hand, as a cut of cultural layer of a particular civilization, the national economic system is oriented, first of all, to the reproduction of this type of civilization. From these positions, it appears as a closed subsystem of traditional institutions. The possibilities of using innovative institutions "grown" in one national economic system are limited in

other systems in order to prevent the destruction of ethnic institutions and the integrity of civilization. The role of natural restraint is performed by fractal institutions, that is, moral principles, prevailing values and traditions that maintain the stability of a given society and protect it from the loss of originality and self-reproduction (self-sufficiency). The regulator of institutions in this sphere is the law of stabilizing tradition of the national economic system.

The third option for the decomposition of the national economic system is to study the structure of the institutional contradictory subjects of its innovative sphere. The third option for the decomposition of the national economic system is to study the structure of the institutional contradictory subjects of its innovative sphere. The institutions of the first group include the institutions of partnership and cooperation. Thus, the immediate goal of the Russian research organizations of a fundamental nature is to obtain an innovative idea; the goal of other research organizations focused on applied topics is to translate this idea into particular innovations, for the entrepreneurs - to obtain innovative profits; and the institutions of innovative activity, innovative partnership and cooperation serve as a means of ensuring these goals. The communication and synergetic functions of these institutions, their unifying tendency are manifested in this.

RESULTS

Camel We can distinguish the following main reasons for the effect of such a trend: firstly, the multiplicity of subjects of the innovation process at the functional stages of its implementation; secondly, the diversity, heterogeneity and reciprocity of the goals and means of entities implementing the innovation process; thirdly, the implementation of the goals of all subjects of innovative relations leads to a result not reducible to the sum of particular results. Such a result is an increase in the mass of consumer values, a decrease in the cost of their units and a socially significant, synergetic effect - an increasing aggregate intellectual capital that unites the subjects of innovative economic relations and is supported by homogeneous market innovative institutions.

The second group of institutional contradictory separating subjects of the innovation sphere of the Russian economy includes contradictions of interests that can be reduced to five main subgroups: contradictions in the interests of subjects of innovative relations that determine the specific type of their innovative activity and the institutions that regulate it; contradictions of the psychological order that arise in the transformation process of innovations into traditions, which are manifested in the collision of various institutions; contradictions of innovative market relations with other elements of the national economic system in which they arise, function and develop; contradictions at different levels of the innovation process: international, national, regional, local, business and household; contradictions in the structure of the innovation economic cycle, consisting of phases and cycles, the implementation of which is based on the qualitatively different principles and activity institutions. This group also includes contradictions between the need for innovative development and its negative consequences for the Russian economy. These polyfarcation states of the subjects of innovative relations in the Russian economy lead to the fourth option of decomposition of the national economic system related to the study of dissipative phenomena in interaction, transformation and diversification of its traditions, innovations, investments and institutions, which appear in the form of dissipative costs, dissipative transformations, diversifications and other dissipative processes in the institutional structures of the economic system. Their increase or decrease, strengthening or weakening depends on many exogenous and endogenous factors. The dissipativity level of the institutions of the national economic system depends on the innovation cycle phases. The greatest degree of their increase is observed at the phases of introducing innovations into practice, at the phase of its commercialization and distribution, at the phases of updating, transformation and diversification of traditions, innovations and institutions.

The dynamic transformation of traditions, innovations, investments and institutions simultaneously creates and destroys the national economic system. On the one hand, under their influence, positive creative technical, technological, structural, organizational and managerial, socio-economic, institutional and other systemic shifts occur at all stages, levels and in all areas of business, government and society.

On the other hand, the interaction of traditions, innovations, investments and institutions in a certain sense destroys the fractal properties of the national economic system. They are the reason for the change in the types of economic imbalances, as a result of which there are violations of the institutional traditions of the existing system and structure of relations. These "creative destructions" of innovations are accompanied by serious systemic changes in the structure of the institutions of business, government and society, in the forms of their interaction [11, 12]. In this regard, there is a constant objective need to develop mechanisms to ensure stimulation and protection of the creative properties of these processes, especially innovative ones, to prevent and smooth out their destructive systemic effects.

SUMMARY

A varied decomposition analysis of the traditional and innovative development of national economic systems and the forms of its institutional support makes it possible to identify the specific nature of these processes in the real and financial sectors of the national economy, especially in the sphere of its material production. For example, the sphere of material production is going through a difficult period in Russia. The destruction of the old institutions regulating production activity, the lack of new effective institutions

negatively affected the material production of the economy. Surviving Russian manufacturing enterprises are under intense pressure from global competition. Almost all enterprises in the sphere of material production need serious, as well as institutional support.

However, in this case, the institutional differences between two enterprises cannot be avoided. This is predetermined by the fact that, as shown in [Fig. 2], each activity type of a particular national economic system is governed by certain “tough” institutions (laws, by-laws, state standards) that apply only to this activity. Conventionally, the set of tough institutions regulating the activities of a diversified company can be divided into general and special. General tough institutions apply to all activity types that are combined within the company; specific “tough” institutions control only one activity type.

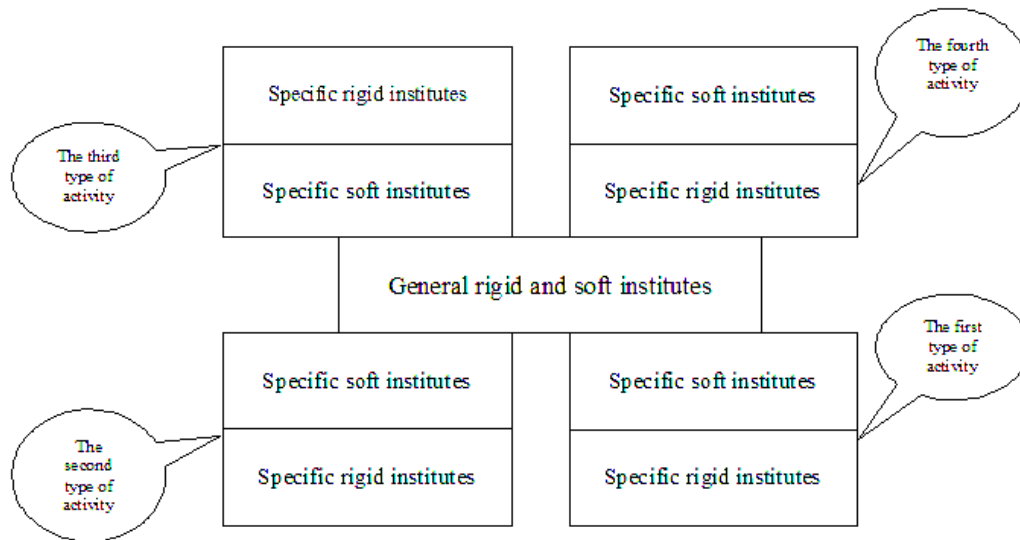


Fig. 2: Institutional diversification as part of a diversified microeconomic system.

CONCLUSION

Thus, a varied decomposition analysis of the forms of institutional support of the traditional and innovative development of national economic showed that general and specific laws of transformation and diversification of its traditional and innovative institutions exist and are being implemented in the Russian economy at all its levels. The emphasis of these transformations shall be shifted towards creating favorable conditions for the formation of optimal traditional and innovative institutional structures and prospects for the development of the national economic system at all its levels and in all its spheres.

CONFLICT OF INTEREST

There is no conflict of interest.

ACKNOWLEDGEMENTS

The work is performed according to the Russian Government Program of Competitive Growth of Kazan Federal University.

FINANCIAL DISCLOSURE

This work is performed at the expense of the subsidy allocated to Kazan State University for the fulfillment of the state task in the field of scientific activity (No. 26.9776.2017/BCH (Russian: 26.9776.2017/БЧ). The study is carried out due to the grant of the Russian Science Foundation (project No. 19-18-00202).

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ARTICLE

THE MECHANISM OF CALCULATION OF A VALUE ADDED TAX IN RUSSIA

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ABSTRACT

Currently, value added tax in Russia is one of the main taxes in the consolidated budget of the Russian Federation. The introduction of VAT in Russia in 1991 was one of the conditions of integration into the world political and economic community, a quick solution to the problem of filling the budget with revenues and the construction of a new tax system that would meet the new conditions of management and change of formation. The new tax system in Russia was built in the image and likeness of the European. In them, one of the main taxes was and is the value added tax. It is quite natural that VAT was one of the key taxes that proved its fiscal solvency. At the first stage of the introduction of value added tax in the practice of our country, the implementation of the fiscal function of taxation came to the fore. The choice of the invoice subtraction method, which was the basis of the mechanism of value added taxation, seemed quite natural and logical. In this article problems of calculation of the value added tax were revealed. To date, the mechanism of value added taxation has been transformed to such an extent that the practice of its tax administration exists separately from the mechanisms laid down in Chapter 21 of the Tax code of the Russian Federation. The identification of actual problems deforming the reproductive processes and not stimulating the production of goods, works, services with a high content of value added, will justify the need to further improve the mechanisms of calculation and payment of value added tax in Russia.

INTRODUCTION

KEY WORDS
value added tax, the mechanism of calculation of value added tax, tax deductions, risk management system, control of value added tax

The introduction of VAT in the 60s of the XX century in the territory of European States was not only fiscal in nature, but also was intended to stimulate the depth of processing and export of goods with high added value [10]. The unification of States into the European Union in the 90s of the XX century and further integration of economies revealed some methodological problems of VAT calculation related to the heterogeneity of approaches to value added taxation (for example, the choice of rate or list of benefits). This led to an increase in fraudulent schemes with VAT refunds and to budget losses, not only of one country, but of several [2].

As for the Russian Federation, the fiscal value added tax has always been a priority over its regulatory capacity. Already in the initial concept of its introduction, the fiscal function was put at the forefront, and in the future there was not even an attempt to use its regulatory function. Value added tax is usually considered only as a source of Federal budget revenues. This leads to the fact that factors that stimulate the growth of the share of value added in output are not taken into account. In the mechanism of calculating VAT, they are oppressed and are not taken into account.

Received: 7 Oct 2019
Accepted: 24 Nov 2019
Published: 12 Jan 2020

MATERIALS AND METHODS

In Russia, the role of VAT in replenishing the revenue side of the state budget is great. Consider the role of VAT in Federal budget revenues [fig. 1].

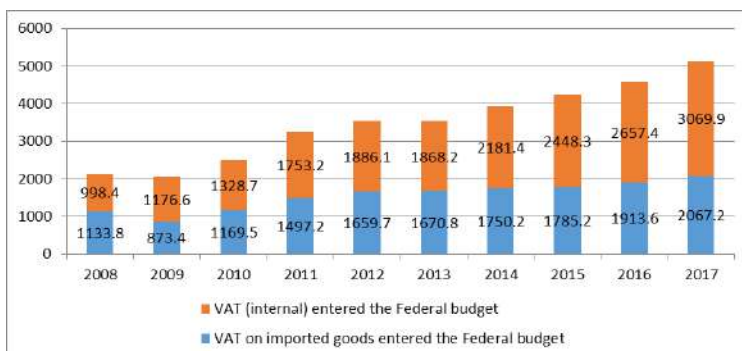


Fig. 1: VAT receipt in the Federal budget in Russia, in billion rubles

According to [Fig. 1], there is a positive trend in VAT revenues, with the exception of the crisis year 2013. The structure of VAT receipts administered by the Federal tax service and the Federal customs service is stable. Changes in the structure of VAT by reducing import VAT are associated with a reduction in imports. In General, you can do the main conclusion: the VAT revenues are growing at a rate higher than the growth rate of gross domestic product, which, of course, cannot but rejoice from the point of view of fulfilment of the fiscal function.

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If we consider the dynamics of the share of VAT received in the Federal budget revenues, gross domestic product and final consumption expenditure [Fig. 2], we can see a number of interesting contradictions.

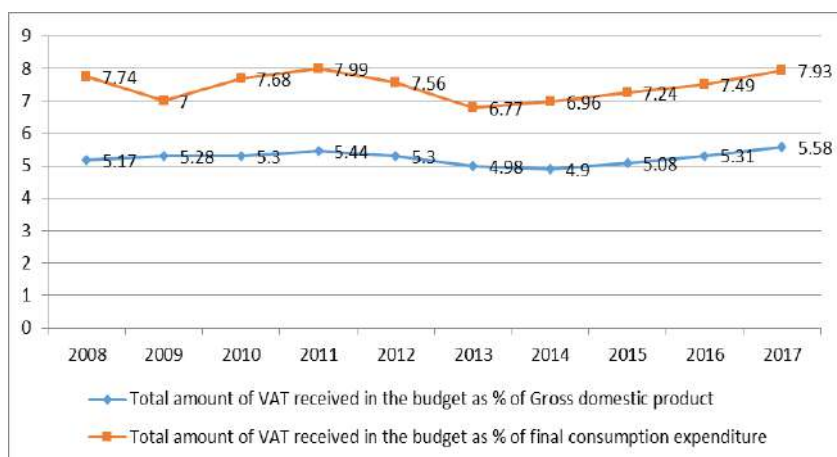


Fig. 2: Dynamics of the share of VAT received by the Federal budget in gross domestic product and final consumption expenditures for 2008-2017.

[Fig. 2] shows that, in General, the trends in the share of VAT in GDP and in final consumption expenditure are similar. However, fluctuations in the share of VAT in final consumption expenditure cannot but be alarming. This indicates that the tax burden on consumers in terms of VAT is growing. Attention is drawn to the fact that since 2014 the share of VAT in final consumption expenditure has been growing steadily, in 2016 there was a sharp increase, which is explained by the introduction of the risk management system of the automated VAT control system into commercial operation of the Federal tax service.

RESULTS

Traditionally, VAT is attributed to indirect taxes, which are included in the price of goods. It is commonly said that the taxpayer and the VAT bearer are not the same person. That is, the burden of taxation is borne by the consumer of goods, work, services, while the obligation to pay it to the budget lies with the seller of the goods [11]. Accordingly, the seller should bear some inconvenience to yourself for the calculation and payment of this tax, including, it is assumed that the seller is no diversion of working capital for payments to the budget [4].

If we turn to Chapter 21 of the tax code, the moment of determining the tax base and calculating the tax is the time of implementation, that is, the transfer of ownership of the goods. As a rule, the time of payment and the time of shipment may vary in time, and then there is a situation in which VAT is paid at the expense of the seller, without payment received from the buyer. For the realization of the fiscal function to VAT it is certainly justified [8].

The introduction of the ASK-VAT system (ASK-VAT-2), which basically compares information on issued and received invoices, allowed, despite the economic downturn, to significantly increase the collection rate (by almost 0.5 percentage points of GDP): VAT revenues increased from 5.4% of final domestic demand (the tax base of VAT on the economy as a whole) in 2014 to 5.9% in 2016 [6].

Labeling of certain types of goods also has a positive fiscal effect associated with a significant reduction in the share of the shadow market for fur products (according to some estimates, the legal turnover of fur products increased 6 times) [9]. Further implementation of measures to mark groups of goods will allow to build a unified information system in the hands of budget revenue administrators, the main role of which is played by the Federal tax service. The implementation of this area of work of the Federal tax service leads to additional costs for taxpayers. More recently, entrepreneurs were outraged by the obligation to install online cash registers. Is this not a proof of a visible fact: the introduction of new mechanisms for the convenience of tax administration.

In addition, it is planned to further strengthen the integration processes in the field of information systems of various departments – administrators of budget revenues. Work is underway to monitor the movement of goods from the stage of customs clearance to sale to the end user. The Federal tax service is improving tax administration to support the growth of tax revenues. However, the stimulation of taxpayers to economic growth is completely overlooked [12]. The VAT payment mechanism in Russia does not favour taxpayers with a high share of value added in output. The VAT makes this factor even more powerful [5].

If we turn to the goals and objectives declared by the Federal tax service, they show the focus of all the work of the tax authorities on the growth of tax revenues at any cost, it does not take into account the conditions of the economy and the state of taxpayers of certain industries and activities. The increase in

the share of VAT in final consumption expenditure indirectly indicates a decrease in tax deductions in the total amount of VAT calculated. That is, the work on improving the tax administration of VAT is reduced to the refusal to refund VAT. However, this is contrary to the nature of VAT, it is impossible to reduce tax deductions to zero. If we look at the practice of the accounting departments of business entities, in addition to the calculation of VAT is not less attention, time and effort is spent on documenting and monitoring of tax deductions, the work of accounting for VAT was increased in 2 times, and all the new requirements of the FTS of the Russian Federation to tax accounting and electronic document management reduce the load [9].

The analysis of arbitration practice of disputes of tax authorities with taxpayers for the last time shows that their main share falls on additional VAT charges in connection with the illegal application of tax deductions on transactions with counterparties that are defective in the tax sphere and do not declare the relevant operations, or in the performance of this obligation to declare reduce the amount of tax calculated on them for tax deductions, the right to use of which is absent, reducing the amount of tax payable to zero [1].

The main argument of the tax authorities in challenging the rights of taxpayers to tax deductions in connection with the "failure of counterparties in the tax sphere" is the proof of the taxpayer's failure to exercise due diligence and reasonable care when choosing counterparties before concluding transactions. At the same time, there is simply no list of requirements, the fulfillment of which by the taxpayer ensures and guarantees protection against claims of tax authorities in failure to exercise due diligence. Requirements of article 54.1 of the Tax code of the Russian Federation not only do not simplify this situation, but also complicate [2]. This leads to another conclusion - the state wants to shift the work of the tax authorities to assess the degree of tax risks of economic entities to taxpayers and create a system of total control over each. However, if we assume that in all respects a good taxpayer will set out to exercise due diligence and reasonable precaution (the criteria of which the legislation does not clearly prescribe, and judicial practice shows great diversity), then it is impossible to collect information, analyze it and draw appropriate conclusions based on different approaches (expert assessment, risk-oriented approach, analysis of financial condition, etc.) without the use of confidential information about the parties to transactions [3]. At the same time, the range of potential objects of control is expanding significantly, as the risk management system "Automated VAT control system", which is conducted by the Federal tax service, monitors breaks in the chain up to 8 (according to some sources up to 22) knee [7]. This implies that the taxpayer should know not only the counterparties of the counterparty, but also their counterparties up to 8 knee minimum. Here I would like to emphasize that the tax authorities allowed the idea of both the availability of different data sets, and the use of different methods of analysis of the tax failure of contractors. The Supreme courts in their decisions did not allow this idea, and even Vice versa, the Supreme Arbitration Court of the Russian Federation proceeded from the fact that tax administration is solely the duty of the state, and the burden of fulfilling this duty cannot be transferred to taxpayers.

SUMMARY

Despite the undeniable advantages of information technology in the tax administration of VAT, it remains important to maintain a balance between the interests of taxpayers and the state represented by the Federal tax service. In this regard, it should be noted the problems faced by both conscientious and not so taxpayers. The main offenses that can identify the ACK-VAT - is the illegal use of tax deductions in connection with the "tax failure of contractors."

In the future, if the terms of economic contracts are integrated into the ASC-VAT, the gaps in the chain can be revealed much more and this can become the basis for new claims against taxpayers by the Federal tax service. In addition, the automated system will be able to generate reports on the estimated amounts of hidden taxes, which will form the basis of materials on the initiation of criminal cases of tax evasion. We can only hope for the reasonableness of the approaches laid down in the program, since the tax risks and the degree of burden on the accounting service of taxpayers on the submission of explanations may increase significantly. In addition, the marking of separate types of goods and their traceability, in terms of tax administration, information unity of the tax administration, the overall digitalization and integration of information flows and the contraction of this node in the hands of the Russian Federal tax service, no chance of leaving taxpayers on an adequate response to the claim of the tax authorities to verify tax health of the counterparties.

The question arises about the creation of a new mandatory element of taxation in addition to the elements listed in article 17 of the tax code, namely the audit of the tax serviceability of the counterparty in terms of VAT. This leads to the conclusion about a significant deformation of the mechanism of calculation and payment of VAT towards the implementation of the fiscal start of this tax. This trend is increasing from year to year. The state's desire to bring the economy out of the shadows and reduce the number of tax deductions abuses is understandable, but further pressure on taxpayers is fraught with negative consequences. Instead of reducing the shadow economy, the opposite effect can be achieved.

Here I would like to turn to the experience of calculating and paying VAT in China. There are 3 mechanisms for calculating VAT: a mechanism with deductions (at which they are not accepted in full, but for some items with restrictions); a mechanism for calculating VAT on the sale value of goods, works, services (similar to sales tax, but for certain groups of taxpayers) and a mechanism for calculating VAT on

imports. Taxpayers themselves have the right to choose whether to use the right to VAT refund or completely refuse deductions.

CONCLUSION

Summing up the above, I would like to draw attention to the following main points:

- The analysis of statistical data allows us to draw conclusions about the emerging trend of reducing tax deductions and increasing VAT revenues at a rate faster than the economy can afford. It is necessary to speak about deformation of the mechanism of the value added taxation and strengthening of its fiscal beginning to the detriment of the regulating.
- Further use of only the fiscal start of the value added tax and an increase in the base rate to 20% could lead to a significant reduction in the growth rate of the economy, especially in industries with a high share of value added in output, as the burden of increasing the VAT rate will be distributed unevenly and high-tech industries will suffer more from this.
- The increase in the VAT rate should be accompanied by a reduction in insurance premiums and income tax rates. Global trends indicate a reduction in the tax burden in developed countries. However, in our country it is not decreasing, contributing to the slowdown of investment and economic growth.
- In the long term, it is necessary to abandon the application of tax deductions (at least partially) and in China's experience to move to a direct VAT account for certain categories of taxpayers. This will significantly reduce the burden on the accounting services of taxpayers and significantly simplify the tax administration of VAT.

Thus, the analysis of the problems of value added taxation in Russia requires further research and should be aimed at the implementation of the VAT regulatory function, which would not interfere with the economic growth of taxpayers.

CONFLICT OF INTEREST

There is no conflict of interest.

ACKNOWLEDGEMENTS

The work is performed according to the Russian Government Program of Competitive Growth of Kazan Federal University.

FINANCIAL DISCLOSURE

None.

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ARTICLE

ALCOHOL EXCISE TAXES: CURRENT RUSSIAN LAW AND RETROSPECTIVE ANALYSES

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ABSTRACT

Excise taxes on alcoholic beverages are the oldest form of indirect taxation that is currently used in the tax systems of almost all market economies. Alcoholic beverages as a commodity have a dual character. On the one hand, it is a source of budget revenue, and on the other - it is a product that leads to such a problem as alcoholization of the nation, which is a serious threat. The excessive direct policy of the state in the direction of reducing the production and consumption of alcohol can lead to ambiguous consequences (the development of self-brewing and, as a consequence, a decrease in the standard of living of the population). Therefore, excise taxation as an indirect method of influence on the production of alcoholic beverages is considered to be the only effective method of reducing its production. However, it should be borne in mind that unreasonably high rates of excise duties on alcohol products can lead to the same results. In this regard, it is important that the current system of excise taxation of alcoholic beverages meets the following principles: with other sources of budget revenues, it provides them with the optimal amount of financial resources necessary for the state to perform its functions; regulates the production and consumption of alcoholic beverages in order to have a positive impact on the social and economic aspects of life of the population. In Russia, during its existence and development of excise duties on alcoholic beverages have undergone many changes. But this excise has always been a convenient tool for replenishing the Treasury of the state. The article deals with the current Russian legislation in the field of excise taxation of alcoholic beverages. The stages of development of excise duties on alcoholic beverages in Russia are also highlighted. Here the analysis of the current practice of excise taxation of alcoholic beverages in the Russian Federation is discussed. The ways of development of excise taxation of alcoholic beverages in the Russian Federation are presented.

INTRODUCTION

Excise tax on alcoholic beverages, being one of the oldest taxes in the history of mankind, acts as an important source of tax revenues to the budget system of the Russian Federation. Now in Russia excise taxes on alcoholic products are established by Chapter 22 "Excises" of the Tax code of the Russian Federation and are obligatory for payment in all territory of the Russian Federation.

To date, the study of this issue is relevant. The relevance is due to the state and the need for development and changes in the field of excise taxation of alcoholic beverages in connection with the development and change in the economy of the Russian Federation. Also, this topic is relevant, as the excise tax on alcoholic beverages, being one of the oldest taxes in the history of mankind, acts as an important source of tax revenues to the budgets of the Russian Federation, namely the Federal budget of the Russian Federation and the budgets of the subjects of the Russian Federation. It is a convenient fiscal tool. Its collection is quite high and at the same time relatively easy, and the cost of tax administration is low, partly due to the clear definition of the tax base. And so it is very important to choose the right policy in the field of excise tax system for alcoholic beverages.

Rational regulation in the field of excise taxation on alcohol products, carrying out complex measures aimed at improving the excise policy on alcohol products in the Russian Federation are of paramount importance today. Excise tax on alcoholic beverages, being one of the oldest taxes in the history of mankind, acts as an important source of tax revenues to the budget system of the Russian Federation. Now in Russia excise taxes on alcoholic products are established by Chapter 22 "Excises" of the Tax code of the Russian Federation and are obligatory for payment in all territory of the Russian Federation.

MATERIALS AND METHODS

The process of taxation of alcoholic beverages is incomparably dependent on the regulation of alcohol production. Currently, in Russia there are tools of state administrative regulation of production and turnover of alcoholic beverages: licensing, labeling, regulation of prices for alcoholic beverages, a single state automated information system of accounting for the production of alcoholic beverages. Many scientists are engaged in the issues of state regulation, including tax regulation; in particular, the works of the authors [1-6].

Analyzing the methods, we came to the conclusion that only administrative methods of regulating the production of alcoholic beverages cannot lead to an effective achievement of a significant increase in excise revenue in the revenue part of the state budget system. In this regard, in order to achieve the improvement of this situation, it is necessary to move from mainly administrative measures to economic methods of regulating the production of alcoholic beverages. First of all, it would be necessary to focus on the excise policy in the country, as it directly affects the regulation of alcohol production. A well-considered excise policy can significantly reduce tax losses and increase the level of legal alcohol production. An important role in the regulation of alcohol production is tax administration of excise duties. It should be

KEY WORDS
alcohol production,
alcohol production,
taxation, excise policy,
budget revenues,
regulation

Received: 14 Oct 2019
Accepted: 28 Nov 2019
Published: 15 Jan 2020

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noted that the issues of tax administration were touched upon in the scientific works of such authors [7-9]. In the works of these authors it is concluded that the improvement of tax administration is one of the most important areas of tax policy of the Russian Federation.

Production, circulation, storage and supply of produced alcoholic and alcohol-containing food products are activities subject to licensing. Licenses for the production and circulation of alcoholic beverages are issued only to applicants who have equipment that meets the following requirements: the main technological equipment for the production of alcoholic beverages should be equipped with automatic means of measuring and accounting for the concentration and volume of anhydrous alcohol in the finished product, the volume of finished products. The number of organizations that have received a license for the production, storage and supply of alcoholic beverages produced in the territory of the Russian Federation by districts is presented in [Table 1]. The situation in the Russian Federation in some Federal districts for 2014-2016 is characterized by a decrease in the number of organizations that have received licenses for the production, storage and supply of alcoholic beverages. For example, such a decrease was in the Central Federal district and the Crimean Federal district. In 2016, the largest number of licenses was obtained in the North Caucasus Federal district – 134 licenses, in the southern Federal district – 125 licenses. The lowest number of licenses was obtained in the far Eastern Federal district – only 3 licenses.

Table 1: The number of organizations that have received licenses for the production, storage and supply of alcoholic beverages produced in the territory of the Russian Federation in the districts for 2014-2016 [10]

Federal region	2014 year		2015 year		2016 year	
	Number of licenses	Number of organization	Number of licenses	Number of organization	Number of licenses	Number of organization
Russian Federation	675	285	667	287	536	267
Central federal region	99	55	100	54	83	50
North-Western Federal region	59	29	58	30	50	27
Southern federal region	179	59	183	62	125	54
Crimean Federal region	78	39	62	33	72	34
North Caucasus Federal region	162	59	171	66	134	62
Volga federal region	67	27	65	27	55	28
Urals federal region	20	6	20	6	10	3
Siberian federal region	22	17	22	17	20	15
Eastern federal region	4	4	4	4	3	3

Let us consider in more detail the volume of production by types of alcoholic beverages in the Russian Federation for 2014-2016 on [Table 2]. For some types of alcoholic beverages the volume of production of alcoholic beverages tends to decrease. However, for wine production there is an annual increase in this indicator.

The first place in the production of excisable alcoholic beverages is beer, followed by vodka, wine products. The smallest share in production falls on alcoholic beverages, as well as on cognacs. It should be noted that the number of sold excisable alcoholic beverages exceeds the number produced. Despite the increase in the rate, the collection of excise duty in absolute figures is insignificant. According to Rosalkogolregulirovaniya, the share of illegal strong alcohol in Russia is 22.5%. However, it can be noted that the violations are not related to violations of tax legislation, but are associated, for example, with violations of the conditions provided for by the license.

Table 2: Production volumes of alcoholic beverages in the whole of the Russian Federation for 2014-2016 [10]

Types of alcoholic products	2014 year		2015 year		2016 year	
	The volume, in liters	The volume, in liters	in % to 2014	The volume, in liters	in % to 2015	
Vodka	67656,8	68607,4	101	74158,3	108	
Alcoholic beverages with ethyl alcohol content up to 25% inclusive	2948,7	2814,8	95,5	2710,6	96,3	
Alcoholic beverages containing more than 25% ethyl alcohol%	3939,1	3903,2	99,1	4983,6	128	
Cognac and cognac drinks	7473,9	7659,5	102	8193,3	107	
Low-alcohol products	17314,0	9014,1	52,1	5606,0	62,2	
Wine production	72975,9	86775,8	119	89215,3	103	
Beer	754777,7	716860,7	95	715743,4	99,8	

Excise tax on alcoholic beverages is a regulatory revenue source of budgets of different levels. Revenues from excise duties on alcoholic beverages are used to regulate revenues to lower budgets in the form of interest payments from taxes at rates (standards) approved in the prescribed manner for the next financial

year. Basically, excise taxes on alcoholic beverages come to the budgets of the subjects of the Russian Federation. In the Federal budget, the share of excise taxes on alcoholic beverages is not high, but there is an unstable dynamics of revenues, which is clearly seen in [Fig. 1].

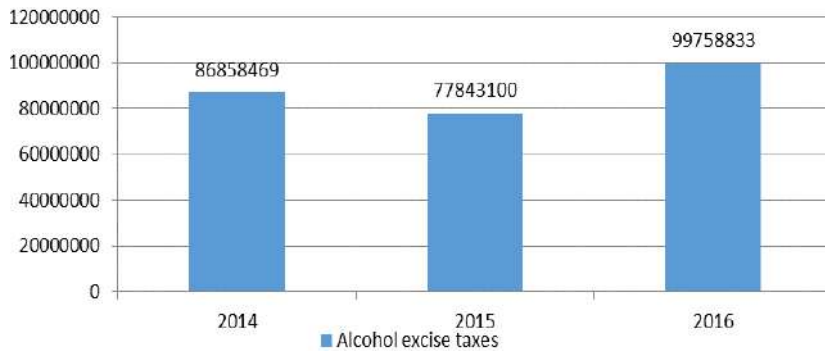


Fig. 1: Dynamics of receipt of excise taxes on alcoholic beverages in the Federal budget for 2014-2016, in thousand rubles.

Among the excise duties on alcoholic beverages in the Federal budget revenues, the largest share is occupied by excise duties on alcoholic beverages produced in the territory of the Russian Federation [Fig. 2].

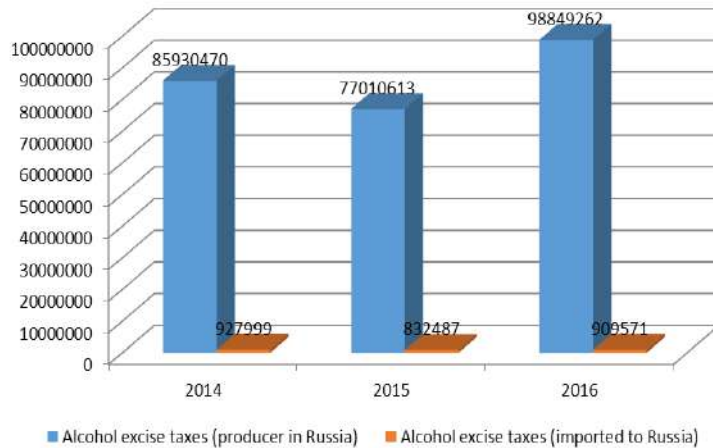


Fig. 2: The ratio of excise duties on alcoholic beverages produced in Russia and imported into Russia, in thousand rubles.

In the analysis of excise tax revenues for alcoholic beverages in the Federal districts, we found that the largest revenues to the budgets of the subjects of the Russian Federation fall on the Volga Federal district, the Central Federal district and the Siberian Federal district [Table 3].

Table 3: Receipt of excise duties on alcoholic beverages in budgets of subjects of the Russian Federation on Federal regions for 2014-2016 [11]

Federal regions	2014 year (in billion rubles)	2015 year (in billion rubles)	Growth rate, %	2016 year (in billion rubles)	Growth rate, %
Russian Federation	207	192	92,75	227,73	118,61
Central federal region	61	48	78,68	57,44	119,7
North-Western Federal region	18	19	105,6	21,42	112,74
North Caucasus Federal region	6	7	116,7	10,02	143,14
Southern federal region	12	13	108,3	19,24	148
Volga federal region	59	54	91,52	71,23	131,91
Urals federal region	10	6	60	6,95	115,8
Siberian federal region	32	30	93,75	33,79	112,6
Eastern federal region	7	6	85,71	7,64	127,3
Crimean Federal region	-	2	-	-	-

Despite the highest revenues in the Volga Federal district, the Central Federal district and the Siberian Federal district, however, it is worth noting that in these districts there is an unstable dynamics of excise taxes on alcoholic beverages. It is also worth noting that the smallest revenues fall on such districts as the Ural Federal district and the far Eastern Federal district.

RESULTS

Currently, the tax legislation in respect of excise duties on alcoholic beverages remained unresolved problems that need to be transformed, in particular with regard to excise rates. In the Russian Federation, excise rates on alcoholic beverages are much lower than in Europe, but higher than in the member States of the Eurasian economic Union. To date, it is impossible to equate the rates of excise duties on alcoholic beverages of the Russian Federation to European sizes, as the increase in rates will lead to an even greater difference with the member States of the Eurasian economic Union. This, in turn, can lead to a decrease in the competitiveness of domestic producers in comparison with illegal and producers of the member States of the Eurasian economic Union.

The influence of certain measures on mortality from alcoholism in Russia is studied in the works of several authors [12-15] were considered, where the influence of alcohol consumption on health is studied.

In modern market conditions, it seems that the methods of economic regulation of the alcohol market are impossible without elements of the state monopoly, the only formation capable of forming the price of alcoholic beverages in the interests of solving the social problem – dealcoholization of the nation and economic - replenishment of income in the budget system of the country. A state monopoly may be complete, covering both production and sale, or partial, involving only production or only sale.

In the Russian Federation, the legislation on state regulation of alcohol production and turnover has been amended important for winemakers, primarily Crimean. Soon the Crimean wines will receive the status – "wine with a protected geographical indication" and "wine with a protected designation of origin" as wines of Italy, France, Spain. Status – "wine with a protected geographical indication" means that the wine is made from grapes grown in a certain region – Crimea. Status – "wine with a protected name of origin", indicates a specific place (Koktebel) or even a specific vineyard, such as the slopes of mount Al-Danil.

Adopted in the EU laws protect the status of wine and increase competitiveness and recognition. The same protection statuses should have and Crimean wines.

SUMMARY

Thus, in the course of the study, we have identified the following problems: differences in excise rates for alcohol products in the countries of the Eurasian economic Union, leading to non-competitiveness of domestic products; shortfall in excise taxes on alcohol products in the budget system of the Russian Federation due to illegal and falsified production of alcoholic beverages; lag in the development of the wine industry in the Russian Federation compared with European countries.

The following activities are required to address the issues under consideration.

- It is necessary to harmonize the rates of excise duties on alcoholic beverages in the countries of the Eurasian economic Union in order to create a single market for alcoholic beverages, to increase the competitiveness of domestic producers of alcoholic beverages. All types of alcohol products at the level of the Eurasian economic Union should be subject to harmonization of excise rates for alcohol products.
- Based on the experience of foreign countries to introduce a state monopoly on the production of ethyl alcohol in order to minimize the illegal and counterfeit production of alcoholic beverages, which ultimately can lead to an increase in excise taxes on alcoholic beverages in the budget system of the Russian Federation.
- It is advisable not to index excise rates on grape and fruit wines for 3-5 years in order to develop the wine industry in Russia, which produce wine from their own products.

CONCLUSION

From the above, we have identified areas for the development of excise taxation of alcoholic beverages in the context of strengthening its social orientation and the implementation of measures to create conditions for domestic producers, as well as the harmonization of tax legislation of the EAEU member States, which will contribute to the development of the interstate economic Association, strengthening cooperation in the field of taxation.

CONFLICT OF INTEREST

There is no conflict of interest.

ACKNOWLEDGEMENTS

The work is performed according to the Russian Government Program of Competitive Growth of Kazan Federal University.

FINANCIAL DISCLOSURE

None.

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ARTICLE

METHODOLOGICAL APPROACHES TO THE FORMATION OF EFFECTIVE CORPORATE GOVERNANCE SYSTEM IN RUSSIAN COMPANIES

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ABSTRACT

In the global economy and in the context of globalization, corporate governance has established itself as a reliable and key factor in the formation of the investment attractiveness of integrated structures, with the help of which it is possible to build up competitive advantages and obtain more affordable, relatively inexpensive, stable and long-term sources of investment. It has long been common practice for foreign investors to establish business contacts with Russian companies to assess the degree of development of corporate governance as responsibly as, for example, the financial and economic results of their activities. And this is natural, because, as a rule, it is no secret to anyone that an improperly built or involved corporate governance mechanism reduces the market value of companies by 30-35%. In the course of our study, we came to the conclusion that in most Russian companies the importance of the formation of investment attractiveness as an essential factor is still underestimated. As a result, most corporate procedures in these integrated structures are formal and declarative in their nature, which gives only some temporary improvement. An analysis of special foreign literature on the issue under study shows that it is impossible to simply transfer foreign standards and corporate governance mechanisms to Russian companies due to many national and industry specifics. It is clear that, in the conditions of Russian realities, this situation requires creative refinement and addition of global corporate governance standards, taking into account national and industry specifics, and also the development of a simulation financial and economic model, which should allow optimizing the solution of strategic tasks of increasing their investment attractiveness, identifying the most significant environmental factors and develop methodological approaches to improve it.

INTRODUCTION

The organization of corporate governance in companies of advanced states is built by combining special norms of the law, regulations, and entrepreneurial practices. This approach makes it possible to mobilize human and financial resources, increase the efficiency of production and financial activities, etc., which, ultimately, allows them to accumulate long-term economic value by increasing the value of shares, observing the interests of shareholders and society as a whole [1-3].

In our study, we mean the concept of corporate governance by a higher level of leadership in a company, aimed at ensuring the highest corporate performance, i.e. "corporate governance", and not the ordinary and tactical "corporate management".

This position was originally substantiated by T. Veblen back in 1924. In the course of the development of this approach, A. Berle, G. Mins, and others, when analyzing the owner-manager relationship, revealed a new problem related with agents. It arose due to the discrepancy between the interests of the owners of capital and the agents managing them, which caused many negative consequences.

In the future, many corporate governance models were developed, which, in general, were reduced to three types of models - Anglo-American, German and Japanese [4].

In 1999, the "Principles of Corporate Governance of the Organization for Economic Cooperation and Development" were formulated [5]

These principles acted as refined standards of best corporate governance practices in the global economy:

1. Respect for shareholder rights.
2. Respect for equal treatment of all shareholders.

These standards were built on the principles of justice, responsibility, transparency, and accountability. [6] In recent decades, the Russian model of corporate governance has also begun to be developed. Its institutional environment is characterized by apparent weakness of the national stock market, the

KEY WORDS

world economy, institutional environment, corporate governance, methodological approaches, Russian companies, balanced development.

Received: 9 Oct 2019
Accepted: 21 Nov 2019
Published: 15 Jan 2020

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imperfection of the banking system, the presence of selective enforcement. Probably for this reason, the fund managers of the JP Morgan Chase financial center said that Russia today was able to overcome only the stage of the initial formation of corporate governance. Indeed, many concrete examples can be cited when even large Russian companies declaring the need to use the principles of corporate governance actually do not change anything and continue to manage companies in the old fashioned way.

In our opinion, all of this is a serious basis for improving and developing new methodological approaches and tools for engaging effective corporate governance in Russian companies.

MATERIALS AND METHODS

The research methodology was based on the fundamental principles of a systematic approach to the formation of a rational organization of corporate governance in Russian companies.

In the course of the study, we used the basic principles of classical economic theory, the theory of control systems, and corporate governance models.

We also involved research methods and techniques such as analysis, synthesis, comparison, analogies, and generalizations.

RESULTS

In a comparative analysis of the use of foreign corporate governance standards by Russian companies, we found that these principles (standards) in domestic companies simply end with their declaration. This conclusion also correlates with the data of the international rating agency Standard & Poor's, which makes up the corporate governance rating of domestic companies [6,7].

In the course of the study, we compared the main components of foreign corporate governance standards with everyday corporate governance practices in Russian companies in 4 areas:

- violations;
- absence;
- features;
- building up.

The “violation” provisions were identified with respect to a number of significant corporate governance components in companies - players in the sector, that did not comply with the provisions of the advanced foreign standard – in particular, there was a fact of non-transparency of the share capital structure and ownership of shares of other companies, violation of the terms for its updating after the reporting date, etc.

The “absence” position means that certain particularly significant provisions in foreign corporate governance practice are ignored by almost all the Russian companies examined, for example, the formation and reward for availability of a certain business culture.

The provision “features” involves the identification of specific, special characteristics inherent only to Russian corporate practice, which are not characteristic of foreign corporate governance standards, in particular, for example, the payment of dividends only to a certain part of shareholders.

The “build-up” position is associated with the peculiarities of the Russian corporate governance environment and is caused by the lack of proper corporate governance on the part of the Russian stock market, commercial banks, and insufficient enforcement.

With the use of improved corporate governance standards and increasing the market value of Russian companies to the necessary parameters of foreign long-term investors, their investment attractiveness can and should undoubtedly increase [8-10].

The estimated performance indicators of corporate governance and the complexity of their development are of particular interest. Here, in addition to generally accepted Russian financial indicators, it is necessary to take into account generally accepted international estimated indicators (for example, EBITDA margin, etc.). Moreover, the selection of financial indicators should be focused not only on the interests of shareholders and creditors, but also meet the needs of strategic and portfolio investors.

Possible options for improving corporate practice in domestic companies need to be developed taking into account the direct and indirect effects of positive transformations in their corporate governance [11-15].

At the same time, we understand direct impact as the savings in operating costs resulting from the reduction of production costs associated with low motivation of management, a decrease in the cost of an investment program with more effective management and increased oversight level when it is involved.

We mean by indirect impact the availability of more favourable investment conditions in the form of prolongation of terms and lower interest rates on loans, and growth in the market value of shares.

The modified methodological approach to the formation of an effective corporate governance system proposed by us involves improving the methodology for determining additional and refined corporate governance standards, taking into account Russian realities.

The largest Russian companies (PJSC Gazprom, PJSC RusHydro, etc.) show a high level of ownership concentration in the hands of government agencies and financial and industrial groups.

It should be noted that in companies of the Western countries, the availability of an owner with a large block of shares, as a rule, is not a source of negative impact on the course of corporate governance, because the relations between all holders of the company's blocks of shares are transparent. At the same time, one can always clearly imagine how the activities of a major shareholder meet the interests of all shareholders. Such line of conduct is still absent in Russian companies, in connection with which we see a permanent violation of the rights of minority shareholders owning a modest number of shares...

Moreover, minority shareholders are never members of the Board of Directors, and of regulatory bodies; they are not even among receivers of mandatory dividends, moreover, very often they are deprived of the right to receive the necessary reliable information about the company.

The electricity generating companies that we studied did not even have a formalized dividend policy, and, of course, the criteria for determining the recommended dividend payments... All this confirms once again the need to form a civilian Russian business culture, which takes into account, without fail, socio-environmental and economic aspects in a single general balanced development strategy. [16, 17]

It should be noted that the Russian Union of Industrialists and Entrepreneurs is doing some work to enhance the activities of Russian companies. In particular, it developed guidelines for the preparation of non-financial reporting, proposed a set of basic indicators for assessing the final results of companies that meet international standards and are adapted to the Russian accounting system and legislation.

Another problem is the permanent violation by Russian companies of the deadlines for publishing annual and quarterly financial statements prepared in accordance with IFRS: annual reports are published 6-12 months after the end of the reporting period. Also, there are cases when a company refuses to name its real owner. All this, of course, negatively affects the confidence of future investors...

A particular problem is the lack of an adequate level of market thinking, professional corporate governance skills among senior management, especially government representatives on the Board of Directors. This is especially evident in state-owned companies. And this is partly explainable: state-owned companies are extremely reluctant to attract external investors to participate in the implementation of "their own" investment programs, as a result of which they ignore the "rules of the game" of corporate governance, which is typical in the daily activities of private business. [18, 19, 20]

Such a comparative analysis of the most significant components of corporate governance standards generally recognized in advanced countries with corporate practice in Russian diversified companies allows us to identify not only inconsistency of the latter in the four main areas considered, but also to develop additional corporate governance standards that reflect and take into account the functioning of Russian companies.

Implementation of improved standards within the framework of the proposed methodological approach allows mobilizing corporate governance in the interests of all participants in Russian companies. Such an approach will allow obtaining objective data on the status of corporate practice in companies, quickly identifying bottlenecks directly in corporate governance, and ultimately creating investment attractiveness and new competitive advantages.

CONCLUSION

- The analysis and generalization of best international practices in corporate governance made it possible to emphasize its special role in shaping the investment attractiveness of integrated structures for external investors, highlight its specific features caused by the high level of effectiveness of external corporate control by commercial banks and the stock market, the degree of development of strategic analysis, planning and forecasting, exposure to universally recognized standards of corporate governance.
- In the course of the study of Russian corporate governance practice, its characteristic differences were highlighted, which allowed us to develop a modified methodological approach to improving the corporate governance system in domestic companies taking into account the interests of investors.
- The proposed modified methodological approach to improving the corporate governance system is based on a comparison of the most significant components of world standards with corporate activities in companies which are players in the sector.

- The analysis of the most significant environmental factors (improvement and rigorous implementation of legislation, state regulation, improvement of tax policy and tax administration, the formation of a financial system, etc.) allows not only determining the level of investment attractiveness of Russian companies, but also to generalize the requirements of potential investors and develop an optimal vector assistance.

CONFLICT OF INTEREST

The authors confirm the absence of a conflict of interest.

ACKNOWLEDGEMENTS

None.

FINANCIAL DISCLOSURE

None.

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ARTICLE

SOME ASPECTS OF THE ORGANIZATION AND ASSESSMENT OF ACTIVITY IN THE PRIORITY SOCIAL AND ECONOMIC DEVELOPMENT AREAS

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ABSTRACT

The current conditions for the development of Russia are characterized by a sharp aggravation of the problems concerning further structural economic conversion of the country's regions, which requires an in-depth study of market principles of economic management. All this is associated with the need to enhance the transformation processes in the regional economy of each subject of the Russian Federation through the use of various organizational and economic mechanisms that reform and increase the effectiveness of their socio-economic development. And this is in the course of nature, because in recent years it is precisely such territories that have been given the opportunity to play the role of the most effective instrument of state policy devoted to territorial development in the near future. In particular, for a short period of 2015-2018, more than 50 priority social and economic development areas (PSEDA) have been created in the Russian Federation, which indicates the scale of the structural restructuring of the Russian economy. Initially, the task was set that the priority social and economic development areas should appear at the local level as territorial "points" of innovative industrial development. It should be noted that by this time in the Russian Federation there was already some experience with such mechanisms as clusters, special economic zones, etc. However, to achieve the strategic goals of the priority social and economic development area management, it was necessary to create their own methodological support, which would create a highly effective mechanism for mutually beneficial interaction between the priority social and economic development area management companies with the authorities of the constituent entities of the Russian Federation, municipalities, residents, investors and other interested business structures of the regional socio-economic system. All this actualizes the topic of research and causes a need for analysing and systematising the main components of the methodological support structure for managing priority social and economic development areas.

INTRODUCTION

KEY WORDS

socio-economic development, economic crisis, structural adjustment, methodological support, management, priority development

In everyday practice of the world economy, a network of diverse economic zones and forms that have become an integral structural component of world practice is quite developed and successfully used. In world practice, there are more than thirty varieties of various economic zones in the form of duty-free zones, free ports, offshore centres, etc. [1,2].

The common thing for them is the following: in a certain local area of the country, an economic enclave is created with a preferential tax regime, a duty-free regime for the import and export of goods and services, with a certain isolation of trade, monetary and financial relations with respect to the main territory of the state. Such an approach, as a rule, allows rather close contacts with other markets to form and, thereby, actively mobilize foreign capital.

In other words, a priority social and economic development area is a certain part of a state where entrepreneurs, regardless of their state affiliation (both foreign and domestic) have special preferential conditions for organizing and conducting entrepreneurial activity. All this contributes to the formation of territorial innovative and industrial "growth points".

Undoubtedly, all this is associated with the intensification of domestic and foreign economic activity, the attraction of domestic and foreign investors, etc., which, ultimately, will enable the use of the latest technology, equipment and other matters, and increase the competitiveness of national products.

In our opinion, the priority social and economic development area should be, first of all, created in the depressive land-poor and labour-rich republics of the North Caucasus. This will revive their economy and reduce social tension in these territories.

It is clear that all these processes require a targeted transformation of the economic structure of that local entity within which a priority social and economic development area is created. Moreover, in modern realities, the global task is set of the transition from the traditional economy to the knowledge economy. [3,4]

Received: 21 Oct 2019
Accepted: 28 Nov 2019
Published: 19 Jan 2020

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The experience of many countries in creating various economic zones with a favourable business and investment climate allows us to identify the most significant factors that determine their creation and sustainable development, including

- Favourable geographical position;
- Availability of developed infrastructure;
- Availability of social infrastructure;
- Absence of administrative and bureaucratic barriers to opening new enterprises;
- Availability of a developed and stable institutional environment.

Researchers of the functioning of economic zones are unanimous in the need to introduce tax incentives, and also financial and administrative preferences.

This approach allows us to effectively use the factor model of management of such organizational and economic systems, while highlighting economic, social, environmental, institutional, and technological factors at the same time.

A key criterion, as a basic condition for sustainable and balanced development, is a balance of interests. This is what allows us to ensure a given trajectory and pace of development of any priority social and economic development area. [5]

MATERIALS AND METHODS

The theoretical and methodological basis of this paper was the fundamental and applied works of Russian and foreign scientists in the field of formation and effective activity of priority social and economic development areas.

In substantiating the obtained scientific results of the study, we used general scientific management and organization methods, and also methods of expert evaluation, comparative analysis, organizational and structural modelling, etc.

RESULTS

In our opinion, one of the fundamental moments concerning the formation and development of a priority social and economic development area is the need to form competitive immunity of territories. Availability of competitive immunity of a territory allows in the long term to successfully resist the negative effects of internal and external factors. [6,7]

Among the distinguishing features of the term “competitive immunity of a territory” which substantially reflects the development vector and stability of a priority social and economic development area, one can indicate the following:

- Extrapolation to the future of the factors planned during the formation of the priority social and economic development area;
- Formation of a mechanism for neutralizing and forcing away possible threats and overcoming extreme conditions with the least losses;
- Development of a mechanism for efficient use of existing reserves and potential opportunities;
- Formation of competitive advantages for the priority social and economic development area in the economic space due to its self-realization through capitalization of its competitive positions, active realisation of economic interests of the area, and their continuous defending in the economic space.

An interesting approach was created by A.I. Tatarin, who proposed to consider a priority social and economic development area as a special product which has a specific multi-useful use value allowing the needs of the main groups of consumers on the territory to meet and satisfy. [9] Indeed, the priority social and economic development area can also be seen as a mega-enterprise operating in the economic space.

Today, there is already some experience in the formation of priority social and economic development areas, and under these conditions, assessing their effectiveness causes certain scientific and practical interest, undoubtedly. For this purpose, it is necessary to use a whole set of effects obtained from its components: social, economic, environmental, and other effects.

Initially, it is necessary to organize total monitoring of indicators allowing an objective assessment of the initial state, on-going processes and final results of the development of the investigated territorial formation to obtain. And it is in the nature of things, because there is no other alternative for the subsequent development and adoption of sound management decisions associated with the development of any priority social and economic development area.

Many assessment methods are known, usually based on formalized procedures, in particular, such as using the methodology of comparative advantages, equilibrium and production factors, etc. [8,9]

The need for a detailed and objective assessment of the effectiveness of a priority social and economic development area within the framework of the directly studied territorial entity (region) is caused, first of all, by that it is precisely within the framework of a particular territorial entity that the internal and external environment for the priority social and economic development area is created; it is here that the processes of entrepreneurial activity are concentrated (logistics, production, etc.) and here there is an active involvement of economic, environmental and other resources, taking into account the necessary restrictions, social norms and interests of stakeholders in this territory.

When assessing the effectiveness of any priority social and economic development area, it is advisable to use (as a basis) an approach associated with the diagnosis of the effectiveness of the activity carried out by executive bodies of the constituent entities of the Russian Federation. (See Decree No. 1199 of the President of the Russian Federation "On the Efficiency of the Activities carried out by Executive Bodies of the Subjects of the Russian Federation" dated 08.21.2012).

This Decree provides a list of indicators for assessing effectiveness; the list consists of 11 indicators which, in our opinion, can be projected to one degree or another with the final results of the priority social and economic development area activities. Those are, in particular, life expectancy at birth, investment in fixed assets (excluding budgetary funds), GDP, cash income, etc.

It is particularly noteworthy that the use of these provisions provides a methodological unity in assessing the effectiveness of a regional socio-economic system. It can also be pointed out that the subject of evaluation by executive authorities and the priority social and economic development area is, in principle, identical. [10]

Using the analogy method, it can be assumed that the algorithm for diagnosing the effectiveness of a priority social and economic development area of a regional economic system should be considered as the comprehensive analysis of the priority social and economic development area effectiveness in the regional socio-ecological-economic system. In this case, it is necessary to use a system of composite indices that are correlated with the indicator "population size". Among such parameters, it can be noted the volume of investment in fixed assets, the output of products and services by small businesses, the unemployment rate, real income, etc.

This approach allows us to identify the synergistic effect of the priority social and economic development area in the regional economy. The very concept of synergism for a priority social and economic development area in a regional economy can be seen as a transition from the principles of economy with the scale of activity, the key source of which is the mutually beneficial joint activity of the backbone components of the priority social and economic development area in the regional economy. And, in general, this is natural, because any, even the most complex, dynamic system initially seeks to maximize the effect by striving to maintain its integrity, maximize the use of cooperation opportunities to achieve the desired effects.

In other words, here we see a reflection of the complex system emergent principle, when the final results for a combined action of a group of factors, as a rule, always differ from the ordinary sum of the separate effects of these factors. In such, the so-called synergistic (effective cooperation, interaction) effects is the quantitative expression of synergy.

The synergy theory assumes that a certain combination of elements of the entrepreneurial structure exists, in which its total potential will be significantly different in one direction or another from the sum of the potentials included in the studied structure of elements. At the same time, it is necessary to highlight not only the combination of potentials of the elements of the entrepreneurial structure, but also their coordination and the effectiveness of mutually supportive ties.

In general, a priority social and economic development area is intended to achieve two particularly significant results:

1. strategy formation, identification of managerial capabilities and potential resources that the priority social and economic development area and its elements should mobilize in strategic areas of activity of their choice;
2. short-term allocation of resources between the strategic areas of the priority social and economic development and their elements in the regional economy. [11]

In this case, there is a reliable chance to ensure a synergistic effect by maximizing use of the functional, strategic and managerial capabilities of a priority social and economic development area.

It seems to us that the methodological provisions under consideration for diagnosing the effectiveness of a priority social and economic development area in the regional socio-ecological-economic system are not only able to serve as the basis for assessing the effectiveness of the priority social and economic

development area, but will also allow the formation of an optimal structure for strategic management of priority social and economic development areas. [12]

CONCLUSION

- In the context of increasing international competition, one of the most important ways for a balanced and sustainable development of the Russian economy is the need for the rapid creation and effective functioning of special economic zones.
- In the course of the study, we specified and established that a priority social and economic development area (PSEDA) should be understood as a separate part of the country's territory, within which domestic and foreign entrepreneurs are provided with special preferential conditions for organizing and conducting industrial, financial and commercial activities.
- This situation is set so that these industries can act as territorial innovative and industrial development "points", and thus transformation processes in the structure of the regional economy will be mobilized.
- Our study allowed us to distinguish three groups of factors in the organizational and economic system of any priority social and economic development area (tax incentives, financial preferences and administrative preferences) and justify the feasibility of using a factor model for managing such systems. Such an approach allows for a detailed analysis of the interests of all participants in the priority social and economic development area with the identification of their social, economic, environmental, institutional and technological interests.

CONFLICT OF INTEREST

The authors confirm that any conflict of interest is absent.

ACKNOWLEDGEMENTS

None.

FINANCIAL DISCLOSURE

None.

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ARTICLE

INFORMATION SUPPORT DEVELOPMENT MECHANISM FOR ENVIRONMENTAL MANAGEMENT OF NATURE USERS

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ABSTRACT

At the end of the 19th century, one of the founders of environmental science D. Haeckel noted that everything in our world is interconnected and all human errors can negatively affect nature, and also future generations. Soviet scientist V.I. Vernadsky called for the development of an organic connection between the "economic man" and nature. Obviously, in the 21st century, not all entrepreneurs, and even politicians, realized that techno genic civilization is a direct threat to nature per se, and therefore to civilization itself. Apparently, for this reason, the matrix of techno genic civilization is constantly increasing momentum, focusing all efforts to cause irreparable damage to the environment. It seems to us that the prospects for civilization development are possible only if the strategies of nature and man are consistent. The environment is so destabilized everywhere that its restoration will require enormous human and financial resources. However, nowadays there are very few states that are able to allocate budgetary means to solve environmental problems. In our study, we settled on the accounting aspect, which is the source of information support for strategic management system of environmental activities by nature users.

INTRODUCTION

KEY WORDS
sustainable
development, corporate
management system,
environment,
information base, nature
management

Infection is a dynamic process involving invasion of body tissues by pathogenic micro-organisms and their toxins. Nosocomial/ hospital/ acquired infections are those which are not present or incubated before admission of patient to the hospital but obtained during the patient's stay in hospital. Lab coats, nurses' uniforms and other hospital garments, materials and articles may play an important part in transmitting pathogenic bacteria in a hospital setting. The hands of healthcare personnel are most commonly implicated in transmitting the pathogens [1]. Various nosocomial pathogens, such as methicillin-sensitive *Staphylococcus aureus* (MSSA), methicillin-resistant *Staphylococcus aureus* (MRSA), vancomycin-resistant *Enterococci* (VRE) and gram negative organisms is well documented [2]. Specifically, in the area of dentistry, health care professionals are routinely exposed to potentially pathogenic microorganisms which are present in the surrounding environment. Most of them originate from the mouths of patients [3]. Contamination may occur from instruments through contamination vectors. These contaminated object infections may be transferred from patient to patient or from patient to professionals [4]. Methicillin resistant *Staphylococcus aureus* which is the most pathogenic microorganism, comes in contact with health care professionals via direct hand contact with contaminated body fluids, devices, items or environmental surfaces [5].

There are very few studies regarding the wearing and laundering of lab coats in hospitals and medical practice. This study highlights the role of lab coats acting as vector for transmitting health care infections to the patients and the common areas where contamination occurs.

MATERIALS AND METHODS

The basis of the study was a set of theoretical provisions and practical recommendations from Russian and foreign researchers aimed at environmental economics concept development (the theory of sustainable development, the methodology of the concept activity, the doctrine of balanced environmental management, etc.)

During the study, general scientific and special research methods were used: determinant comparisons, expert estimates, chain substitutions, comparison, and generalization.

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The information base of the study was the information of the Federal State Statistics Service of the Russian Federation; theoretical and applied scientific publications of the methodologists of accounting, control and economic analysis.

Received: 24 Jan 2019
Accepted: 2 Mar 2020
Published: 10 Mar 2020

RESULTS

The accounting methodology as an essential medium of information always uses the concept of “expenses”.

During the subsequent stages, clarification takes place - thus, these expenses are formed, the ways they affect the carrying value of the nature user, etc. The process of identifying the eco-costs incurred regarding accounting goals, analysis, diagnostics and rationing during calculation the cost of finished good production is based, first of all, on the ordinary scheme of cost formation adopted in the practice of business entities [2.8].

Secondly, such identification fits well with budgeting rules, in accordance with which it is necessary to show under the heading “Other expenses” all the agreement expenses with partners for the provision of services and environmental management work that are not reflected in other cost elements.

In the budgeting system, primary information flows are generated in the form of planned and actual summaries of indicators for the implementation of budget assignments by groups and expense items for each environmental project.

During the initial stage of environmental protection measure implementation, most of the total costs are associated with investment (capital) investments (expenses).

However, during subsequent stages, the so-called "running costs" begin to prevail. It should be noted that the largest group of eco-expenditures is included in compensation, the value of which remains unpredictable for many nature users, and therefore not regulated, which is associated with the inability to plan technological situations.

As these costs are accumulated, they are structured in the form of the “Eco-expenditures” analytical element as the part of the corresponding synthetic accounting.

It should be noted that, in practice, when they introduce ordinary accounting, it is unlawful, in our opinion, to use many different classification signs of environmental protection measure cost differentiation for enterprises, including pre-production and post-production; permanent and temporary; environmental expenditures; waste management; exploration work; landscaping, etc. [1,5].

All this confirms the need to introduce a single unified classification that meets the objectives and goals of accounting, analysis and control.

All this also requires clarification of the classification signs to identify the types of eco-expenditures for the needs of modern accounting, controlling and internal control, among which are capitalization, communication with production factors, coordination with government bodies, target orientation, the system of analytical articles, etc.

To assess and diagnose the composition and content of current expenses for environmental standard provision and their effect determination, it is advisable to divide all expenses into two groups, taking into account, respectively, fixed (operating) costs and situational (sanctioned) costs.

It is very convenient to apply such a classification for the following reason:

- With this classification of expenses, you can use all generally accepted (normative) classification features;
- They can be normalized, which already updates their production needs;
- Information on such expenses is also of public interest, which indicates the need for their identification and evaluation.

A particularly acute problem is the need to compensate for current costs to ensure environmental standards.

Entrepreneurs, as a rule, try to include them in the cost of production to return these costs into economic turnover through the proceeds from finished product sale. However, this undoubtedly negatively affects the competitiveness of the products sold.

We have to admit that, in accordance with current standards, eco-expenditures are not considered as the part of environmental expenditures.

It seems to us that we need to get away from this practice and include all environmental costs in the relevant budget items for each environmental project of the enterprise. It is also advisable that the regional governing bodies should be obliged to pay great attention to the very facts of enterprise funds directing for environmental protection.

In these conditions, it is necessary to cultivate an environmentally friendly business for the whole society without serious losses of its profits in general.

All mentioned above allows us to say that the search for methods for the accurate identification of costs, expenses, assets, liabilities, etc. in the general array of general business facts of everyday activities reflected in the accounting system, as well as the development of accounting policies and optimization of analytical account conduct methods should be studied as constantly evolving needs of the strategic management system for business [3.6].

At the same time, we do not share the popularization of definitions, such as "environmental business", "environmental market", etc.

In our opinion, such a discrepancy introduces confusion in understanding the methodology of ecosystem study from any point of view, whether it philosophical, economic or social understanding, not to mention accounting, analytical and control aspect [7.8].

In fact, the knowledge of the theoretical principles of environmental economics nature is an extremely important research process that determines the sustainability of applied knowledge and skill development. And this is natural, because a misunderstanding of any phenomenon essence will definitely lead to serious misconceptions in the processes of a justified system development concerning the strategic management of processes to minimize the negative impact of the emerging technogenic environment on living objects of nature and on the surrounding natural environment. The process of forming an information base for the needs of shareholders, investors, managers and government agencies is just the organic part of all this.

At the same time, we share the approach of one of the leading methodologists of Soviet and Russian accounting V.F. Paley about the possibility of accounting isolation in environmental activities as the subsystem of specialization in accounting, but not as an independent system.

There is no doubt that environmental accounting is of economic importance, because it deals with the accounting of environmental costs, environmental obligations, reporting and the audit of environmental activities. This situation allows you to control costs by responsibility centers, reflect them objectively in the calculation of production costs, to form a complete and reliable information base for the development and adoption of effective management decisions on environmental and economic problems.

In other words, it can be argued that the accounting of environmental expenditures is aimed at accounting for expenses associated with the restriction during ordinary production processes of all types of negative environmental impacts to an acceptable level.

Environmental accounting should be aimed at optimizing the end results of development with minimal damage to the environment. The key problem of the ecological economy in the context of sustainable development concept is the need to develop and improve priority areas and principles of environmental accounting and control, including financial and managerial accounting, as well as periodic reporting on environmental indicators and environmental audit.

There are many works in the specialized literature where the authors are against the isolation of environmental management within the framework of environmental accounting.

Indeed, the isolation of the environmental accounting system relates, first of all, not to accounting problems, but to the problems of environmental activity organization, the implementation of which is associated with the occurrence of costs and obligations, all kinds of expenses and income, the cost indicators of which are reflected in the accounts of accounting.

Environmental accounting is represented in the form of reflection processes in the accounting of environmental costs and liabilities and socio-environmental and economic results of enterprises with the aim of strategic business management and optimal economic and environmental niche development in the commodity market.

The main functions of environmental accounting:

- economic regulation importance increase;
- cost controlling activity increase;
- the development of new economic opportunities;
- management and control of environmental measures;
- consideration of possible risk problems;
- mandatory regular reporting.

It must be admitted that the abovementioned functions, in general, are not directly related to the climate system of accounting.

We also consider it is necessary to dwell on environmental passports recommended by the Russian national standard GOST R 17.0.06-2000 "Nature Protection. Ecological passport of nature user". Initially, it was

assumed that all the details of this Passport are intended for the experts in the field of the nature user budget control. (This is a kind of platform for targeted environmental audits).

At the same time, this passport has a number of drawbacks - it is excessively redundant regarding the environmental activities of an economic entity; it does not have financial sources for environmental activities; it is associated with the need for professional training of performers, etc.

The difficulties of environmental expenditure objective accounting, of course, impede interest and reduce the liability of enterprises in environmental protection enhancement.

The current information about the actual volume of capital investments to ensure the environmental safety of production and current costs for environmental protection measures do not allow a complete reliable picture of production cost dynamics.

It seems to us that the statistical report on the environmental obligations of enterprises should be supplemented by references, annexes (transcripts) in physical and value terms.

CONCLUSION

The need to ensure environmentally sound nature management in modern conditions requires, inter alia, the development of an effective mechanism for information support of environmental projects in the corporate sphere of management. The study found that there are many approaches to reflect the main indicators of accounting and reporting regarding the formation of national and international standards for environmentally sound environmental management. We have concluded that it is inappropriate to introduce a separate, independent system of environmental accounting. At the same time, we adhere to the approach in which special regulatory requirements are necessary to account for special expenses concerning environmental expenditures. Such an approach, in our opinion, will make it possible to establish a reliable accounting of expenditures on environmental activities and calculate the effectiveness of such targeted measures.

CONFLICT OF INTEREST

There is no conflict of interest.

ACKNOWLEDGEMENTS

None.

FINANCIAL DISCLOSURE

None.

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ARTICLE

THE ECONOMIC MODELLING FOR THE CARTEL DETECTION

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ABSTRACT

Background: The urgency of finding an effective methodology for identifying cartels is due to the need of reducing the negative effects of the cartelization in the country's economy. The use of cartel detection methods will allow solving the problems of preliminary monitoring of commodity markets and trading. Methods: The study allowed the authors solve the problem of applicability of the methods for assessing concentration and correlation models of two types to determine the probability of the cartel presence: determining the correlation between prices of participants in the commodity market; correlations between prices and cost of product market participants. The study made it possible to draw a conclusion about the applicability of these economic methods for cartels detection in commodity markets. Conclusions: Summing up the research results, it should be noted that the use of the economic methods of cartels detection makes it possible to find out cartels on commodity markets. The expediency of using indicators characterizing market concentration and correlation models is confirmed. Noting the complexity of using these methods, it can be stated that the assessment of concentration is more accessible and simple method. Detection of cartels at the auctions is possible with the use of participants' behavioral models that contradict competitive behavior.

INTRODUCTION

KEY WORDS

cartel, commodity market, bidding, detection methods, concentration factors, correlation models

The scientific problem of the economic detection of cartels and other anticompetitive agreements is relevant to the processes of reducing the negative impact of the cartelization effects to the economy. As noted in the work of Khamukov, 2006 [1], cartelization leads to a shift in market equilibrium and is characterized by a simultaneous increase in price and a decrease in the volume of supply. In the course of anti-competitive agreements, the competitive relations are replaced by the network structure coordinating group behavior of externally independent economic entities. The essential sign of the presence of a cartel is the uniform and coordinated in time behavior of market entities contrary to the principles of free competition. Such actions include the rejection of transactions, the provision of production facilities and other means of production of a competing company, the rejection of methods of price competition, etc.

Considering the approaches to the economic detection of cartels, it is first necessary to identify the differences in methods for the different types of cartels described in Art. 11 (Federal Law of the Russian Federation "On Protection of Competition", 2006). The probability of the presence of cartels in commodity markets is detected using sectoral concentration estimation methods and two correlation models, the first of which estimates the prices of participants in the commodity market, and the second, reflected in the work Porter & Zona [2], the ratio of their changes prices and costs. As noted in the work Porter & Zona [3], an additional feature of the creation of a cartel is the formation of industry alliances and associations. Examples of the use of these assessment tools according to data on socially significant and priority markets of the Sverdlovsk region are given in the article Kokovikhin et al [4].

In the course of economic detection of the presence of a cartel at auction, indicators characterizing the differences in the behavior of bidders from the competitive model are used. Confirmation of the presence of a cartel is structural changes in the pricing of participants before and after the creation of the cartel, identified by building a price series.

As noted in (Report on the state of competition in the Russian Federation, 2013), a model of cartel formation at auctions for the purpose of dividing lots among bidders is common. This model was used by a group of companies for deliveries for the needs of law enforcement agencies (decision of the Federal Antimonopoly Service of Russia dated 10.05.2012 N AC / 14399 in case No. 1 11 / 143-11), road-building firms (Decision Moscow Office of the Federal Antimonopoly Service of Russia dated 13 February 2012 in case No. 1-00-277 / 77-11) and others.

In foreign literature, two models of cartel detection at auctions are given, the first one is reflected in the work of Baldwin et al. [5]. It uses traditional methods of comparing models, such as logarithmic probability. The second model presented in the work Bajari and Lixin [6] uses the approach of determining the probability of the presence of a cartel during bidding, compares the structural models of "collusion" and "competition" and calculates probability distributions.

It should be noted that the economic detection of cartels at the auction should take into account the practice of attracting pseudo-bidders who do not engage in economic activity and are identified by the absence of indicators of economic activity in external reporting. Attraction of pseudo-participants, as a rule, is accompanied by their subsequent deviation from the bidding procedure due to various reasons: lack of licenses, tolerances of self-regulatory organizations, financial resources, etc.

Received: 21 Feb 2020
Accepted: 5 Mar 2020
Published: 15 Mar 2020

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Thus, based on the theoretical basis for identifying cartels in commodity markets and trades, it is necessary to solve the scientific problem of determining the applicability of these models for practical use in the economic detection of the presence of cartels. The solution of this task is based on an empirical analysis of the presence of the signs indicated in the theory in cases of identified cartels whose existence has been proven during investigations by the Federal Antimonopoly Service of the Russian Federation.

MATERIALS AND METHODS

To solve the problem of identifying the applicability of the economic methods for cartels detection on commodity markets and trades, research hypothesis complexes have been developed, shown in [Fig. 1, 2].

The first hypothesis of the study involves determining the dependence of the presence of a cartel on the level of market concentration. The first indicator used to test the hypothesis is the Herfindahl -Hirschman index described in work Bajari [7]. As noted work in work of Karelin [8], a decrease in the value of this indicator implies a decrease in concentration, which may indicate a complication of the market structure and a decrease in the positional influence of individual companies, and a corresponding decrease in the probability of cartel formation.

The second direction of testing the hypothesis of the effect of concentration is considered in the article Lyamar, [9] and involves the calculation of concentration indices of three and four major market participants.

Within the framework of the second hypothesis, it was suggested that during the formation of a cartel, a change in the correlation dependences of the economic indicators of the cartel participants is observed.

H1: Cartels are formed on high concentration markets	Herfindahl-Hirschman Index $HHI = \sum_{i=1}^n S^2$ where Si - share of each individual market participant	> 1800 - highly concentrated market; 1000 to 1800 - middle concentrated market; 1000 - low concentrated market; a decrease in the value of the indicator implies a decrease in concentration, which may indicate a complication of the market structure and a decrease in the positional influence of individual companies
	Level of market concentration CR3= C1+C2+C3 CR4= C1+C2+C3+C4	The higher the obtained value and closer to 100, the more monopolized the market
H2: When forming a cartel, there is a change in the correlation dependencies of the economic performance of the cartel members	Evaluation of the prices correlation of participants in the commodity market $\bar{y}_x = f(x),$ \bar{y}_x - arithmetic average (conditional average) of all possible values of the price of the i-th market participant, which corresponds to the value X = x of the price of the j-th market participant	Price correlation means that there are prerequisites for the formation of a cartel
	Evaluation of the correlation of prices and costs of participants in the commodity market $K1 = \frac{\Delta P}{\Delta Q}$ where ΔP - price change for the period; ΔQ - cost change for the period	The absence of correlation between prices and costs means that there are prerequisites for the formation of a cartel

Fig. 1: Hypotheses of testing economic methods for cartels detection on commodity markets

In the first case, the approach is based on determining the dependence of the prices of “independent” market participants and is considered in work of Michihiro [10]. The hypothesis of independence of participants in the pricing process is confirmed provided that the correlation coefficient for the prices of participants in the commodity market tends to zero. As noted in [8], correlation analysis is performed on the basis of pairwise comparison of prices of companies participating in the same auction.

In the second case, the approach is based on the assumption that the abuse of market power arises when price increases cannot be fully justified by rising costs. Consequently, the correlation coefficient in a competitive market should strive for one, and in the presence of cartel collusion to zero. If the correlation is

THE IIOAB JOURNAL

high, the behavior of market participants or bidders is assessed as reasonable; in case of inconsistency between price changes and cost, a cartel is possible.

Next, we present the formulation of a hypothesis to test the economic methods of cartels detection at auction.

H3: Observed differences arise in the behavior of cartel members and independent bidders when a cartel is formed.	Pricing Differences	A sign of cartel presence is a sharp increase or decrease in price
	Behavioral Indicators	Deliberately unfavorable solutions from the economic position of the company

Fig. 2: Hypotheses of testing economic methods for cartels detection at auction

This method involves comparing the behavior model of cartel members and independent bidders. The essential feature is a discrete change in the functions of pricing firms. It should be noted that econometric evidence of structural changes is not a complete proof of collusion, since it does not distinguish the resulting gaps in behavior during the cartel collusion from other causes. Screening abrupt price changes is to a large extent a method of mass assessment of indicators when searching for cartels, while estimating marginal income implies conducting local research.

The information base of this study includes the data of the decisions that established the facts of violation of Section 2, Part 1, Art. 11 of the Law on the Protection of Competition of the Russian Federation and sampling carried out in the context of cartel participants recognized by these decisions in the databases of the Unified Procurement Information System (<http://www.zakupki.gov.ru/epz/main/public/home.html>), and also of the System for Professional Analysis of Markets and Companies (SPARK-Interfax (<http://www.spark-interfax.ru/>)).

RESULTS

To test the hypotheses of the possibility of using the economic methods for cartels detection on the commodity markets, proven cases of cartel detection were selected: cartel of manufacturers of oil-immersion cable (case No. 1-11.1-37 / 00-22-15), cartel, including salt wholesalers (case No. 1- 00-37 / 00-22-13), cartel, including wholesalers of frozen fish (case No. PK-05/14400).

Further, indicators were calculated for the relevant markets, the year preceding the identification of the cartel was chosen as the time period, the results are shown in [Table 1].

Table 1: The results of applying the economic methods for cartels detection

Economic Detection Indicator	Cartel of manufacturers of oil-immersion cable	Cartel, including salt wholesalers	Cartel, including wholesalers of frozen fish
Herfindahl-Hirschman Index HHI	3 800	4 000	1 200
The level of market concentration of the three largest participants CR3	25	23	4
The level of market concentration of the four largest participants CR4	32	26	5
Evaluation of the correlation of prices of cartel members (the value of the correlation coefficient)	0,7	0,81	0,54
Estimation of price and cost correlation of cartel members (value of correlation coefficient)	0,21	0,3	N/A

The calculations made allow us to draw the following conclusions about the applicability of the economic methods for cartels detection on commodity markets. Indicators characterizing market concentration confirm the hypothesis that participants in concentrated markets tend to form cartels. In all cases, both the Herfindahl-Hirschman index and the concentration ratios of the largest market participants indicate that the product market is highly concentrated. It can be concluded about the possibility of using concentration indicators for the economic detection of cartels on commodity markets.

To test the hypotheses of the possibility of using the economic methods for cartels detection at auction, proven cases of cartel detection were selected: Cartel in the field of construction and installation works (case No. 391), Cartel in the field of road construction (case No. 1-11-21 / 00-22-18) and etc.

During the analysis of the first case, the behavioral indicators given above are observed. The most active bidders gradually reduced the initial (maximum) contract price by 44% from RUB 21 947 434.52 up to RUB 12 290 375,82 thereby reflecting both the sign of a “sharp drop in price” and the sign of a “deliberately unprofitable decision from the point of view of the firm’s economy”.

At the same time, according to the data presented by the electronic platform to the antimonopoly body, the entrance to the website of the electronic platform during the disputed auction, and all actions to post and change documentation, as well as the filing of applications by these economic entities were carried out from a single IP address.

According to the protocol of summarizing the electronic auction, the second parts of the active participants’ applications were deemed non-compliant with the requirements established by the documentation of the electronic auction, due to the lack of a self-regulating organization for admission to work that affect the safety of capital construction projects, as a result of which the said business entities left the auction without loss of security for bids, and the contract on the results of the auction was concluded with the participant who offered the best price after the first two participants.

Thus, during the preparation and participation in this open auction, the pseudo auction participants having reached an agreement and having the opportunity to exchange information reduced the offers to economically disadvantageous for bona fide auction participants, while deliberately excluding the possibility of positive consideration of the second parts of applications and concluding a contract with them bidding.

DISCUSSION

It should be emphasized that the study confirmed the theoretical conclusions presented in the works of Baldwin et al. [5], Karelin [8], and Lyman [9]. The presence of a cartel, confirmed by evidence, is indeed characterized by indicators of high market concentration, in particular, the Herfindel-Hirschman index. An increase in the value of this criterion indicates an increase in market concentration and an increase in the likelihood of a cartel. The relationship between the high value of the concentration indices of the three and four largest market participants and the high probability of the presence of a cartel was also confirmed.

As a result of testing the second hypothesis, based on the theoretical conclusions of Bajari [6] and Baldwin L, Marshall R, Richard J [5], it was not possible to obtain full agreement. When forming a cartel, a change in the correlation dependencies of economic indicators of cartel participants is not always observed.

CONCLUSION

According to Reports on the state of competition in the Russian Federation 2016-2017, starting in 2014, such a scheme for creating cartels in trades amounts to hundreds of cases. The cartels themselves at the auction began to acquire all the signs inherent in organized criminal groups and criminal communities: structure, stability, distribution of roles.

Summing up the research, it should be noted that the use of economic methods for cartels detection makes it possible to find out cartels on commodity markets. The expediency of using indicators characterizing market concentration and correlation models is confirmed. Noting the complexity of using these methods, it can be stated that the assessment of concentration is more accessible and simple method. Detection of cartels at the auction is possible with the use of participants’ behavioral models that contradict competitive behavior.

CONFLICT OF INTEREST

There is no conflict of interest.

ACKNOWLEDGEMENTS

None.

FINANCIAL DISCLOSURE

None.

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