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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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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

Vasco Azevedo, Editor-in-Chief
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ARTICLE

ECONOMIC EFFECT OF APPLICATION OF THE SOURCING'S MANEUVER MODEL

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ABSTRACT

Currently, one of the main problems of Russian industrial enterprises are giant production areas, which generate high overheads, which determine a high level of break-even. One of the effective tools that increase the competitiveness of an enterprise is the sourcing's maneuver model, however, like any other business tool, a sourcing's maneuver with illiterate use can weaken a company's competitive advantages. Therefore, the most important factor in deciding on the use of the sourcing's maneuver model is a competent economic assessment. The aim of the work is to consider the application of the sourcing's maneuver model at an industrial enterprise for the effective restructuring of production areas and the presentation of some methods for assessing the economic effect of the use of this model. Based on the analysis of the break-even level and changes in the marginal profit of products, two methods are presented for assessing the economic effect of the use of the sourcing's maneuver model. The authors have developed and proposed two methods for assessing the economic effect of using the sourcing's maneuver model. The presented methodologies for assessing the economic effect of the application of this sourcing's maneuver model are not the only possible ones. Also, these techniques are not universal for evaluating all existing sourcing's maneuver models. The proposed methods for assessing the economic effect of the use of the sourcing's maneuver model are undoubtedly interesting from the point of view of further research in this area, and may be of interest to managers and specialists of economic services of large industrial enterprises.

KEY WORDS
production outsourcing, sourcing's maneuver, enterprise restructuring, economic effect.

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INTRODUCTION

Currently, one of the main problems of Russian industrial enterprises are giant production areas, which generate high overheads, which determine a high level of break-even. The relatively high value of this indicator significantly reduces the viability of the enterprise in modern conditions of unpredictable reduction of sales markets. Therefore, one of the most sought-after tools to reduce overhead costs and the break-even point is the use of restructuring production outsourcing [1]. However, there are many disputes about the effectiveness of this tool in the enterprise. In other words, outsourcing as well as a takeover and merger strategy can both increase the competitiveness of an industrial enterprise and reduce it [2]. For example, one of the main advantages of outsourcing is the release and redistribution of resources to solve more acute or vital problems [3], and the disadvantages are the loss of control over resources [4].

A similar situation exists with other sourcing models, for example, insourcing, on the one hand, allows the company to reduce the costs of unused production capacity, and, on the other hand, reduces the ability of the enterprise to adapt to ever-changing needs and localization volumes [5]. And the use of single-sourcing allows, on the one hand, to closely integrate with the supplier and reduce the number of transactions [6], and, on the other, to monopolize the position of the supplier [7]. Therefore, to achieve a positive effect from the use of restructuring production outsourcing, the sourcing's maneuver model should be applied [8].

The purpose of this work is to consider the application of the sourcing's maneuver model at an industrial enterprise for more efficient restructuring of production areas and the presentation of some methods for assessing the economic effect of the use of this model.

MATERIALS AND METHODS

There are several models of sourcing's maneuver, among which are the following models associated with the restructuring of production areas and the use of industrial outsourcing:

1. localization of components of third-party products [9];
2. creation of joint venture on the basis of subsidiary [9];
3. additional charge of floor spaces by providing outsourcing services [9];
4. use of components from local outsourcers for the products of an assembly plant [10];
5. localization of the components of the joint venture products [10].

Let us consider in more detail the sourcing's maneuver model "localization of components of the joint venture's products". The essence of this model is as follows: the customer allocates part of his units to create a joint venture with a partner, then transfers the production of one or another component to this enterprise, while retaining part of the production process [Fig. 1].

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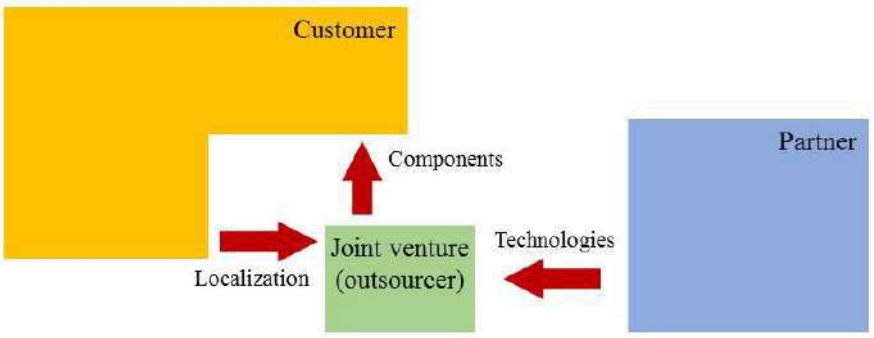

Fig. 1: Localization of the components of the joint venture's products.

An example of the use of this sourcing's maneuver model is the use of restructuring production outsourcing at the largest domestic automobile manufacturing enterprise PJSC «KAMAZ», which was accompanied by the creation of joint ventures «KAMMINZ KAMA», «Federal Mogul Naberezhnye Chelny», «ZF KAMA», «Knorr -Bremze KAMA» and the localization of some components of the products of these joint ventures at the plants of PJSC «KAMAZ». The main advantages of using this model of sourcing's maneuver for an enterprise are [11]:

- reduction of fixed costs associated with the maintenance of production areas;
- partial recovery of loss of marginal profit;
- reduction of prices for JV products;
- reloading production areas.

RESULTS AND DISCUSSION

According to research by Accenture, most organizations do not even have elementary methods and indicators to assess the economic efficiency of outsourcing. As a rule, the management of enterprises to a greater degree relies on the "whims" of the market and the opinion of more competitive outsourcing partners [12].

To assess the economic effect of using the sourcing's maneuver model "localization of components of a joint venture's products", you can use a technique based on an analysis of changes in product profitability when conducting enterprise restructuring. To implement this method, the following indicators are used:

- marginal product profit before and after applying the sourcing's maneuver model;
- the share of customer profits at joint ventures;
- customer's marginal profit from localization of components of joint venture products.

To assess the economic effect, the concept of "full marginal profit of a product after applying the sourcing's maneuver model" is introduced, which will take into account all the indicators mentioned earlier:

$$S_{FMP} = S_{MP} + S_{PJV} + S_L, \quad (1)$$

S_FMP – full marginal profit of the product after applying the sourcing's maneuver model;
S_MP – marginal product profit after applying the sourcing's maneuver model;
S_PJV – total profit in a joint venture per unit of output;
S_L – the total profit of the enterprise from the localization of parts for the joint venture products per unit of output.

The very estimation of the economic effect lies in the difference between the total marginal profit of the product after applying the sourcing's maneuver model and the marginal profit of the product before applying this model:

$$E = S_{FMP} - S_{BMP} \quad (2)$$

E – economic effect from the use of sourcing's maneuver model;
S_BMP – marginal profit of the product before applying the sourcing's maneuver model.

If it follows from expression (2) that $E \geq 0$, then the application of the sourcing's maneuver model is effective. If $E \leq 0$, then it is necessary to analyze the change in net profit, which can increase even with a decrease in marginal profit, since the restructuring of production areas significantly reduces the overhead costs of the enterprise. If there was a decrease in the net profit of the product, then the negative economic effect is obvious.

A similar approach can be applied to assess the economic effect of using such sourcing's maneuver models as "localization of the components of the products of a subsidiary company", "localization of the components of products sold by the division," "localization of the components of third-party products", etc. For example, to assess the economic effect of the model "localization of the components of the subsidiary's products" should replace some indicators in formula (1) and use the following formula to determine the display "Full marginal profit of the product after applying the sourcing's maneuver model":

$$S_{FMP} = S_{MP} + S_{PSE} + S_{LSE}, \quad (3)$$

S_FMP – full marginal profit of the product after applying the sourcing's maneuver model;
S_MP – marginal product profit after applying the sourcing's maneuver model;
S_PSE – total profit in a subsidiary per unit of output;
S_LSE – the total profit of the enterprise from the localization of parts for the products of a subsidiary company per unit of output.

The very same assessment of the economic effect is also made using formula (2).

Returning to the sourcing's maneuver model "localization of the components of the joint venture's products", let us present another way to assess the economic effect of the use of this model, which is based on an analysis of changes in the enterprise's break-even level [13].

The change in the break-even point when applying the sourcing's maneuver model can be estimated based on the following formula:

$$E_{BEP} = BEP_{BSM} - BEP_{ASM}, \quad (4)$$

E_BEP – the economic effect of the use of the sourcing's maneuver model at the break-even point;
〖BEP〗_BSM – break-even point before applying sourcing's maneuver model;
〖BEP〗_ASM – break-even point after applying sourcing's maneuver model.

However, the 〖BEP〗_ASM indicator should take into account the marginal profit from the localization of components of joint venture products. Therefore, to calculate the indicator 〖BEP〗_ASM, use the following formula:

$$BEP_{ASM} = \frac{S_{FBSM}}{\quad}, \quad (5)$$

S_FBSM – the value of the fixed costs of the enterprise after applying the sourcing's maneuver model.

This technique also makes it possible to evaluate the economic effect from the use of such sourcing's maneuver models as "localization of components of the products of a subsidiary company", "localization of components of products sold by the subdivision", "localization of components of products of a third-party supplier", etc. However, this should be replaced in the formula (5) S_L indicator for similar indicators, implying the total profit of the enterprise from the localization of parts for the product of the outsourcer (a subsidiary of the unit sold, outside of supplier, etc..) per unit of output.

The presented methodologies for assessing the economic effect of applying the sourcing's maneuver model "localization of components of a joint venture's products" are not the only possible and universal ones for evaluating all existing sourcing's maneuver models, but they allow to more fully assess the influence of various factors and measures on product profitability.

The proposed methods for assessing the economic effect of the use of the sourcing's maneuver model are undoubtedly interesting from the point of view of further research in this area, and may be of interest to managers and specialists of economic services of large industrial enterprises.

CONCLUSIONS

The use of sourcing's maneuver models makes it possible to effectively restructure the production areas, while reducing overhead costs and the company's breakeven level. However, the sourcing's maneuver with its incompetent use may weaken the competitive advantages of the company, therefore, the main criteria for the effectiveness of the sourcing's maneuver models, which include:

- a clear business strategy - allows part of the sourcing's maneuver to synchronize the strategies of outsourcers and partners, contributes to the formation of long-term partnerships between them, more clearly defines their investment behavior [14].
- a harmonious combination of sourcing models is an effective tool for optimizing an enterprise with a reasonable combination of sourcing models, where management is based on predetermined clear principles, applying a sourcing's maneuver strategy [9].

CONFLICT OF INTEREST
There is no conflict of interest.

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None.

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ARTICLE

ASSESSMENT OF ECONOMIC EFFECT FROM APPLICATION OF COMBINED MODEL OF SOURCING'S MANEUVER AT INDUSTRIAL ENTERPRISE

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ABSTRACT

Since the emergence of the concept of "outsourcing" in economic science in economics, the process of forming a new direction, characterized by the development of new models, forms and types of sourcing and on the basis of their strategic development programs, has begun. Each of the currently existing sourcing models has its advantages and disadvantages and its scope. Also today in the scientific and practical literature presents a variety of methods and techniques for assessing the feasibility and effectiveness of the use of a sourcing model, one or another of its type. However, recently, hybrid sourcing models such as space sourcing, noosourcing, and sourcing's maneuver models have become popular. A key feature of hybrid models is to combine the main advantages of sourcing models while minimizing their drawbacks. Models of sourcing's maneuver, unlike co sourcing or noosourcing, have a more complex structure; moreover, large industrial enterprises can apply more complex models of sourcing's maneuver, which include several simple models. Therefore, the issue of developing a reliable methodology for the economic assessment of the use of combined sourcing's maneuver models becomes urgent. The purpose of this work is to reveal the essence of the combined model of sourcing's maneuver and to develop a methodology for assessing the economic effect of the use of this model. The essence of the combined model of the sourcing's maneuver is disclosed and a method for estimating the economic effect of the use of this model is developed. The approach used in the development of this methodology is also relevant in the construction of similar methods for assessing the economic effect of the use of other forms and types of the combined sourcing's maneuver model.

KEY WORDS
Out sourcing, insourcing, sourcing's maneuver model, marginal profit, economic valuation.

INTRODUCTION

Since the emergence of the concept of "outsourcing" in economic science in economics, the process of forming a new direction, characterized by the development of new models, forms and types of sourcing and on the basis of their strategic development programs, has begun. Each of the currently existing sourcing models has its advantages and disadvantages and its scope. For example, today, along with well-known sourcing models, such as insourcing and outsourcing, the crowdsourcing model is gaining popularity, which involves solving volunteer problems using information technology [1].

The main advantages of crowdsourcing are:

1. the ability to test new ideas, products of services on end-users, who are project participants [2];
2. the possibility of attracting third-party expertise [2];
3. the ability to aggregate information, experience, opinions, forecasts, preferences and ratings [3].

Despite the demand for crowdsourcing projects, for example, today such projects are being implemented in PJSC «Sberbank» [4], "NAMI" [5], Government of Moscow [6], this model has its drawbacks, the main of which are:

1. the lack of control and quality assurance is the problem of agency costs and the need to involve expert communities [7];
2. high overhead and associated costs of communication with each individual consumer or consumer groups [8];
3. low efficiency of collective intellectual activity [9];
4. "Matthew effect" - a social phenomenon consisting in the fact that the benefits are received by the one

who already possesses them, and the initially deprived is deprived even more [9].

Similarly, to the crowdsourcing model, outsourcing and insourcing also have their advantages and disadvantages; moreover, certain types and modifications of these models can be effectively applied in some cases and absolutely inexpedient in others. For example, single sourcing and multi sourcing, which are variations of outsourcing, have fundamentally different motives for their use. [Table 1] presents the main advantages and disadvantages of single sourcing and multi sourcing [10].

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Table 1: The main advantages and disadvantages of single sourcing and multi sourcing

	Singlesourcing	Multisourcing
Benefits	Strategic Partnership Getting the expected effects from outsourcing	Competitive environment among suppliers High production capacity
Disadvantages	Supplier monopoly position Capacity limitations	Increase in costs Lack of expected business simplification

For proper selection of the required form or type of sourcing model and its effective application, you should use the appropriate methods and techniques. To date, the scientific and practical literature presents a variety of methods and techniques to assess the feasibility [11; 12; 13; 14; 15; 16] and efficiency [17; 18; 19] application of one or another sourcing model, one or another of its kind.

However, recently, hybrid sourcing models such as space sourcing, no sourcing, and sourcing's maneuver models have become popular. A key feature of hybrid models is to combine the main advantages of sourcing models while minimizing their drawbacks. If space sourcing and no-sourcing imply parallel use of no more than two sourcing models, in particular, sourcing implies combining enterprise resources with third-party resources [20], and sourcing implies organizing expert networking communities that are intermediate between crowdsourcing and outsourcing [21], sourcing's maneuver models have a more complex structure. Moreover, large industrial enterprises can apply complex sourcing's maneuver models, which include several simple models.

MATERIALS AND METHODS

Before revealing the essence of complex models of sourcing's maneuver, consider some simple models associated with the use of outsourcing, insourcing and restructuring of production areas.

Creating a joint venture on the basis of a subsidiary

This model is presented in [Fig. 1].

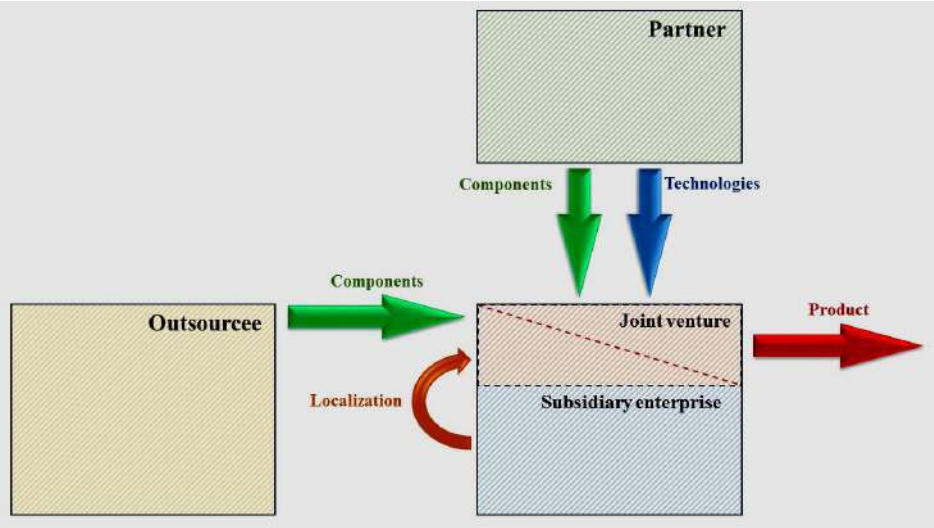

Fig. 1: Creating a joint venture on the basis of a subsidiary.

An example of the use of this sourcing's maneuver model is the creation of a joint venture PJSC «KAMAZ» and «Marcopolo S.A.» on the basis of a subsidiary of PJSC «NEFAZ». This joint venture is engaged in the production of small-class Marcopolo buses based on the KAMAZ chassis [22].

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Use of components from local outsourcers for products of an assembly plant

This model is presented in [Fig. 2].

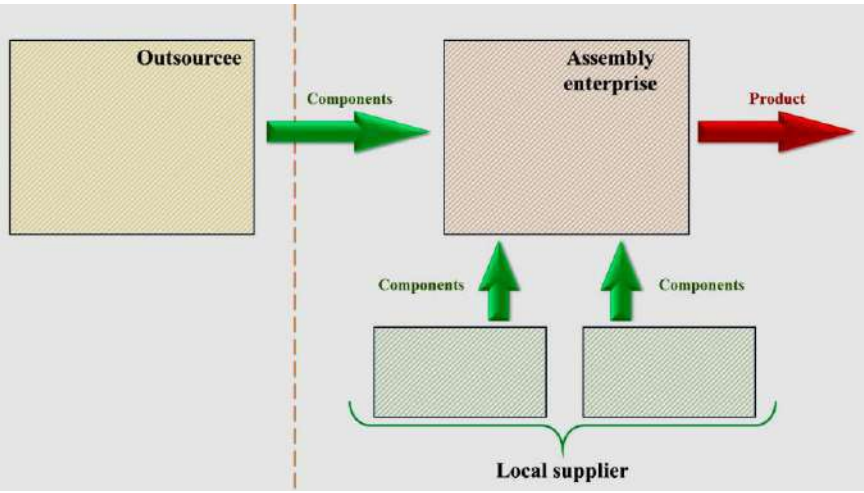

Fig. 2: The use of components from local outsourcers for products of an assembly plant.

An example of the use of this model of sourcing's maneuver is the creation of an assembly enterprise LLC «KAMAZ-Vostok» in the Far Eastern Federal District, which was engaged in the production of special equipment based on the KAMAZ chassis using Korean superstructures and components from local manufacturers [22].

Combined sourcing's maneuver models

As noted above, businesses can apply more complex models that include several simple sourcing's maneuver models. These complex models will be called the combined sourcing's maneuver models.

For example, by combining two simple models "localization of components of a subsidiary's products" and "creating a joint venture on the basis of a subsidiary", we get a complex, that is, unified, sourcing's maneuver model, which can be of a sequential, or parallel, or parallel-sequential type. [Fig. 3, 4 and 5] show the possible schemes of these types of the resulting combined model.

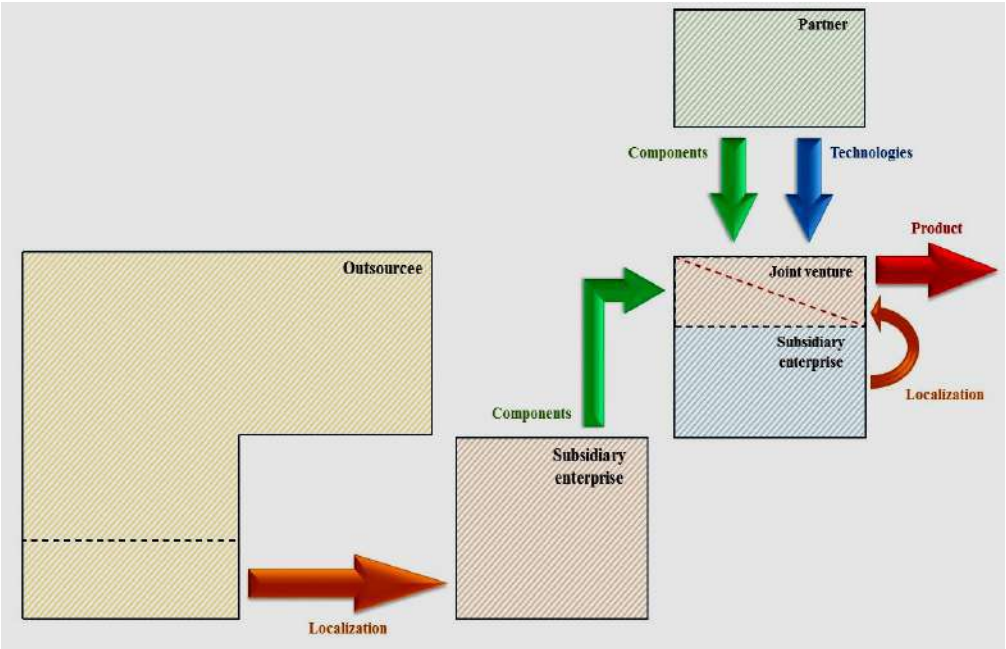

Fig. 3: Combined sequential-type sourcing's maneuver.

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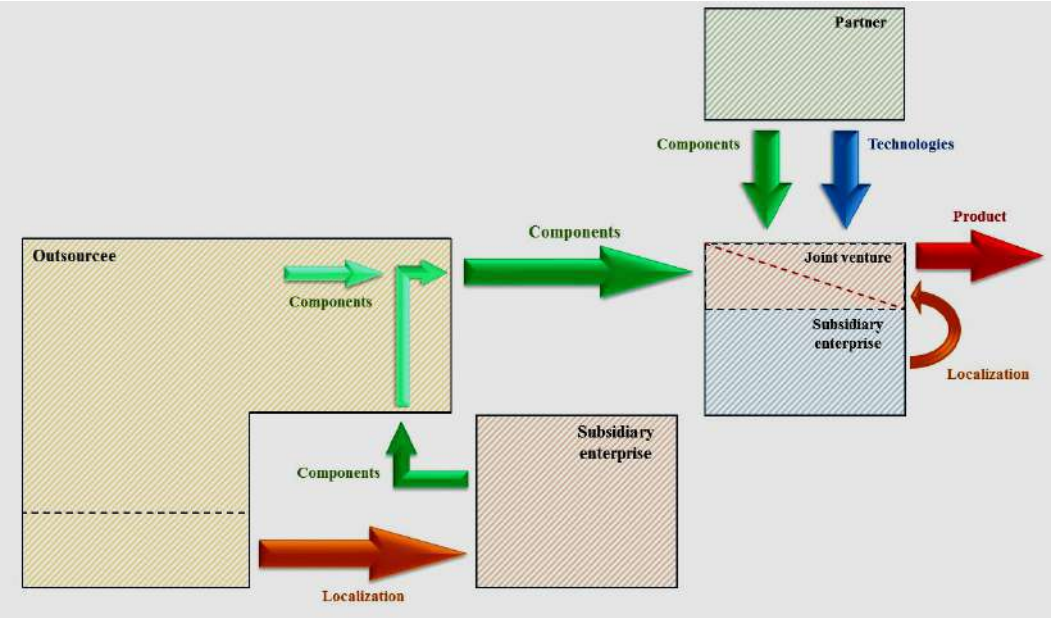

Fig. 4: The combined model of parallel sourcing's maneuver.

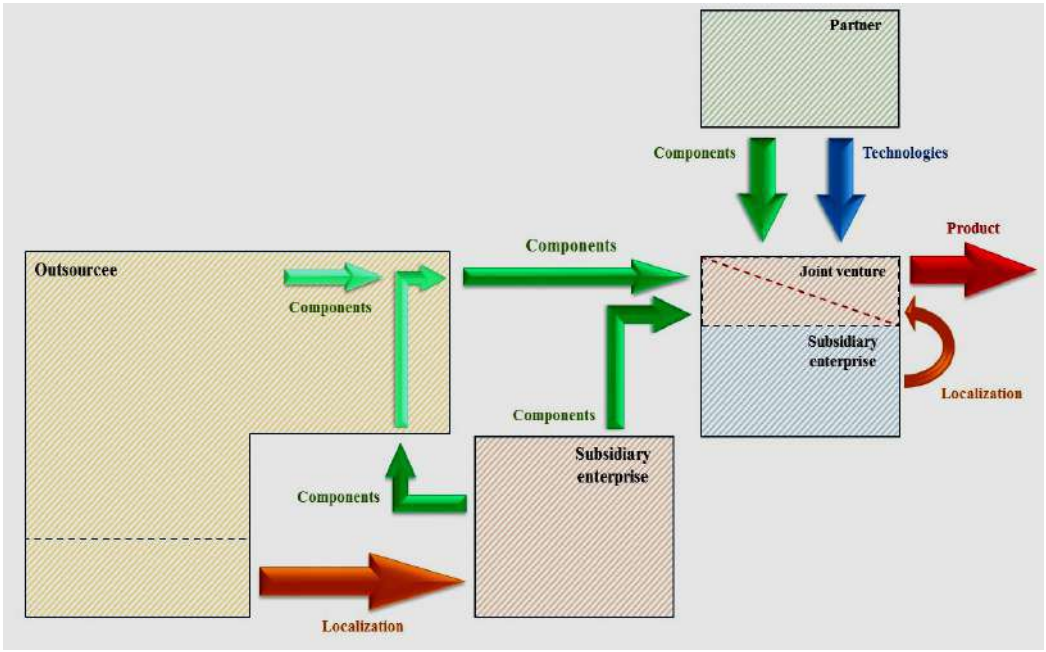

Fig. 5: The combined model of parallel-sequential sourcing's maneuver.

RESULTS AND DISCUSSION

To build a methodology for assessing the economic effect of applying the above presented combined sourcing's maneuver models, we introduce the concepts of "full margin profit of a product before applying a combined sourcing's maneuver model" and "full margin profit of a product after applying a combined sourcing's maneuver model". Full marginal profit before applying the combined sourcing's maneuver model.

This indicator depends on how the product was manufactured before its modernization in the framework of the sourcing's maneuver model. There are two options here:

1. A subsidiary, on the basis of which a joint venture will be created as part of the restructuring, produces a product without the use of components and components from the parent company;
2. A subsidiary company manufactures a product using components and components from the parent company.

If the first option is implemented, the indicator "full marginal profit of a product before applying the combined sourcing's maneuver model" is equal to the marginal profit of a subsidiary per unit of output:

$$S_{FMI} = S_{MI} \quad (1)$$

S_{FMI} - full marginal profit of the product before applying the combined sourcing's maneuver model; S_{MI} - marginal profit of a subsidiary per unit of output before applying the combined sourcing's maneuver model.

If the second option is implemented, the indicator "full marginal profit of the product before applying the combined sourcing's maneuver model" is calculated using the following formula

$$S_{FMI} = S_{MI} + S_{CI} \quad (2)$$

S_{FMI} - full marginal profit of the product before applying the combined sourcing's maneuver model; S_{MI} - marginal profit of a subsidiary per unit of output before applying the combined sourcing's maneuver model; S_{CI} - outsourcee's marginal profit from the production of components and components per unit of product of a subsidiary to the application of the combined model sourcing's maneuver.

Full marginal profit after applying the combined sourcing's maneuver model

This indicator depends on what type of model has been applied. If the enterprise has applied a model of the sequential type, then the indicator is calculated using the following formula:

$$S_{FM} = a * S_M + L_S + S_S + L_O \quad (3)$$

S_{FM} - full marginal profit of the product after applying the combined sourcing's maneuver model; a - the share of outsourcee in the share capital of the joint venture; S_M - marginal profit of a joint venture per unit of output; L_S - marginal profit of a subsidiary from the localization of components of the joint venture's products per unit of output; S_S - marginal profit of the established subsidiary from the production of components of the joint venture's products per unit of output; L_O - outsourcee's marginal profit from the localization of components for the products created subsidiary per unit of output.

If the parallel type of the combined sourcing's maneuver model was applied, the indicator is calculated using the following formula:

$$S_{FM} = a * S_M + L_S + S_{SO} + L_O + S_O \quad (4)$$

S_{FM} - full marginal profit of the product after applying the combined sourcing's maneuver model; a - the share of outsourcee in the share capital of the joint venture; S_M - marginal profit of a joint venture per unit of output; L_S - marginal profit of a subsidiary from the localization of components of the joint venture's products per unit of output; S_{SO} - marginal profit of the established subsidiary from the production of components of the joint venture's products for the transfer of their outsourcee per unit of output; L_O - outsourcee's marginal profit from the localization of components for the products created subsidiary per unit of output; S_O - outsourcee's margin profit from the production of components of joint venture products per unit of output.

If a parallel-sequential type has been applied, the indicator is calculated using the following formula:

$$S_{FM} = a * S_M + L_S + S_O + S_{SO} + L_O + S_O \quad (5)$$

S_{FM} - full marginal profit of the product after applying the combined sourcing's maneuver model; a - outsourcee's share in the share capital of the joint venture; S_M - marginal profit of a joint venture per unit of output; L_S - marginal profit of a subsidiary from the localization of components of the joint venture's products per unit of output; S_S - marginal profit of the established subsidiary from the production of components of the joint venture's products per unit of output; S_{SO} - marginal profit of the established subsidiary from the production of components of the joint venture's products for the transfer of their for outsourcee per unit of output; L_O - outsourcee's marginal profit from the localization of components for the products created subsidiary per unit of output; S_O - outsourcee's margin profit from the production of components of joint venture products per unit of output.

The economic effect is estimated by the difference between the indicators "full marginal profit of a product after applying the combined sourcing's maneuver model" and "full marginal profit of the product before applying the combined sourcing's maneuver model":

$$E = S_{FM} - S_{FMI} \quad (6)$$

E – economic effect from the use of a combined sourcing's maneuver model.

If from formula (6) it follows that $E \geq 0$, then the application of the combined sourcing's maneuver model is expedient and effective. If $E < 0$, then the negative economic effect from the use of the combined sourcing's maneuver model is obvious.

If an enterprise produces more than one type of product, then for economic evaluation it is necessary to enter the indicator "cumulative economic effect from the use of the combined sourcing's maneuver model", which is calculated using the following formula:

$$EC = \sum_{i=1}^{n} E_i \quad (7)$$

EC – the cumulative economic effect of using the combined sourcing's maneuver model; n - the number of product types produced by the enterprise (outsource).

If the indicator "the cumulative economic effect from the use of the combined sourcing's maneuver model" is greater than or equal to zero, that is $EC \geq 0$, the use of the combined sourcing's maneuver model is expedient and effective, and if the indicator is less than zero ($EC < 0$), then the negative economic effect from the use of the combined sourcing model maneuver. The maximum feasibility and effectiveness of the combined sourcing's maneuver model is achieved when each is strictly greater than zero (formula 8).

$$\begin{cases} E_i > 0, \\ i = \overline{1,n} \end{cases} \quad (8)$$

CONCLUSIONS

When assessing the economic effect of using the combined sourcing's maneuver model, in addition to fulfilling condition (8), it is also necessary to take into account how much the marginal profit of the product increased during the restructuring of the enterprise. Therefore, it is necessary to determine the target value by which the company plans to increase the marginal profit of the product through the use of a combined sourcing's maneuver model. This value is determined individually for each enterprise based on a variety of factors, such as, for example, in which industry sector the enterprise operates, what products it produces, and so on. Therefore, to determine the maximum feasibility and effectiveness of the use of the combined sourcing's maneuver model, it is necessary to refine expression (8) as follows:

$$\begin{cases} E_i \geq b_i, \\ i = \overline{1,n} \end{cases} \quad (9)$$

IIOAB JOURNAL
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b - the amount by which outsourcee plans to increase the marginal profit of the product through the use of a combined sourcing's maneuver model.

CONFLICT OF INTEREST

There is no conflict of interest.

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FINANCIAL DISCLOSURE

None.

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ARTICLE

THEORETICAL ASPECTS OF MODELING RESOURCE USE

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ABSTRACT

Today, the concept of "sourcing" is a neologism in economic terminology, and "sourcing economics" is a new direction within the framework of economic sciences, although, for example, scientific articles and monographs are devoted to the problem of identifying such a thing as "outsourcing" It is not surprising because there are no legislative acts regulating this term in the Russian Federation. However, this is only one of the problems of sourcing, which, despite the gaining popularity among entrepreneurs and company executives as a tool to improve the competitiveness of enterprises, as well as among theoretical economists who formulate their own concepts of describing sourcing's relationships and assessing their feasibility and effectiveness, on the one hand has a number of debatable aspects in its specific elements, and on the other, this direction is not formed as a single integral system. This paper discusses the production forms of such sourcing models as outsourcing, insourcing and co sourcing. Developed a number of theoretical positions in order to form the sourcing economy as a single integrated system. The results of this paper may be of interest to theoretical economists as tools for formalizing the fundamentals and basic elements of sourcing economics.

KEY WORDS
Out sourcing, multi sourcing, single sourcing, insourcing, co sourcing.

INTRODUCTION

Today, the concept of "sourcing" is a neologism in economic terminology, and "sourcing economics" is a new direction within the framework of economic sciences, although, for example, scientific articles and monographs on legal specialties are also devoted to the problem of identifying such a concept as "outsourcing" [1-3], which is not surprising due to the fact that in the Russian Federation there are no legislative acts regulating this term [4]. However, this is only one of the problems of sourcing, which, despite the gaining popularity among entrepreneurs and company executives as a tool to improve the competitiveness of enterprises, as well as among theoretical economists who formulate their own concepts of describing sourcing's relationships and assessing their feasibility and effectiveness, on the one hand It has a number of debatable aspects in its specific elements, in particular, for example, at the moment, specialists have failed to create generally accepted and universal techniques for the calculation of the economic effect of the application outsourcing [5], and on the other - this direction is not formed as a single integral system. Of course, sourcing economics, being formed as an integral component of economics, may contain opposing points of view, which is natural due to the fact that these views belong to different economical schools, but the generally accepted formalization of fundamentals and basic sourcing elements within the current mainstream is more than appropriate, since, given the increase in sourcing popularity in theory and practice noted above, the results of this work can serve as a basis for I develop innovative and effective instruments of state support of the economy.

The purpose of this paper is to develop a number of theoretical concepts that could be considered by academic and professional communities as resources for the formation of sourcing economics as a single integrated system.

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MATERIALS AND METHODS

The concepts found in modern scientific and practical literature, in particular, such as "sourcing" [6], "sourcing models" [7], "sourcing strategy", "sourcing technologies" [8] and others, do not have the status generally accepted academic name of the section of economic theory devoted to the study of sourcing models, therefore, taking into account the current tradition, both in economics and in other areas of human activity, which consists in naming a set of generalized provisions that make up science or section, as a theory, in particular, if we are talking about economics, we can cite such examples as "game theory", "firm theory", "contract theory", "reform theory" and others, as well as continuing the vocabulary prevailing in professional vocabulary , which originates from the acronym "outsourcing", which stands for "use of external resources" [9], we offer the name of the section of economic theory aimed at generalizing and systematizing theoretical, methodical, instrumental and other aspects of sourcing, to the "theory of modeling the use of resources." In this paper, we propose the following author's definition of this concept: the theory of modeling the use of resources is a section of economic theory that considers the principle of creation, movement and use of resources in the context of the specifics of the interaction of economic agents.

It should be noted that, firstly, the proposed name of the section of economic theory is copyright and it only pretends to take place as a generally accepted academic name, and secondly, the elaborated definition is not final, as constant improvements and the search for truth in discussions and disputes are a completely natural scientific process.

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IIOAB JOURNAL
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RESULTS AND DISCUSSION

Sourcing classification

The classification of forms and types of sourcing is an open question in the economic literature [10], and this fact is related to the fact that, firstly, each individual sourcing's relationship is individual and it, in view of the characteristics of modern globalization and constantly changing legislative restrictions of various countries may differ significantly from, at first glance, similar relationships [11], and secondly, new sourcing models and types of these models are announced annually in the scientific and practical literature, which is quite natural, since The theory of resource use modeling is a new section of economic theory that is gaining popularity in both academic and professional societies, for example, relatively new sourcing models are crowdsourcing [12], noosourcing [13] and sourcing maneuvers [14]. However, in the economic literature there are more or less established approaches to the classification of sourcing, for example, economist Kotlyarov I.D. identifies the most common classification criteria such as "attitude to the core business of an enterprise", "activities", "content of functions" [15], "location of business processes", "according to the content of the activity of the sorser" and "according to the completeness of the transfer of the business process" [4]. In this paper we will focus on the criteria of "activities", in particular, sourcing by this criterion is classified into the following models:

1. sourcing in the field of information technology;
2. production sourcing;
3. logistic sourcing;
4. accounting sourcing;
5. staff sourcing, etc.

Varieties of production sourcing

In this section of the article, an attempt is made to eliminate some of the misunderstandings found today in scientific discussions regarding the identification of the production form of sourcing and expressed in a somewhat dogmatic understanding of this model, resulting in part of the approaches to assessing the effectiveness and feasibility of business restructuring based on sourcing is either subjected to criticism and does not continue its development, or does not receive proper testing in specific enterprises. This state of affairs, in our opinion, is one of the main limitations of the development of the theory of modeling the use of resources. In this regard, based on the results of sourcing in both domestic and foreign companies, published in the scientific and practical literature, it is proposed to decompose production sourcing into such models as "component sourcing", "process sourcing" and "factor sourcing".

The essence of each model is as follows:

1. In component sourcing, the subject of the transfer to outsourcing, or insourcing, or sourcing is an integral part of the final product, that is, the entire component production is transferred to sourcing, for example, the classification of outsourcing based on the IDEF0 approach allows you to select the so-called outsourcing process input (output) [16], which is essentially component outsourcing. An example of the use of component sourcing is the experience of the automotive enterprise PJSC KAMAZ, as a result of which the company outsourced the production of gearboxes, completely abandoning the production of its own [11].

2. In process sourcing, the subject of the transfer is a business process, for example, a technological process or industrial services. An example of the use of process sourcing is the experience of the PJSC United Machine-Building Plants enterprise, as a result of which equipment servicing was outsourced [17].

3. Factor sourcing implies resource sharing, that is, a resource belonging to a production factor is transferred to sourcing, for example, specialized tools or equipment are rented [18]. An example of the use of factor sourcing is the organization of production in the Kama industrial park "Master", which leases production and office premises with a developed infrastructure support.

Sourcing's relationships and their members

Beginning the reasoning regarding sourcing's relations and their participants it should be noted about two provisions that have been fixed in scientific literature today:

1. Participants are mentioned only when considering such a sourcing model as outsourcing, and here a customer company, called an out source [19], and a supplier or a company, called an outsourcer provider, are contrasted;
2. The situation with sourcing's relations is similar, in particular, single sourcing and multi sourcing relations [20, 21], which relate exclusively to outsourcing, are singled out, and the single sourcer and multi source are the types of outsourcer.

IIOAB JOURNAL
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These provisions, in our opinion, severely limit the development of the theoretical and methodological aspects of the theory of modeling the use of resources, and therefore it is proposed to develop the concepts of “sourcing’s relationships” and “participants of sourcing’s relationships” towards insourcing and co sourcing, where, of course, visual interpretation will be required and the introduction of new concepts. First, consider production outsourcing.

Production out sourcing

In this paper, we propose to rename the concepts of “single sourcing” and “multi sourcing” to “single-outsourcing” and “multi-outsourcing”, respectively, therefore, speaking of participants in sourcing’s relationships, when applying single-outsourcing, the performer is referred to as “single-outsourcer”, when using multi-outsourcing - “multi-outsourcer”.

Production in sourcing

The main difference between insourcing from outsourcing is that the interaction between in source and in sourcer (insourcers) is carried out inside the firm, that is, in other words, the outsourcing of the interaction takes place in the framework of the signed contract, and with insourcing – in the framework established in the company business processes, so the development of the concepts of "sourcing’s relations" and "members of the sourcing’s relationship" in the direction of insourcing is similar with the outsourcing principle, where in source and in sourcer are certain divisions of the company. In this paper we propose to introduce the concepts of "single-insourcing "and" multi-insourcing".

Production co sourcing

Of all the models of sourcing considered in this paper, co sourcing is the most unusual model in terms of the fact that it consists of outsourcing and insourcing, that is, in other words, when co sourcing, the company combines its own resources with the resources of third-party organizations, therefore, speaking about the sourcing’s relations and members of the sourcing’s relationship, the "single-co sourcing" model. This interaction with co sourcee one external and one internal co sourcer, and if in the model appears at least one more co sourcer (internal or external), then this model will be called multi-co sourcing.

The above proposed decomposition of single- and multi-form sourcing models considered in this paper [Fig-1] significantly expands the possibilities of sourcing’s relationships and sourcing participants, and therefore it is logical to suggest the following sourcing classification approach.

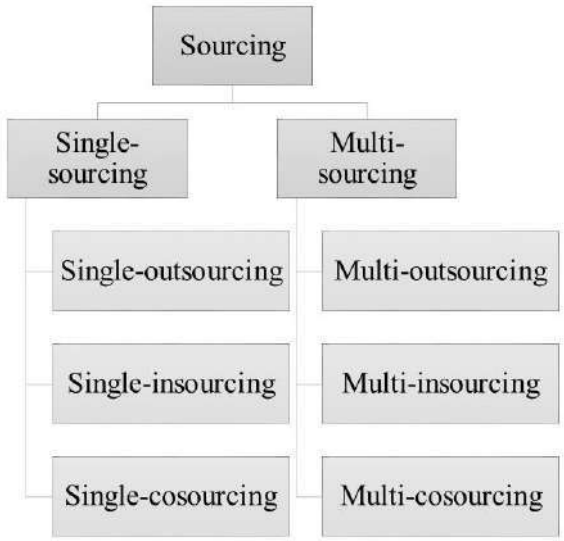

Fig. 1: Classification of sourcing.

CONCLUSIONS

The developed number of theoretical provisions is an element of the author's concept of the formation of the economy of sourcing as a single integrated system, however, the proposed approaches to the classification of sourcing and the developed terms and definitions may be of interest to the academic community as tools for the development of this scientific field, and for economists-practitioners in order to form methodological approaches to assessing the effectiveness of restructuring of large industrial enterprises through the use of sourcing models.

CONFLICT OF INTEREST
There is no conflict of interest.

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ARTICLE

FEATURES THE CONTEMPORARY LEVEL OF ORGANIZATION OF THE INVESTMENT PROCESS IN A RUSSIAN BANK

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ABSTRACT

Orientation of the Russian economy to the innovation way of development of the outputs to the fore the problem of reforming the prevailing mechanisms to meet the needs of economic entities in investment. Significant changes in the development of the banking sector introduced the financial crisis, which has led to a sharp fall in the level of capitalization of banks, lowering the quality of their credit investments, growth of arrears and, as a consequence, the negative dynamics macro-economic indicators characterizing the role of banks in the economy. Among financial institutions, to ensure an effective transfer of national savings in investment banks played a leading role. Designed to become the main source of long-term loans to banks, which in the structure of the sources of financing of investment is planned to double-up 21.8% versus 13.2% in the year 2010. Effective realization of the objectives of the national banking system tasks requires banks to develop innovative approaches to investment and its implementation.

KEY WORDS
investment, bank, the structure of investment assets, promising instruments for investment

INTRODUCTION

Investment banking problems constantly rise to the research pages of many leading Russian and foreign economists [1].

Exploration of theoretical aspects of forming the investment policy by banks and developing methodological support of banks investment activity involves examining the whole range of issues related to assessment the current state of investment activity in Russian banks and determination peculiarities of the approaches for different banks towards realization of their investment policy, as well as factors that determine these peculiarities.

Current state of investment banking is under the influence of two different processes. On the one hand, ambitious program of modernization of Russian enterprises and sectors of the economy, driven by the State, opening up vast prospects for banks to increase the amount of the investment and the effective realization of all tasks. On the other hand, significant changes in the development of the banking sector introduced the financial crisis, which has led to a sharp fall in the level of capitalization of banks, lowering the quality of their credit investments, growth of arrears and, as a consequence, the negative dynamics of macro-economic indicators characterizing the role of banks in the economy [2].

The purpose of the study this article was exploring contemporary level of investment activity in Russian banks. The information base for the study were the statistics for 20010-2018 [3]. The ultimate goal is the instrumentation banking proposals on improvement of investment activity.

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MATERIALS AND METHODS

The research methodology is presented by descriptive methods of analysis and synthesis of literature, logical methods of information processing, methods of comparative analysis. The study used a horizontal, vertical, graphic and ratio analysis. Information base of research information constitute official federal statistical agencies of the Russian Federation.

Multidimensional nature of the subject of research requires the use of the cognitive capacities of the various branches of scientific knowledge, which makes use of a multidisciplinary approach to solving the formulated tasks [4].

RESULTS

Over the last year's crisis developments in the economy increased unstable state of the financial sector. Statistic data served as a basis for analysis [3]. These data had been taken from the public reports of the Bank of Russia [Table 1].

For the purpose of estimating the potential that Russian banks currently possess let's compare the economic entities' annual demand for long-term investments estimated by experts at a level of at least 60% of GDP with the actual obtained scope of activities by the banks on the whole [5].

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Table 1: Dynamics of indicators characterizing the role of banks in meeting the needs of economic entities in investment

Indicator	2010	2011	2012	2013	2014	2015	2016	2017	2018
The volume GDP, billions,RUB.	46308,5	60282,5	68163,9	73133,9	79199,7	83094,3	86014,2	92101,3	103875,8
Banks ' assets, billions,RUB	33804,6	41627,5	49509,6	57423,1	77653,0	82999,7	80063,3	85191,8	94083,7
in% of GDP	73,0	69,1	72,6	78,5	98,0	99,9	93,0	92,5	90,6
Credits granted to the subjects of economy, billions,RUB	18147,7	23266,2	27708,5	32456,3	40865,5	43985,2	40938,6	42366,2	48273,2
in% of GDP	38,6	40,6	44,4	51,6	52,9	54,1	47,6	46,0	46,5
Banks ' investment in securities, billions,RUB	5829,0	6211,7	7034,9	7822,3	9724,0	11777,4	10302,5	11008,5	11654,9
in% of GDP	12,6	10,3	10,3	10,7	12,3	14,2	12,0	12,0	11,2
Credits granted to the subjects of economy and banks ' investment in securities, in% of GDP	51,8	48,9	50,9	55,1	63,9	67,1	59,6	58,0	57,4
The need for economic entities investments, in% of GDP						No less 60,0			
Unmet need for banks to economic entities for investment, billions,RUB.	3797,3	6691,4	6202,9	3583,6	0	0	344,1	1842,0	2700,8
in% of GDP	8,2	11,1	9,1	4,9	0	0	0,4	2,0	2,6

The data given in the table is an illustrative example that in the course of the last 9 years (2010-2018) only change in bank assets can be compared with a general demand of the economic entities for investment. Assuming that all the loans given by the banks during that period are long-term and all the investments into securities are performed by banks for investment purposes, even according to these assumptions commercial banks on the current stage of development fully satisfied the demand of economic entities for investment.

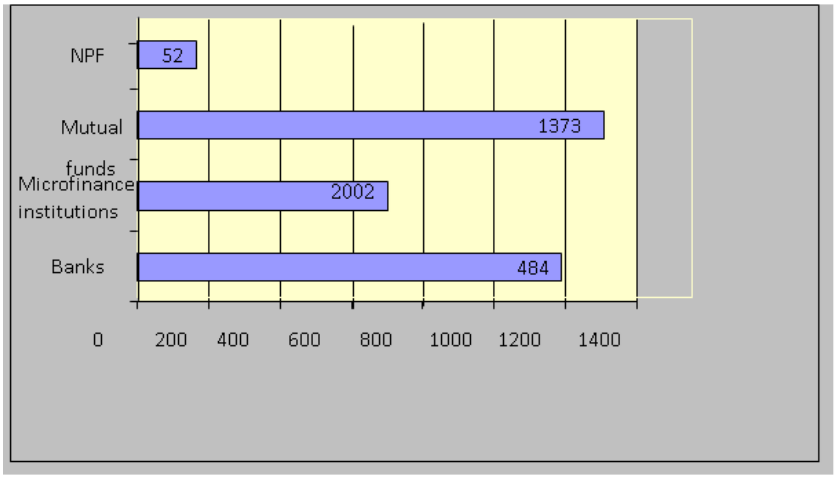

Fig. 1: Quantitative characteristic of financial intermediation institutions.

After studying the development indicators of the Russian banking system we can make a conclusion that most of the parameters have positive trend that indicates stable quantitative growth. The rate of growth in bank assets outruns the GDP trend, and the ratio of assets to GDP within the analyzed period has increased more than 1.2 times and reached 90.6%.

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As of January 1, 2019 among all financial intermediation institutions that carry out investment activity in Russia, banks took the leading position that fully complies with the existing in our country's banking economy funding model [Fig. 1].

All major financial intermediaries in addition to mutual funds, conducting its own investment policy, nonetheless inextricably bind with banks. Orientation of financial intermediaries in the indirect investment funds into the economy through investments of funds in the banking sector, let's talk about the inability (or impossibility) of insurance companies and NPF to participate in meeting the existing investment demand [Fig. 2].

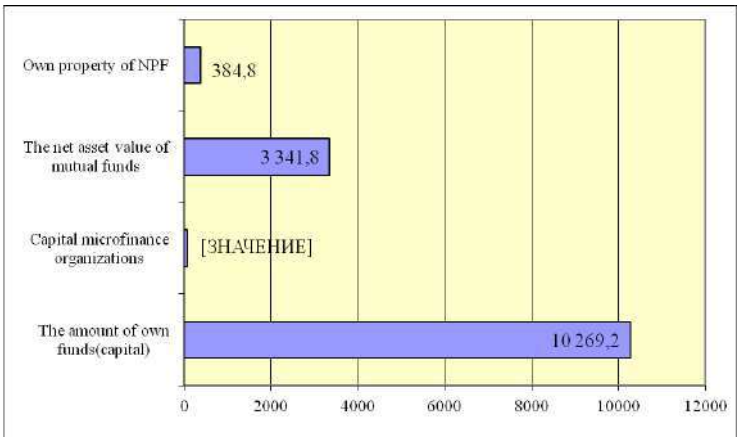

Fig. 2: The size of the main sources of financial intermediation institutions own funds in Russia on January 1, 2019, billions, RUB.

The magnitude of the investment activity of Russian banks from the quantitative point of view can be illustrated as shown in [Table 2].

Table 2: Dynamics and structure of the investment assets of Russian banks

Period	Total assets, billions, RUB	Structure of assets of Russian banks: in duding: Loans		Investments in securities		Participation in the Charter capital	
		billions, RUB	specific gravity,%	billions, RUB	specific gravity,%	billions, RUB	specific gravity,%
January 1, 2011 year	33804,6	18147,7	53,7	5829,0	17,2	368,1	1,1
January 1, 2012 year	41627,5	23266,2	55,9	6211,7	14,9	387,3	0,9
January 1, 2013 year	49509,6	27708,5	56,0	7034,9	14,2	579,4	1,2
January 1, 2014 year	57423,1	32456,3	56,5	7822,3	13,6	594,9	1,0
January 1, 2015 year	77653,0	40865,5	52,6	9724,0	12,5	1365,9	1,8
January 1, 2016 year	82999,7	43985,2	53,0	11777,4	14,2	1662,2	2,0
January 1, 2017 year	80063,3	40938,6	51,1	11450,1	14,3	1549,0	1,9
January 1, 2018 year	85191,8	42366,2	49,7	11008,4	12,9	1747,0	2,1
January 1, 2019 year	94083,7	48273,2	51,3	11654,9	12,4	1613,9	1,7

For the period from 2010 to 2019 Gg. banking assets tend to grow: for 9 years, they increased by 2.8 times and as of January 1, 2019 reached the size in 94083.7 billion rubles. The amount of loans banks loans for the same period increased by 2.7 times with 18147.7 billion rubles in 2011, up to 48273.2 billion rubles in 2018, occupying the largest weight in the composition of the investment banks' assets. Exposure of banks in securities despite the decline from 17.2% in 2010, up to 12.4% in 2018 also show steady growth. Compared to 2010, by the end of 2018 g. volume of investments in securities increased in 2 times and amounted to 11654.9 billion rubles. Banks ' participation in authorized capitals of enterprises, taking a minor share in the structure of the investment banks' assets, is leading to increased growth by the end of 2018, 4.4 times.

Therefore, statistic data on the volume of investment transactions carried out by Russian banks over the past decade indicate that banks investment activities are among the fastest growing ones. Nevertheless, further development of banks investment activities is restrained by a number of factors that make this area

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of business specific for the banks, that is an area taking place in limited and a small number of the banks segments [6].

In terms of the way banks should provide a high level of investment activity in the economy and financial support for innovative activities it's better to offer the implementation of the following promising instruments for investment into practice of the Russian commercial banks [7]:

- syndicated lending;
- mezzanine financing;
- structured investment products, including fiduciary loans;
- derivative financial instrument for risk hedging - credit derivatives.

Let's review some of these instruments in detail.

Syndicated lending is an effective instrument for organization of a large loan transaction, when the financial resources of one of creditor bank are insufficient in order to meet the investment needs of a client or the overall credit risk per a creditor bank is too large [8].

The idea of the syndicated lending is to combine several banks for granting a loan that enables to accumulate the necessary amount of financial resources and allocate risks between all parties of the transaction.

In order to define the banks participating in syndicated lending, it is necessary to determine the functions that should be basically performed by the banks - participants on the market [9].

The advantages of the syndicated lending for all the participants of the transactions are obvious. For banks they are: the extension of the credit expansion in the context of infinite resources; increase of the competitiveness and maintaining the priority on the banking market; diversification of default risks and minimizing the latter; improving the quality of credit portfolios of the participants and assessment of the borrower.

Syndicated loans attraction has also a number of benefits for borrowers: attracted resources are more long-term and cheap in comparison with traditional loans, due to the fact that the sources of credit are diversified; the term for organization of the syndicated loan is less compared to the bond issuance because it does not require registration of the prospectus in the Central Bank of Russia; a borrower creates a public credit history from a large number of creditors [10].

Another promising instrument for investment, in our opinion, could be mezzanine financing, which is a method of financing (financial support) projects in which the investor provides the borrower with funds in the form of debt financing with simultaneous acquisition of an option for purchasing the borrower shares or a special project venture (SPV) in the future for a set price and upon occurrence of certain conditions. Therefore, mezzanine financing, being in an intermediate position between shared and debt financing, is considered as a mixed (hybrid) instrument for financing a project.

It is necessary to note that a bank involved in financing the investment transaction may be:

- investor, that is, to purchase a batch of shares of the borrower (to provide shared financing) and, therefore, obtain powers of control over the company activities and the right to receive income in the form of a profit share from the project, the amount of which is not determined in advance and would depend on the outcome of the company activities and the effectiveness of the project in the future;
- creditor, that is, to provide the borrower with debt financing in the form of, for example, a long-term loan or to serve as a purchaser of the borrower bonds. The bank-creditor does not acquire the powers of control over the company activities (except for the rights arising from the content of the credit agreement or bond prospectus), but receives regular interest income, amount of which may be negotiated depending on the market situation. The requirements of the lending bank are usually secured by a pledge of property of the enterprise-borrower and in case of bankruptcy of the borrower they will be satisfied in the first place, compared to investors.

All the negative consequences related to the bank's participation in capital and investment lending can be resolved with the help of mezzanine financing. In this case, the bank serves both the lender and the investor. [11].

The problem of minimizing risks while performing investments can be partially solved by introducing the structured investment (financial) products to the Russian practice.

The main point of structured financial products is a combination of traditional property and derivative financial instruments, which make them rather flexible. As for the investment activities of the bank, a loan, a promissory note or a bond can serve as a traditional financial instrument. The abovementioned instruments can appear on the balance sheet of the bank as a result of use of funds and they establish a certain amount of claim rights towards the borrower arising from the content of the basic instrument to the

bank. However, the main conditions on executing the transaction can be caused by any external factor or an effective date of any event [12].

The simplest example of a structured investment product may be an index of long-term credit. It is a loan with the interest rate tied to a specific market indicator, for example, the refinancing rate, LIBOR rate, RTS indexes, gold prices, oil, the food basket cost, currency pair, etc. However, such loans are used in practice as a means not to restructure the long-term loans (not to change the interest rate that while creating RPBD is a factor reducing the credit quality) in an unstable and uncertain financial situation that the bank is facing while planning an investment transaction, for example, for 10 years ahead.

Investment products with embedded derivatives not detachable from the main contract (Embedded derivatives) deserve to be disseminated more widely and.

Embedded derivatives refer to a contract term that specifies the exact value of liabilities not in absolute amount, but by calculation on the basis of the exchange rate by applying a currency clause. Currency clause refers to a contract term according to which the obligation should be performed in a specified currency (the obligation currency), but in the amount equivalent to a certain amount in another currency (currency equivalent) or conventional units at an agreed exchange rate.

In the field of banks mortgage lending the structured products can be used. These structured products combine the terms of the credit transaction that requires the borrower to use schemes of life insurance, property, etc.

Given the importance of the credit risk management which is inherent in the bank investment activities, it is advisable to use the derivative financial products based on credit derivatives in the practice of investment financing [13].

The basis of credit derivatives is a credit event: default (renunciation of fulfillment of obligations), the decline in the market or basic value of an asset, the downgrading of the credit rating of the borrower, etc. According to the terms of the transaction, upon occurrence of one of these events, for example, in case of downgrading of the borrower credit rating, a party that has sold a derivative (risk hedging), shall compensate the difference in the asset value to the party who purchased the derivative according to a previously agreed scheme. This term has a positive effect not only for the lending bank but for the borrower as well: if decrease in the asset value is temporary, the bank financing the project receives sufficient amount of resources to maintain liquidity without resorting to selling the debt, and therefore the information about the borrower to a third party [14].

It is necessary to include the following to a number of credit derivatives which are used most effectively in investment transactions: credit swap; total return swap; credit-linked note; the option and the forward for credit spread; index swap.

CONCLUSIONS

As a result of the work of the analysis of indicators characterizing the role of banks in meeting the needs of business entities in the area of investment, we came to the following conclusions. In the course of the last 9 years (2010-2018) only change in bank assets can be compared with a general demand of the economic entities for investment [15]. The rate of growth in bank assets outruns the GDP trend, and the ratio of assets to GDP within the analyzed period has increased more than 1.2 times and reached 90.6%.
Statistic data on the volume of investment transactions carried out by Russian banks over the past decade indicate that banks investment activities are among the fastest growing ones.

In order to address the problems of building the investment potential of article banks developed a set of recommendations on the implementation in practice of the Russian banks new financial schemes that enable banks to overcome the negative impact of the factors constraining the scope, pace and opportunities for participation of banks in investment processes (inadequate capitalization, the lack of long-term resources, availability of a wide range of regulatory restrictions). Among these prospective ways and investment instruments were:

- syndicated lending;
- mezzanine financing;
- structured investment products;
- credit derivatives.

CONFLICT OF INTEREST
There is no conflict of interest.

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ARTICLE

FINANCIAL STABILITY ASSESSMENT AS A TOOL FOR MONITORING AND CONTROLLING BANKING SYSTEM

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ABSTRACT

The article presents the results of a structural-dynamic analysis of the Russian Federation banking system current state and its exposure to financial risks. The results of the study confirm the feasibility of using the financial sustainability indicator as a tool for monitoring and controlling the Russian Federation banking system current state. In the course of the study, the financial sustainability index was calculated both for the banking system as a whole and for specific banks selected by the criterion "is or is not under sanctions", which is a relevant aspect in the context of financial sanctions risks when determining flexibility, sustainability and ability level the adverse effects of commercial banks. With regular calculation of financial stability indexes, timely detection of the banking system financially successful participants with effective risk management is possible, which for commercial banks themselves is a significant competitive indicator, since the concentration of the main customer base occurs among the most successful market participants. With the decline in the number of operating credit institutions, the risk management ongoing modernization, the banking under various economic complication, political, financial and other shocks, commercial banks have needed to identify their competitive potential and identify aspects of the development of the bank's future strategy.

KEY WORDS
financial risk, financial soundness, financial stability, banking system, financial soundness index.

INTRODUCTION

The existing realities of the development of financial relations between the participants of various sectors of the economy lead to the need for careful control and management of risks arising in the course of their activities. The Russian banking system, at the moment, is undergoing significant changes in the form of increasing competition between existing credit institutions in the framework of the policy pursued by the Bank of Russia to optimize the number of participants in the country's banking system; the introduction in 2014 of foreign economic restrictions in the form of sanctions against systemically important banks of the Russian Federation; rapid development of financial technologies, etc. Each of these aspects, both individually and in aggregate, may cause the likelihood of financial loss or deviation of the expected financial result of the credit institution from the planned amount, which is a financial risk.

MATERIALS AND METHODS

The state of the Russian Federation banking system was studied using the following methods: tabulation, indexation, graphical analysis, structural-dynamic analysis, system analysis, induction, deduction, correlation analysis, in particular, methods of scientific knowledge.

RESULTS AND DISCUSSION

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Since financial risk accompanies all the activities of commercial banks, an integral part of the banking business is the implementation of effective risk management in the form of a competent combination of liquidity, risk, and profitability. In the case of increased income, the role of financial risk increases, which can have a negative impact on such a parameter as the financial stability of a commercial Bank.

Troshin V. A. in his work defines financial stability as one of the fundamental parts of the financial condition of the organization, characterized as a capacious, concentrating indicator that shows the degree of security of investments in the company [2].

Shershneva E. G. considers the commercial Bank financial stability as a complex phenomenon that reflects the state of financial resources and ensures the preservation of liquidity, profitability, and solvency of the Bank [3].

Financial stability is a broader concept than financial risk. As a result of the financial risk implementation, the financial stability volatility index occurs. It is the commercial Bank financial stability that is the criterion for identifying problem areas by the Bank of Russia. Commercial banks financial stability control and supervision are carried out at all stages of the commercial bank's life cycle: from control in the process of its activity, to financial recovery and possible revocation of the license.

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As part of the structural and dynamic analysis of the Russian Federation banking system current state and its exposure to financial risks, it was found that a significant proportion of participants in the banking system "reduce their risk appetite" and adhere to a conservative policy, making more investments in low-yield instruments [Fig. 1].

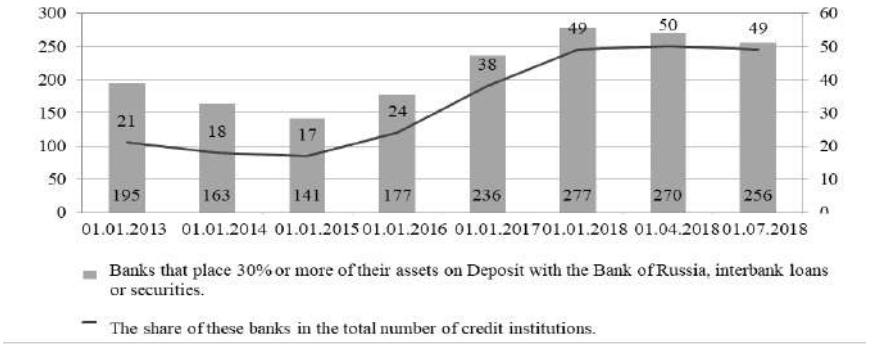


Fig. 1: Share of low-income investments of commercial banks of the Russian Federation in dynamics, % [4].

Half of the credit institutions adhere to an increased share of low-income investments. In 2015-2018, the number of commercial banks with excess liquidity almost doubled, and their share in the total number of credit institutions tripled.

At the same time, the above aspect characterizes not only the excessive volume of liquidity of the banking system, but also the excessive management of this type of risk (liquidity risk), also becoming a factor limiting overall economic growth.

Considering the credit risk on the scale of the banking system of the country, there is no provision for possible losses on loans of loans of the fourth and fifth categories of quality [Fig. 2], which can be a prerequisite for an increase in financial risk and, as a consequence, a deterioration in the financial stability of participants in the banking sector.

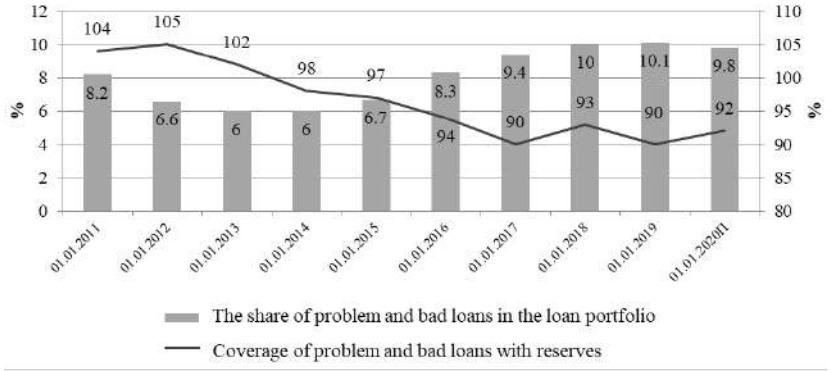


Fig. 2: Coverage of reserves for possible losses on loans of loans of the fourth and fifth categories of quality in Russia, in% [6].

The sanctions imposed and the deterioration of the overall economic situation in the Russian Federation also affected the state of the banking system in the form of the expected decline in the share of retail lending in GDP by 2021 and a small increase in this indicator for the corporate block [Fig. 3].

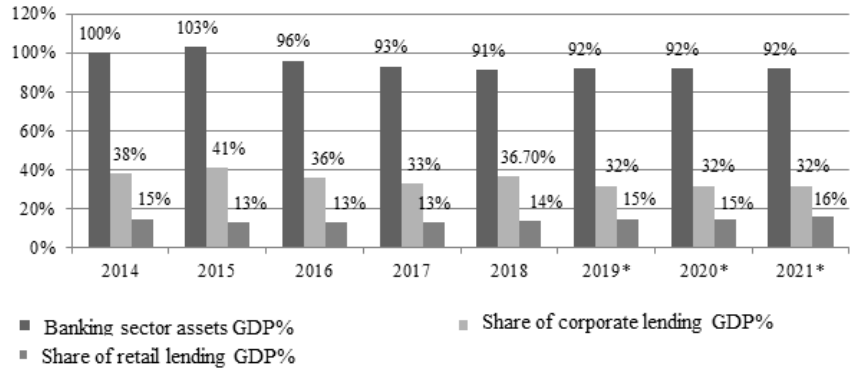


Fig. 3: Dynamics of assets of the banking sector and the share of lending to the retail and corporate sectors to GDP [1].

At the same time, the expected decline in the volume of assets of the banking sector in GDP can be associated not only with certain imbalances in the overall state of the economy, but also with the departure from the market of inefficient financial and credit institutions.

The sanctions also had an impact on the volume of foreign debt of Russian commercial banks, the decrease of which, to a greater extent, was associated with a decrease in the volume of funds in current accounts and deposits [Fig. 4].

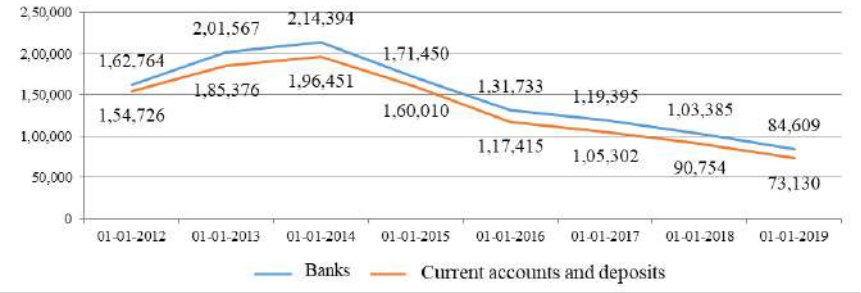


Fig. 4: External debt of Russian commercial banks in the dynamics of current accounts, mln.USD [7].

Equally important is the emergence of investments between sister enterprises in the debt obligations of Russian commercial banks (figure 5), which was not observed until the beginning of 2016.

Fig. 5: Debt obligations to direct investors and enterprises of direct investment of Russian commercial banks, mln.USD [7].

The above-mentioned aspects actualize the need to create a new indicator that can collectively demonstrate the existing realities of the banking system of the Russian Federation in terms of their financial stability in an ever-changing external and internal market conditions. The index of financial stability, which is based on a comparative analysis of the average market index and the index for commercial banks in the conditions of clustering, can be an indicator that can reflect these realities.

The formation of the financial stability index of the Russian banking system involves the implementation of the following stages:

1. Carrying out structural and dynamic analysis by collecting statistical data on the performance of credit institutions.

Data collection involves the accumulation of data characterizing the state of the banking system for a number of indicators that are formed in private indexes with the assignment of each of them specific weights according to the expert evaluation [Table 1].

An important condition for the formation of the financial stability index of the banking sector of the economy of the Russian Federation is the possibility of expanding the range of both internal indicators of private indices and changes in the number of private indices themselves, which is necessary for a wider disclosure of aspects of the likelihood of both financial risks and the impact of sanctions processes on the financial stability of the system.

This determines the minimum and maximum values for each of the private indexes in the entire time range.

Table 1: Financial stability index of the banking system of the Russian Federation [5,7,10,11]

Private index	Indicators	Unit weight
Capacity Index of the Russian Banking Sector	Assets / Liabilities of credit institutions (total), mln rub.	0,3
	Capital credit organizations, mln.	
	Number of credit institutions	
	Profit of credit institutions, million rubles	
Profitability Index of the Russian Banking Sector	Return on assets,%	0,3
	Return on equity,%	
Index of international activities of the banking sector of the Russian Federation	Net international investment position of banks, mln. USD	0,1
	Balance of financial operations of banks (net lending (+) / net borrowing (-)), billion USD (external sector)	
Foreign Currency Volatility Index	Chinese Yuan, for 10 units.	0,1
	US dollar per unit	
	Euro rate, per unit	
Banking Sector Participation Index	Investments in debt securities, million rubles	0,2
	Investments in equity securities, million rubles	
	Participation in subsidiary and affiliated joint-stock companies, mln rub.	

2. Calculation of "normalized indices" for each of the indicators according to one of the following two formulas, depending on the impact they have on the final result:

For factors that have a positive impact on the final result, the formula 1 is used:

((Actual Value - Minimum))/((Maximum - Minimum)) (1)

For factors that have a negative impact on the result, the formula 2 is used for the calculation:

((Maximum-Actual Value))/((Maximum-Minimum)) (2)

Table 2: An example of calculated "normalized indices" on the capacity index of the banking sector of the Russian Federation

Indicators	01.01.2015	01.01.2016	01.01.2017	01.01.2018	01.01.2019
Assets / Liabilities of credit institutions (total), mln. Rub.	0,825359974	0,882189608	0,850978373	0,905489527	1
Capital of credit organizations, mln. Rub.	0,08426535	0,095745773	0,099769074	0,099877786	0,109145986
Number of credit institutions	0,99999628	0,999997353	0,999998523	0,999999182	1
Profit of credit institutions, mln. Rub.	0,00625677	0,00203523	0,009876131	0,008388075	0,014288895

3. Calculation of partial indices on the basis of the data obtained at the second stage, by finding the arithmetic mean: all indicators in each time period of the "normalized index" are added and divided by their number [Table 3].

For example, the capacity Index of the Russian banking sector for 2015 = (Assets/Liabilities of credit institutions for 2015 + capital of credit institutions for 2015 + number of credit institutions for 2015 + profit of credit institutions for 2015).) / 4 = (0,825359974 + 0,08426535 + 0,99999628 + 0,00625677) / 4 = 0,478970

Table 3: Private indices of the index of financial stability of the banking system of the Russian Federation

Private index	01.01.2015	01.01.2016	01.01.2017	01.01.2018	01.01.2019
Capacity Index of the Russian Banking Sector	0,478970	0,494992	0,490156	0,503439	0,530859
Profitability Index of the Russian Banking Sector	0,326087	0,072464	0,398551	0,326087	0,554348
Index of international activities of the banking sector of the Russian Federation	0,120429	0,500232	0,295386	0,299555	0,453155
Foreign Currency Volatility Index	0,276515	0,571707	0,255873	0,274698	0,412516
Banking Sector Participation Index	0,272075	0,337324	0,327812	0,356287	0,381240

4. Calculation of the financial stability index of the banking system of the Russian Federation by weighing each particular index by its share and summing the data obtained in each time period.

To illustrate the changes in this index, it is advisable to present the data obtained in a graphical interpretation [Fig. 6].

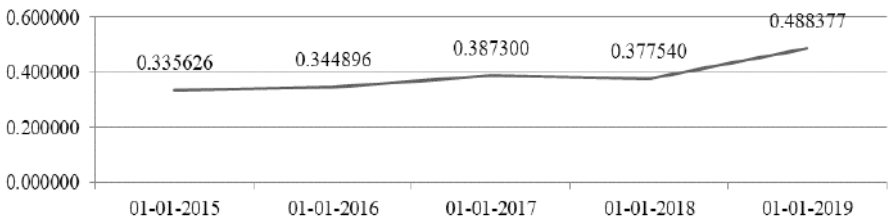


Fig. 6: Index of financial stability of the banking system of the Russian Federation in dynamics.

In the modern realities of the banking system, the use and analysis of the above-mentioned index can be misleading. For a complete definition of financial stability from the point of view of the probability of occurrence or existence of the banking institutions financial risk, it is necessary to calculate the index of financial stability for each credit institution and to compare it with the rate of the General index of financial stability.

To calculate the financial stability index of specific banks, the following were determined: PJSC VTB as a systemically significant Bank, JSC Gazprombank as a Bank of an oil and gas company exposed to international sanctions, PJSC FC OTKRITIE as a Bank with the participation of the Agency for insurance of deposits in capital, JSC Alfa-Bank as a Bank with foreign capital.

These credit institutions can be classified according to the criterion of "caught/not caught" under the influence of sanctions, which is an important aspect in the context of sanctions financial risks in determining the flexibility, stability and ability to neutralize the adverse consequences arising from these banks.

The calculation of this index for each Bank is made according to the above stages, however, private indexes have a wider range of indicators [Table 4].

Table 4: Financial Stability Index of Credit Institutions of the Russian Federation [8, 9, 10]

Private index	Indicators	Unit weight
The index of the balance sheet of banks that have fallen / not affected by the sanctions (all in thousands of rubles)	Bank assets	0,25
	Net profit of the bank	
	Bank capital	
Index of competitiveness of banks in terms of allocated / attracted funds (all in thousand rubles)	Bank loan portfolio	0,2
	Bank deposit portfolio (deposits of individuals)	
Index of competitiveness of banks in terms of allocated / attracted funds (all in thousand rubles)	Investment in securities	0,2
	IBC (interbank loans) received from the Bank of Russia	
Index of Regulatory (OH BR) condition of banks affected / not affected by sanctions	H1	0,25
	H2	
	H3	
Bank performance index	Return on net assets,% Return on equity,%	0,3
	The level of overdue debt on the loan portfolio	
	Reserve portfolio by loan portfolio	

For a more accurate comparative analysis of the results on the index of financial stability of commercial banks, it is necessary to compare with the index of financial stability of the entire banking system.

An important aspect of this financial stability index is the clustering of the results in the form of identifying the deviation of the data on the financial stability index for commercial banks from the index for the banking system as a whole. This aspect is important and can become a basis for determining the state of commercial banks both for the Bank of Russia as a mega-regulator and for the credit institutions themselves in determining the problem areas affecting their financial stability and competitive potential in determining the future strategy of their activities.

To identify the position of a commercial Bank, clustering is carried out in the form of a zone for determining the deviation of the financial stability index from the average market value with the formation of certain recommendations [Table 5].

Table 5: The color zone for determining the deviation of the indicator, in %

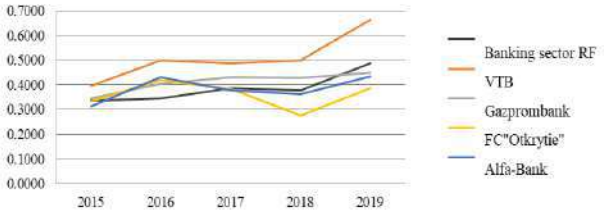
Deviation	Color	Name	Recommendation
14 and above		Success zone	Work on a revolutionary leap
From 7 to 14		High	
From 0 to 7		Average	Search for new methods of improving the strategy
From -7 to 0		Below the average	
From -7 to -14		Risk zone	Search for classic methods of modernization of the existing strategy
From -14 and below			

[Table 6] shows the deviation of the obtained values of the financial stability index of commercial banks from the market average to determine the hit in a given time period in a particular cluster and identify certain recommendations to preserve not only their financial stability, but also the competitive potential in General.

Table 6: Deviation of the index of financial stability index for commercial banks from the average market (for the banking system), in %

Name of the bank	2015	2016	2017	2018	2019
VTB	6,0897	15,5694	9,9507	12,2517	17,4705
Gazprombank	1,0112	6,0361	4,4560	5,0072	-3,9504
FC "Discovery"	-0,2606	7,2652	-0,3713	-10,0189	-10,1501
Alfa Bank	-2,3281	8,5438	-0,8736	-1,5485	-5,3689

According to the calculations, the graphical interpretation of the comparison of the index value for each Bank with the overall index of the entire banking system, taking into account the clustering, revealed the following results [Fig. 7].



Indicators	2015	2016	2017	2018	2019
Russian banking sector	0,3356	0,3449	0,3873	0,3775	0,4884
VTB	0,3965	0,5006	0,4868	0,5001	0,6631
Gazprombank	0,3457	0,4053	0,4319	0,4276	0,4489
FC "Otkrytie"	0,3330	0,4175	0,3836	0,2774	0,3869
Alfa-Bank	0,3123	0,4303	0,3786	0,3621	0,4347

Fig. 7: The results of the comparison of the index of financial stability of the banking system of the Russian Federation and commercial banks in the dynamics.

VTB PJSC demonstrates high financial stability, especially in comparison with the average market indicator. This aspect is confirmed by the fact that it is a systemically important Bank for Russia. At the same time, this Bank demonstrates flexibility in relation to its activities and improving financial stability throughout the analyzed period in the conditions of falling under sanctions.

The cluster approach also revealed a certain disproportion in the Bank of PJSC "VTB" at the beginning of 2015 in the form of a "middle" zone, which characterizes the impact of sanctions processes on this commercial Bank, but also demonstrates a well-built strategy to improve its financial stability in connection with the impact of foreign economic imbalances on its activities in the entire future analyzed period.

PJSC "FC Otkrytie" has seen a deterioration in financial stability since the beginning of 2017, which is due to the ongoing financial recovery of this financial and credit institution and a decrease in confidence on the part of customers to this Bank.

The above approach in determining the financial stability of Russian commercial banks and the banking system as a whole can become an indicator, monitoring and control of which will allow the Bank of Russia to determine the existing realities of the development of both the system itself and individual credit institutions, the sample of which can be carried out according to various criteria: systemically significant, TOP 10, TOP 30, large, cluster, with the participation of foreign capital, with the participation of the state in the capital of the Bank, regional and so on.

IIOAB JOURNAL
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CONCLUSIONS

As a result, with regular calculation of financial stability indices, it is possible to timely identify the most financially successful and effective participant in the banking system, which is also an important indicator for commercial banks themselves. the concentration of the main customer base among the largest market participants, the reduction in the number of existing credit institutions, the constant modernization of risk management, strategy and flexibility in conducting activities in the conditions of various economic, political, financial and other shocks leads to the need to identify its competitive potential and develop certain aspects of the Bank's future strategy.

CONFLICT OF INTEREST

There is no conflict of interest.

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FINANCIAL DISCLOSURE

None.

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ARTICLE

THE INFLUENCE OF A PROFESSIONAL ACCOUNTANT'S JUDGMENT ON THE FINANCIAL PERFORMANCE OF ORGANIZATION

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ABSTRACT

Formation and development of market relations have expanded a circle of users of the accounting information, making thus reasonable demands to its quality. In these conditions, the special urgency is acquired by orientation of professional accounting judgment to a choice of the optimal methods of accounting and reflection in the statements of the information with a view of satisfaction of interests of a wide range of users. On the basis of financial statements of various companies in the article the analysis of indicators of the financial statements prior to the formation of estimated liabilities and after the first -on the basis of the judgment of the accountant, the second - on the basis of the judgment of the auditors. The goal of the work - to consider the basic approaches to determination of financial indicators, to reveal interrelation between professional accounting judgment concerning objects of accounting and the indicators characterizing a financial condition of the enterprise.

KEY WORDS
professional judgment, financial indicators, quality of financial statements, accounting policy, accounting methods, asset valuation

INTRODUCTION

The financial statements of enterprise in its modern representation are the basic source for carrying out of complex financial analysis of the organization. On its basis, it is possible to estimate property and financial potential of the enterprise, its aggregate capital, to predict probability of bankruptcy, to reveal reserves of increase of profitability of activity, to develop the most effective strategy of development.

As professor Kulikova L.I. remarks, the financial condition of the organization is the major characteristic of provision of financial independence of the organization in its current, investment and financial activity during a researched time horizon and in the long- term [1]. Financial analysis consists in reception of an objective estimation of results of financial and economic activity of enterprise with reference to information requirements of users with a view of its further improvement and stabilization on the basis of a technique of forecasting of the basic tendencies of the future development.

However frequently users of the information have inconsistent requirements to the reporting in view of distinction of preferences. Thus, with a view of forming of accounting policy and a technique of disclosing of the information in the financial statements, allocation of priority groups of users of the accounting information which satisfaction of interests will provide indirectly and satisfaction of interests of other categories of users concerns to jurisdiction of professional judgement of the accountant.

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MATERIALS AND METHODS

The theoretical basis of research is based on fundamental accounting concepts, hypotheses and the approaches presented in the classical and modern scientific economic literature. A methodological basis of work is the system approach to researched processes and the phenomena, acceptances of dialectic and formal logic. The comparative analysis, synthesis, ordering and generalization of theoretical materials, a report and grouping, analytical procedures and other methods were used in the research.

RESULTS AND DISCUSSION

In modern conditions, construction of complex accounting-analytical system allows to perform full-scale efficient control of the enterprise, creating the uniform information platform supporting process of accepting of rational economic decisions. In this connection, reasonable in the research of interrelation of substantive provisions of accounting policy and the subsequent studying of its influence on base indicators of a financial condition of the enterprise is represented [2]. The concept of a financial condition assumes the characteristic of potential of development of the company.

The analysis of interrelation of accounting policy carried out by us and indicators of a financial condition of the largest Russian companies (PJSC "Gazprom", PJSC "Rosneft", PJSC "Lukoil", PJSC "HK" Transneft», PJSC "Rostelecom", PJSC "Tatneft", PJSC "Kazanorgsyntez", PJSC «Kazancentrstroi» has allowed to specify tendencies of change of the indicators characterising a financial position of the organization depending on the chosen variant of accounting policy. So, one of tools of influence on financial reporting indicators is the chosen method of depreciation of non-current assets. At a choice of a method of depreciation on fixed assets, it is necessary to consider that methods of a reduced remainder and cost

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depletion on the sum of numbers of years of term of useful use are accelerated depreciation methods on fixed assets. Their use will lead to that residual cost of fixed assets sharply decreases already in the first years that leads to increase of coefficient of depreciation of fixed assets and change of an indicator of return on assets, reduction of size of non-current assets in the balance sheet. Application of accelerated depreciation of fixed assets increases a production cost price in the first years of use of objects of fixed assets and reduces size of the given indicator last years that influences indicators have arrived also profitability.

However, in turn, these methods allow to accumulate faster means of a depreciation fund and to direct them on acquisition of more modern equipment [3]. It is necessary to notice also that the size charged in a current depreciation period in the presence of remainders of a work in progress and not sold finished goods on the end of accounting period can influence their estimation. In addition, hence, growth of depreciation charges will lead to growth of an estimation of stocks that will make better a picture of ability to meet payments of the organization shown in the reporting [4]. At reduction of depreciation charges in such situation value of coefficient of general ability to meet payments will decrease.

At a choice of a method of charge of depreciation of non-current assets it is important to accountant to consider that application of the accelerated methods of depreciation will increase current liquidity coefficient, security coefficient own circulating assets and capital productivity, and will reduce, in turn, such indicators, as profitability of sales, return on assets.

So, in a case when objects of fixed assets, especially production appointment, act more intensively, have higher productive capabilities and bring in the big incomes in the first years of operation, for them use of a method of a reduced remainder or a cost depletion method on the sum number of years of term of useful use is reasonable. In a situation when the organization in development of production of the new goods, new productions, sectors of the market has no big incomes, charge of depreciation charges is necessary for producing from the small sums, and then to compensate them in process of increase of volumes of output and sales of items and the services which were recognized in the market. In this case, use of a method of cost depletion to proportionally volume of goods (services) is reasonable.

In view of designated above influence of methods of accounting, fixed in accounting policy, on indicators of a financial condition, for a rational choice of concrete methods of accounting it is reasonable to conduct predesign of economic and financial consequences of application of various variants.

Change of structure of the financial ratios used at the analysis of the accounting financial statements at different stages of development of the enterprise is presented in [Table 1].

Table 1: Financial ratios at different stages of development of the company

Stage of development of the company	Process, the occurring in the company	The approach to the analysis of the reporting and the most significant coefficient
The young company (The beginning of developments)	Forming development strategy by the founder (group founders)	Liquidity indicators. The indicators reflecting efficiency use of working capital. Management analysis of the internal information on management of the turnaround capital. The analysis of the indicators reflecting efficiency of systems of the financial stimulations
Average Business	Centralization of management. Allocation of the responsibility centres. Development of budgets	Indicators of profitability Efficiency of use resources, productivity of investments. Indicators of business activity. The internal analysis of execution of budgets
Exit on The international The markets The capital	Attraction investments, Capital value optimization Active gain of the market	Indicators of credit status, estimation of efficiency of cost and structure of capital, conformity of the actual rates of increase the steady The careful comparative analysis of various schemes of financing
The subsequent Stages Developments	Development of the regular functions. The strategic planning. Development regulations of behavior managers on different levels	The flexible and system approach to an estimation of financial condition. Development of specific systems of coefficients and balanced scorecard indicators

1. In the companies concerning average business, in the financial analysis it is necessary to do accent on indicators of profitability and efficiency of use of resources, marginal productivity of investments into different kinds of resources [9]. If the company is at an exit stage on the international capital markets most in details study indicators of an estimation of efficiency of a

capital structure and its cost, an estimation of conformity of actual and steady rates of increase.

As it has been noted above, the estimation of probability of repayment of the obligation and a settlement estimation of expectation financial consequences at acknowledgement of the estimate obligation are produced proceeding from judgement of administration taking into account practice of similar operations. So, an estimation of size of the estimate liability on debugging of the cloudy server given to clients of PJSC Long-distance and international electric communication "Rostelecom", generated on the basis of professional accounting judgement and the similar sum of a reserve specified from judgement of the auditor confirm influence on change of indicators of a financial condition.

PJSC "Rostelecom" offers services «Virtual COD» on a computing and network virtual infrastructure of a cloudy platform, with a guarantee of debugging of work of the server within the first year. Experts of the company have estimated the possible sum of costs for debugging and have come to a following conclusion:

- If on all cloudy servers there will be insignificant problems in work, costs for debugging next year will constitute 1 million rubles.; if they will be problems in work, costs for debugging next year will constitute 5 million rubles.

Forecasts of specialists of the enterprise on the basis of their experience in the company for last 3 years say that forthcoming year of 80 % connected to the cloudy server «Virtual COD» will not cause complaints from clients, 10 % - will have small problems and 10 % will have considerable problems in server work.

For reception of the best estimation of a reserve on debugging of the cloudy server in the described situation of PJSC "Rostelecom" has calculated the weighted average determined on the basis of products of each value on its probability of origin:

80 % x 0 rubles + 10 % x 1 million rubles + 10 % x 5 million rubles = 600 thousand rubles.

So, the calculated sum of a reserve will reduce financial result of the organization by debugging of the cloudy server for the current period and will be reflected as a part of short-term liabilities.

The auditors, performing check of the financial statements of the organization, with a view of an estimation of reserves on debugging of work of the server can use the statistical information by all kind of economic activities in which works as PJSC "Rostelecom" in this connection their forecast will be less optimistically:

On the basis of the data given by auditors, we will specify expectation size of costs for debugging of work of the server next year:

60 % x 0 rubles + 20 % x 1 million rubles + 20 % x 5 million rubles = 1200 thousand rubles.

Table 2: Indicators of incomes and PJSC "Rostelecom" expenses for 2018 at calculation of the estimate liability

Indicator		Value of an indicator 2018 prior to creation of the estimate obligation, thousand rbl.	Value of an indicator after creation of the estimate liability on the accounting period end, thousand rbl.	
The name	Designation		Variant №1	Variant №2
Revenue	N	283 952 041	283 952 041	283 952 041
The cost value of sales	C	237 601 090	237 601 090	237 601 090
Sales profit	Ps	46 350 951	46 350 951	46 350 951
Other costs	Pop	20 420 790	21 020 790	21 620 790
Profit (loss) to the taxation	P	45 317 454	44 717 454	44 117 454

Thus, using two various judgements, it is possible to receive various value of size of the created reserve that essential impact on indicators of a financial condition of PJSC "Rostelecom" can make. On the basis of given tables 2-3 the indicators characterizing a financial position of PJSC "Rostelecom", presented in table 4 have been calculated.

Table 3: Indicators of assets and liabilities PJSC "Rostelecom" at calculation of the estimate liability

##	Indicators		Value of an indicator, Variant №1, thousand rbl.		Value of an indicator, Variant №2, thousand rbl.	
	The name	Designation	On 12/31/2015	On 12/31/2015	On 12/31/2015	на 31.12.2016
			The assets			
1	Non-current assets	F	496 998 524	422 821 615	496 998 524	422 821 615
2	Current assets	Q	66 212 551	112 128 568	66 212 551	112 128 568
		Ba	563 211 075	534 950 183	563 211 075	534 950 183
			Equity and Liabilities			
3	Equity	Ic	294 206 654	237 375 440	294 206 654	236 175 440
3.1	Share capital	Isc	7 965	7 280	7 965	7 280
3.2	Retained earnings (uncovered loss)	Ire	106 211 637	133 621 996	106 211 637	132 421 996
4	Long-term liabilities	K	162 752 287	213 925 964	162 752 287	213 925 964
5	Short-term liabilities	Rp	106 252 134	83 648 779	106 252 134	84 848 779
5.1	Estimate liabilities	Rres	8 284 529	9 420 267	8 284 529	10 620 267
5.2	Accounts payable	Rtp	51 311 616	49 512 160	51 311 616	49 512 160
Total		Bp	563 211 075	534 950 183	563 211 075	534 950 183

Table 4: Indicators of an estimation of a financial condition of Open Society "Rostelecom" on 12/31/2018

Indicator	Value of an indicator		Change, %
	Variant №1	Variant №2	
Economic profitability	8,14%	8,03%	-1,34
Autonomy coefficient	0,4437	0,4415	-0,51
Financing coefficient	0,7977	0,7905	-0,91

Because the estimation of estimate liabilities on debugging with use of professional judgement of auditors above the similar estimation produced on the basis of judgement of accounting service, is observed influence of size of the created estimate obligation on indicators of financial results of organization activity [10]. So, at use of size of the estimate liability calculated by auditors, the profit squeeze to the taxation, secondly, indicators of profitability of activity of the enterprise is marked, first. So, according to table 4 it is visible that value of economic profitability at use of the first variant on 1,34 percentage points more than a similar indicator of the second variant of calculations. The similar

IIOAB JOURNAL
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situation is observed and with financial soundness indicators. The coefficient of the autonomy illustrating absence of dependence of the enterprise from involved sources of financing at the first variant of calculation of the estimate obligation on 0,51 points more of the given coefficient, calculated according to the financial reporting prepared following the results of an estimation of a reserve by the second variant. The financing coefficient also on 0,91 points is more that is connected with structural change of sources of financing of property of the enterprise - decrease in size of own and long-term borrowed funds and increase in short-term liabilities.

Summing up, it is necessary to notice, that in modern conditions construction of complex accounting-analytical system allows to perform full-scale efficient control the enterprise, creating the uniform information platform supporting process of accepting of rational economic decisions [11]. In this connection, reasonable research of interrelation of substantive provisions of accounting policy and the subsequent studying of its influence on base indicators of a financial condition of the enterprise is represented.

CONCLUSIONS

The article makes a significant contribution to the development of the theory and practice of accounting and reporting, in particular, by deepening ideas about the possibilities of implementing full-scale effective management of an enterprise by creating a single information platform to support the process of making rational economic decisions.

CONFLICT OF INTEREST

There is no conflict of interest.

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None.

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ARTICLE

ANALYSIS OF MIGRATION FLOWS' PART IN RUSSIAN REGIONS' SOCIO-ECONOMIC DEVELOPMENT

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ABSTRACT

Migration in the Russian Federation today is considered as one of the main sources of further population growth. The concept of state migration policy contains that "migration policy is an auxiliary tool for solving demoFigic and related economic problems" [1]. In addition to compensating for the natural population decline, immigrants increase the supply of labor, labor productivity and ease the pressure on pension systems in host countries. In this regard, the issues of increasing the migration attractiveness of the Russian regions to attract qualified personnel from abroad are of particular importance. Regulation of internal migration flows is aimed at the development of labor mobility of the population, its movement from labor-oversupply and overpopulated areas to regions that experience personnel shortages. The purpose of regulating external migration flows is the selection of migrants to match their number and professional characteristics to the needs of the Russian labor market, as well as to curb illegal migration. Of particular interest is the study of the qualitative and quantitative characteristics of external and internal migration flows, which is necessary for the formation of directions of state migration policy. In this paper, we analyzed migration flows in the Russian Federation and their role in the socio-economic development of the regions, analyzed the impact of internal and external migration gains on the socio-economic position of the subjects of the Russian Federation, and also offered practical recommendations for improving state migration policy in order to fully and effective use of migration as a resource for the country's economic development.

KEY WORDS
migration, migration flows, Russian migration policy, demoFigy, labour market, foreign labour

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INTRODUCTION

Infection According to the UN, the scale of world migration has a stable upward trend. In 1980 the number of international migrants was 102 mln, in 2017 - 258 mln, a substantial number (150,3 mln people) of whom are migrant workers (58,3% of the total amount of migrants). Over the past decades, the proportion of international migrants among all the citizens of the planet also rose from 2,3% in 1980 to 2,8% in 2000 and 3,4% in 2017 [2].

The UN data based on official statistics on the foreign born, i.e., people born outside of the country of current residence indicates that the highest number of migrants in 2017 - 49,8 mln (15,3% of country's total population) - lived in USA. Russia ranks fourth - 11,65 mln migrants (8,1 mln of Russia's total population) lived here [3]. The main Russian difference from the other industrial countries is that most of immigrants get here from former Soviet Republics with which it has been established that no visa is required.

Experts note that the most developed countries seek to use international migration as an important factor of national human capital development, growth of the economy and the entire social sphere, using a selective approach for this. For example, in Canada and some other developed countries, a points-based system is used for selection of economic migrants [4]. From 2015, applicants who already have a job offer (contract with an employer) receive an advantage when applying for living in Canada. Such a system allows to attract the very specialists that the country's economy needs [5].

Selective approach allows the country - the recipient of labor to receive a number of significant advantages: solving the problem of labor shortages in certain sectors of the economy, productivity growth, balanced regional development by resettling migrants in certain territories, stimulating domestic demand for goods and services owing to growing number of consumers, development of human capital and innovative activity of enterprises, etc.

MATERIALS AND METHODS

Systematization of theoretical and analytical data, statistical analysis, comparative analysis, Figical analysis, regression analysis and trend line building.

RESULTS AND DISCUSSION

Since 1992, in Russia has been observed extremely low birth rate while mortality rate was high, therefore natural growth rate over the 21 years (up to 2012 inclusive) was negative [Fig. 1]:

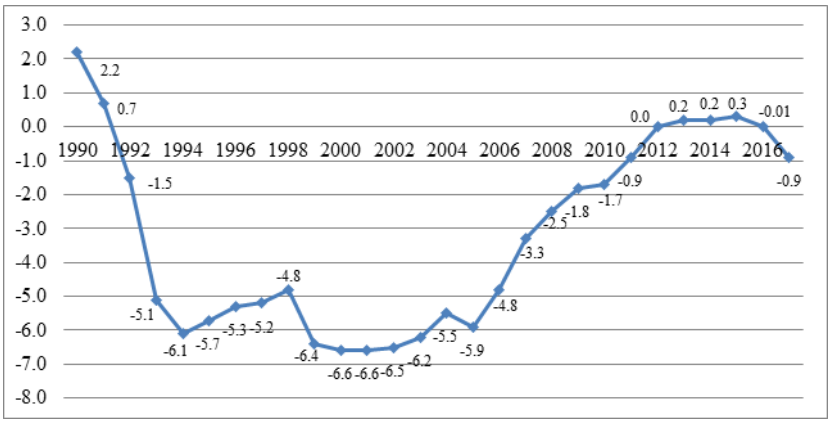

Fig. 1: Natural population growth (per 1000 population) [6].

Under the circumstances migration became a source of compensating for all population damages. Traditionally the migration growth rate is positive and significantly higher than the natural growth rate [Fig. 2]:

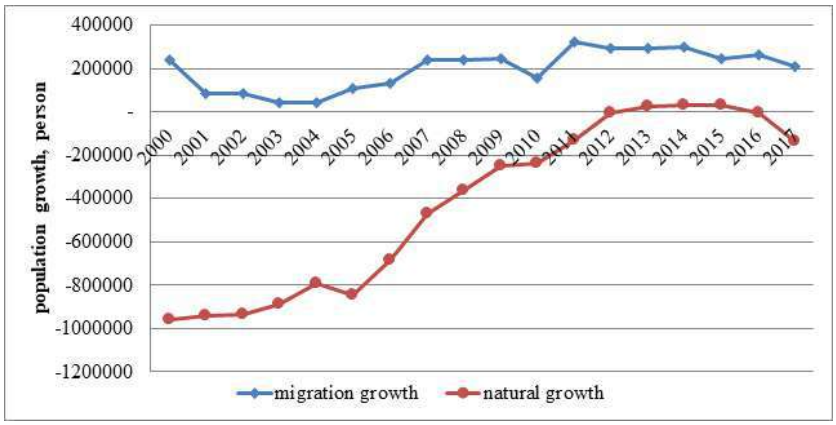

Fig. 2: Population growth in Russia, person [7].

It should be clarified that the Federal State Statistics Service (Rosstat) registers migration for permanent residence or long-term stay [8]. Consequently, official statistics do not take into account foreign migrants who do not have registration in Russia or stay for short periods.

According to the realistic scenario of the DemoFigic forecast until 2035, compiled by Rosstat, the natural population decrease in 2018-2035 will reach 7.3 million people [9]. Thanks to migration, it will be possible to reduce it: according to the forecast, the migration increase for the same period will be 4.43 million people, and by the beginning of 2036 the population will be not 139.6 million, but 144 million people [10]. Accordingly, migration in Russia is considered to be one of the most important sources of stabilization of the demoFigic situation [11].

The majority of immigrants — in 2017, only 589,033 people arrived in the country — people from the CIS countries (89%) [12]. Migration growth was 211,878 people, the share of from the CIS countries in it - 96% (Fig. 3):

In this regard, cultural and linguistic affinity of migrants in Russia becomes meaningful. In 2017, most immigrants (89%) came from the CIS countries (generally in 589 033 immigrants entered the country) [13]. Net immigration amounted to 211 878 people, the proportion of immigrants from the CIS countries was 96% [Fig. 3]:

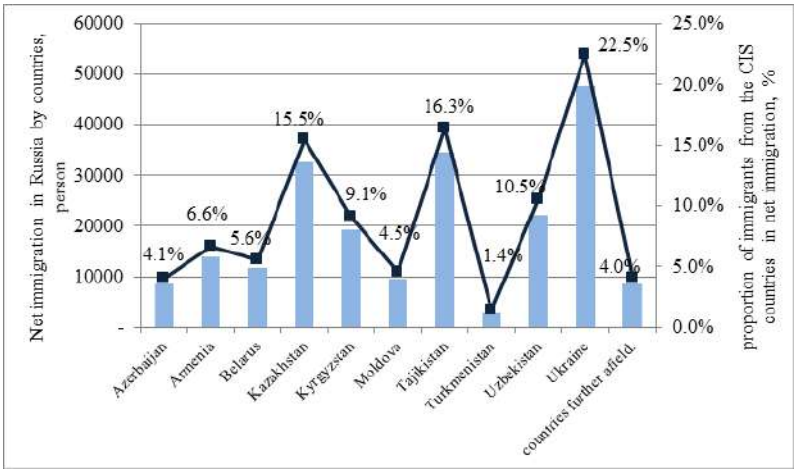

Fig. 3: Net immigration in Russia in 2017 by countries.

The largest number of migrants was from Ukraine, net migration amounted to 47 691 people, followed by Tajikistan (34 639 people), Kazakhstan (32 736 people) and Uzbekistan (22 167 people).

Migration flows can improve not only demoFigic situation in certain regions and in the country in general, but also can significantly affect the economy of the host territories. This is due to the fact that migrants are mainly people of working age and therefore this is an additional workforce and staff capacity for regional enterprises. In 2017, age structure of net external immigration was structured as follows [Fig. 4]:

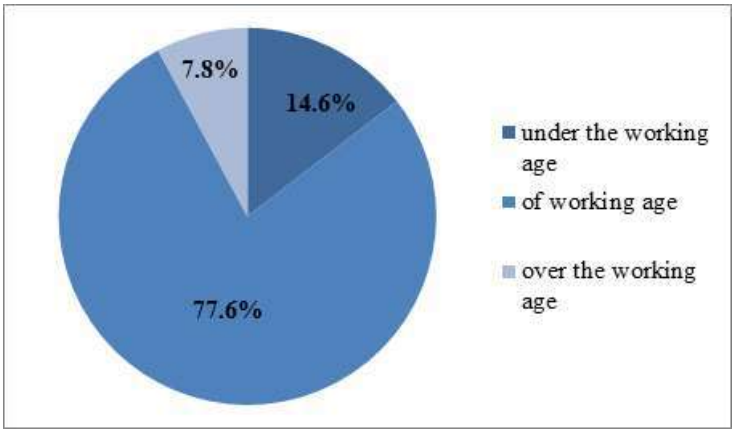

Fig. 4: Age structure of external immigrants in Russia, 2017 [14].

Most of them have secondary vocational education or one of grades of schooling [Fig. 5]:

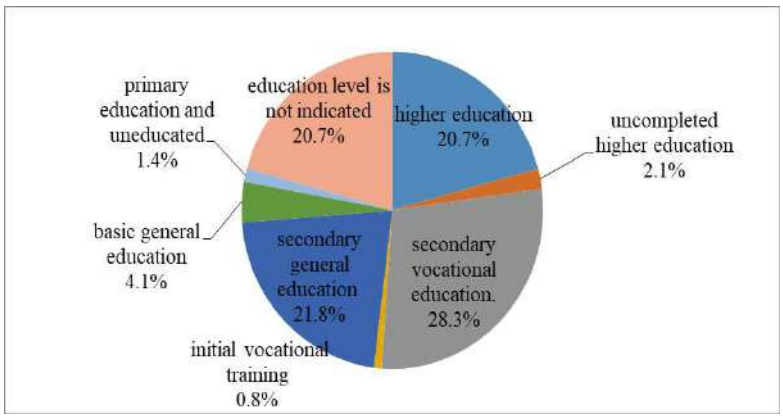

Fig. 5: Breakdown of the immigrants aged 14 or older by level of education in Russia, 2017 [15].

Net immigration of those aged 14 or older amounted to 184 974, only 38 378 people (20,7%) of which had higher education. Consequently, the others are eligible to apply working specialities or occupations which do not require vocational training and qualification.

External immigration in Russia is a vital source of the replenishment of human and labor resources, owing to worsening demo Figic situation:

since 1992 has been observed natural population decline (exception - 2013-2015), and migration can be a source to maintain population;

demoFigic burden on population of working age increases [Fig. 6]:

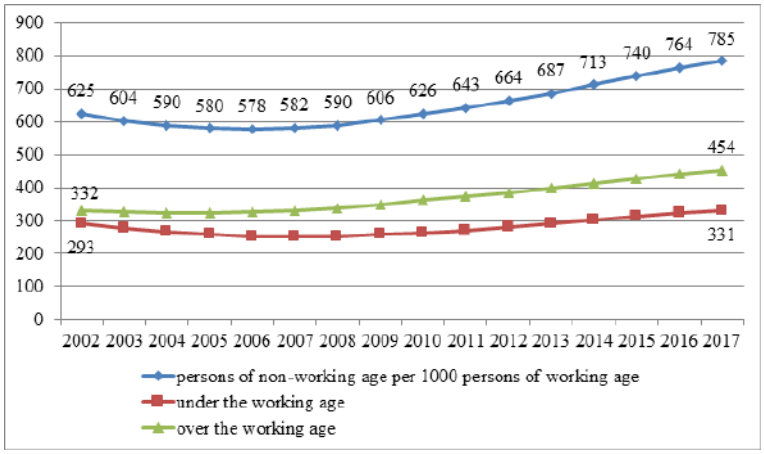

Fig. 6: The dependency ratio in Russia (by the end of the year) [16].

Over the 15 years the dependency ratio rose from 625 to 785 (by 25,6%), most of which comprise persons of retirement age. Their share in total ratio increased by 36,7% - from 332 to 454 persons per 1000 persons of working age.

Rapid population ageing can cause shortage of labour and it necessitates external labor resource mobilization;

this is confirmed by the fact that the unemployment load (the number of people officially registered as not working per job vacancy) was only 0,6 by the end of 2017 for Russia as a whole [Fig. 7]. It means demand for labour exceeds its supply.

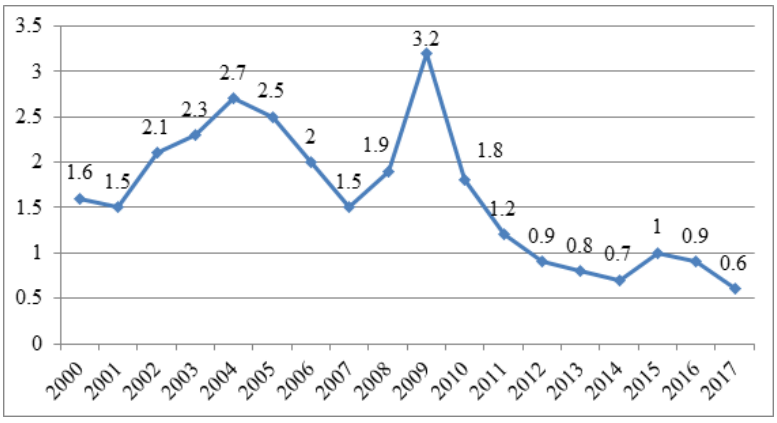

Fig. 7: The number of people officially registered as not working per job vacancy by the end of the year for Russia as a whole , person [17].

For comparison, in 1995, this indicator was 8,2, that is number of those wishing to get a job was significantly higher than a number of vacancies, and therefore, labour market situation could be described as crucial. The unemployment rate at the time was 9,5%, the unemployment rate registered was 3,3%. In 2017, similar indicators amounted to 5,2% and 1%, respectively.

The severest impacts of negative demo Figic trends (fertility decline and decrease of the working age population) internal interregional migration is starting to play an increasingly role for Russian regions. Over the last ten years its levels have increased rapidly [Fig. 8]:

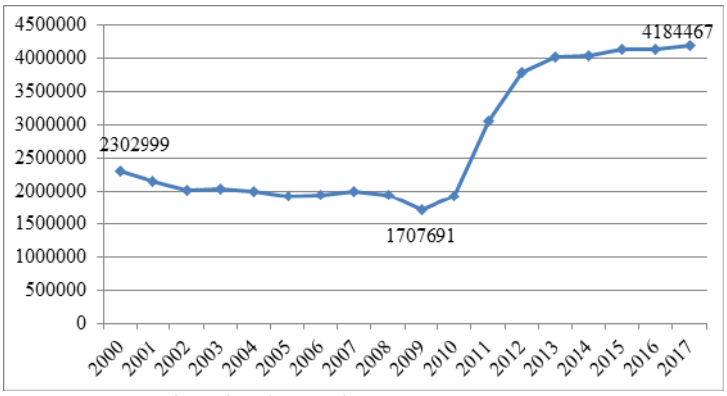

Fig. 8: Internal migration in Russia, person [6].

In this case, according to the Rosstat methodology, only internal migration associated with a change of permanent residence (ie, with a change of registration) has been taking into account. Commuting and other temporary mobilities are not taken into account.

Only 12 Russian regions had positive migration increase for the last 10 years (2008-2017):

- four regions of the Central Federal District - Belgorod, Voronezh and Moscow regions, Moscow;
- three regions of the North-West Federal District - Kaliningrad and Leningrad regions, St. Petersburg;
- two regions of the Southern Federal District - the Republic of Adygea and the Krasnodar territory;

by one subject of the Volga, Ural and Siberian federal districts - the Republic of Tatarstan, Tyumen (including the Khanty-Mansiysk and Yamal-Nenets Autonomous Districts) and Novosibirsk regions.

These regions were selected as subjects of our study.

In order to determine on which type of migration - internal or external - the government should focus in 12 of the studied regions, we have conducted a regression analysis - it is used for forecasting, analyzing time series, testing hypotheses and revealing hidden relationships in the data. We need to determine whether there is a relationship between migration and regional socio-economic development. Let us put forward the following hypothesis: “Migration growth has a positive effect on the characteristics of the socio-economic situation of the Russian regions”.

The indicators “internal migration increase (per 10,000 people)” and “external migration increase (per 10,000 people)” were chosen as independent variables x_1 and x_2. Formulating separate regression equations for x_1 and x_2 will make it possible to compare the effects and strength of the influence of external and internal migration processes on regional development.

The dependent variables will be indicators that reflect some of the main characteristics of the socio-economic situation of the subjects:

y_1 – GRP per capita (RUB);
y_2 – the number of small and medium enterprises, at the end of the year (units);
y_3 – the volume of innovative goods, works and services per capita (rubles);
y_4 – the unemployment rate (%);
y_5 – the number of registered crimes per 100,000 people.

To determine the presence / absence of a relationship between independent and dependent variables trend lines will be constructed, in our case - based on linear and non-linear pairwise equations (exponential, logarithmic, polynomial and power) regression, for each of which the coefficient of determination R^2 will be determined: the higher the coefficient of determination, the better the model. If R^2≤0,5%, then the model has a poor quality level, the analysis cannot be considered significant and used for subsequent studies. For further forecasting and drawing conclusions we will use those models that have R^2≥0,75.

The resulting statistically significant regression equations are presented in table:

Table 1: Regression equations with coefficient of determination R^2≥0,75

Region	independent variable X	independent variable Y	Regression equation
Kaliningrad Region	x_1 "internal migration increase (per 10,000 people)"	y_1 "GRP per capita (RUB)"	$y = 189686e^{0,0157x}$ $R^2 = 0,7485$
Voronezh region	x_2 "external migration increase (per 10,000 people)"	y_1 "GRP per capita (RUB)"	$y = 403,9x^2 - 14697x + 262166$ $R^2 = 0,9521$
Moscow	x_1 "internal migration increase (per 10,000 people)"	y_2 "the number of small and medium enterprises, at the end of the year (units)"	$y = 204,21x2 - 23724x + 866884$ $R^2 = 0,943$
Moscow	x_2 "external migration increase (per 10,000 people)"	y_2 "the number of small and medium enterprises, at the end of the year (units)"	$y = 11104x^2 - 237720x + 1493855$ $R^2 = 0,8972$
Kaliningrad Region	x_1 "internal migration increase (per 10,000 people)"	y_4 "the unemployment rate (%)"	$y = 0,0036x^2 - 0,2829x + 11,284$ $R^2 = 0,8286$
Kaliningrad Region	x_1 "internal migration increase (per 10,000 people)"	y_5 "the number of registered crimes per 100,000 people"	$y = 0,6133x^2 - 38,847x + 2139,7$ $R^2 = 0,7628$
St. Petersburg			$y = 0,2394x^2 - 50,231x + 3673,9$ $R^2 = 0,8137$

Consider, for example, the Kaliningrad region. By the standards of Russia, it is a rather small region both in terms of area and population.

A good quality model with R^2 = 0.829 has a polynomial regression equation: y = 0,0036x^2- 0,2829x + 11,284 - it can be used to predict changes in the unemployment rate depending on changes in internal migration flows. Let's continue the trend line for 10 years ahead [Fig. 9]:

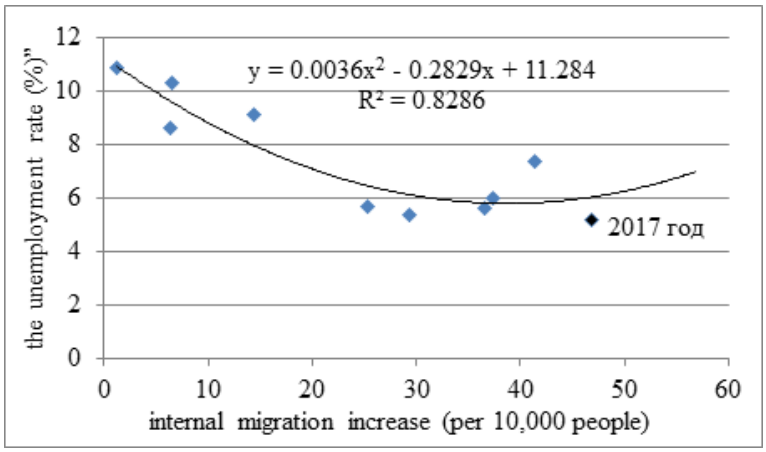

Fig. 9: Polynomial trend line for the independent variable x_1"internal migration increase (per 10,000 people)"and dependent y_4 "the unemployment rate (%)" of the Kaliningrad region.

If internal migration growth increases by 10%, the projected unemployment rate with a probability of 82.9% will be: 0,0036*(46,8*1,1)^2- 0,2829*(46,8*1,1)+11,284=6,3 , which is 20.4% more than the unemployment rate in 2017 - 5.2%.

The hypothesis about the positive effect of positive migration growth on the socio-economic situation of the regions was only partially confirmed: the nonlinear regression equations for a number of subjects showed that a further increase in migration growth could lead to faster growth of GRP (in the Voronezh and Kaliningrad regions) and small and medium-sized enterprises (in Moscow), and to the growth of unemployment (in the Kaliningrad region) and crime (in St. Petersburg and the Kaliningrad regions). Therefore, there is a need to regulate migration processes and their "retention" in an acceptable framework for the region.

Thus, we conclude that it is necessary to attract labour migrants to Russia as one of the most important source for replenishing demoFigic and labor resources and economic development. But also important are

the protection of the national labour market and the maintaining inter-ethnic and inter-religious peace and harmony in Russian society, that are declared in the Concept of the State Migration Policy of the Russian Federation for 2019-2025.

Implementing of labour patents in Russia for citizens from "visa-free" countries allows an unlimited number of migrants to come to Russia to work.

Such systems, in our opinion, should work in all CIS countries: Armenia, Azerbaijan, Belarus, Kazakhstan, Kyrgyzstan, Moldova, Tajikistan, Turkmenistan, Uzbekistan, Ukraine. This project will provide the following benefits:

- recruitment of labor, adapted in quantitative and qualitative characteristics to the requirements of the Russian economy;
- formation of "transparent rules of the game" on the Russian labor market — workers who are best prepared for a specific type of work activity will receive a job;
- quotas distribution for attracting labor by country depending on their cultural and linguistic similarity with Russia;
- minimizing the number of illegal migrants;
- protection of labor and social rights of migrant workers;
- legal preparedness of migrants;
- minimizing interracial conflicts between labor migrants and the local population.

Therefore, the implementation of the proposed system will become an effective mechanism for regulating external migration processes.

CONCLUSIONS

The article presents an overview of detailed qualitative and quantitative characteristic of migration flows in the Russian Federation, an analysis of their meaning and degree of influence on the Russian regions' socio-economic situation.

Based on the our research, the following main problems of migration management were identified: disproportions in the internal movement of the population - concentration of "internal" migrants in the central part of Russia and outflow of the population from its eastern part; lack of skilled labor migrants - only one fifth of migrants have higher education; exceeding the number of labor migrants over the real demand of the Russian economy and the subsequent increase of unemployment rate among the local population in some regions of the Russian Federation; high level of illegal migration.

Russian regions have a different need to attract foreign labor, and it must be taken into account when developing migration policy.

The most interesting for Russia are the practices applied in the migration policy of the United States, Canada and the EU countries and related to the selective mechanisms in the field of economic class immigration, which can contribute to the overall progress of the country, using immigration as one of the development resources.

CONFLICT OF INTEREST

There is no conflict of interest.

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None.

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ARTICLE

NEW GLOBAL SUSTAINABLE CONSUMPTION TENDENCIES

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ABSTRACT

New sustainable consumption tendencies were distinguished based on the literary analysis of the scientific sources on the development of the organic-industrial complex. Some of the most significant tendencies are the tightening of the environmental compliance standards in the food market, changes towards just bio politics in distributing food supplies, shifting the centre of consumption to cities and developing a food infrastructure in urban localities, the digitalization of consumption and daily routine, and the proliferation of the elements of the sharing economy. Consumer culture is being revised through the concept of slowing down the life cycle of product consumption ('slow movement'), fashion, and attitude towards the human body and beauty, which allows to reduce the amount of waste and increase consumer awareness. Consumer knowledge and environmental awareness is expanding. Consumers adapt to the green market, their values change. Scholars have noticed that the frequency and nature of sustainable practices differ depending on the gender of the consumer. The price of organic and eco-friendly goods still makes it difficult to reach the balance between the consumer and the manufacturer, while the global development of the green market is slowed down by the discrepancies in the environmental standards.

KEY WORDS
sustainable consumption, consumption, green market, organic, bio products, sustainable farming

INTRODUCTION

The global sustainable development goals determine consumption as sustainable or controlled when it does not exceed the production potential of the planet while being able to satisfy the population's need in safe and quality sustenance. Aside from effectively using the resources (soil, water, energy, waste) when producing food, new sustainable goals suggest a social and cultural transformation of global and local processes and institutes that are involved into the complete life cycle of products and changing the environmental orientation of civic practices.

The Sustainable Diet concept is gaining momentum as a means of achieving sustainable consumption, but there is still no consensus of opinion on how it has to be interpreted within the scope of this notion []. In the reports by UN, sustainable diets are defined as "diets with low environmental impacts which contribute to food and nutrition security and to healthy life for present and future generations. Sustainable diets are protective and respectful of biodiversity and ecosystems, culturally acceptable, accessible, economically fair and affordable; nutritionally adequate, safe and healthy; while optimizing natural and human resources"[7, 8].

Sustainable agriculture should be based on, first of all, sustainable consumption, that is, on the consumer behaviour that includes purchasing goods and services that respond to basic needs and bring a better quality of life, while minimizing the use of natural resources, toxic materials and emissions of waste and pollutants over the life cycle of the product or service".

A sustainable diet does not only preserve the biodiversity, it also helps to preserve the cultural diversity since the social and cultural transformation of consumption will be built on the traditions of a local cuisine while maintaining the traditions of cultural identity when eating and producing food and focusing on the environmental security [6]. The main resources for shifting to sustainable consumption are created through the infrastructure of production, revising global and local logistics, general principles of resource efficiency, and technologies of producing goods and domestic life. However, it is necessary to closely monitor the cultural and social forms of such transformations that constitute the principles of sustainable consumption for the consumer, manufacturer, and infrastructure.

The research objective of this work is to track the most relevant tendencies in the development of the sustainable diet and sustainable consumption concepts

MATERIALS AND METHODS

Content-analysis of the articles from 2010-2019 on global sustainable development reports and scientific articles from Scopus and Web of Science was the main research method. Search keywords: sustainable agriculture, sustainable production and consumption, green-marketing, greenmarket, green production. 150 articles in total were analyzed.

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RESULTS AND DISCUSSION

1. When analyzing the written sources, we distinguished several tendencies of frequent occurrence. They are nine in total. Safety of the Consumer = Safety of the Ecosystem We are facing a rapid decrease in the amount of vital resources, such as energy, water, and materials, as well as a deterioration of agricultural lands and ecosystems necessary for the production of food. 10.3 units of energy are required to produce 1.40 unit of energy of edible food. The United Nations Environment Program suggested a classification of sustainable resource consumption practices based on the basic human needs. When it comes to food, there should be a reduction of food waste; in terms of transportation, it is necessary to transition to the eco-friendly transportation, fuel, and car sharing; housing should feature sustainable construction works, energy and water saving; consumers should prefer ethical clothing, natural materials, and recyclable textiles when it comes to clothing; as for education, the practices of sustainable living should be taught and popularized, sustainable living should be encouraged; people should lead a healthy and eco-friendly lifestyle to remain healthy; and lastly, when it comes to entertainment, it is important to implement sustainable tourism and daily practices that feature a low usage of resources.

2. **Bio politics** Food security as a matter of national security. Food manufacturing has become a competition in making a greater contribution to pollution; population growth affects the biogeochemical processes of Earth and surpasses the planetary limits of the use of bio resources [8]. Agricultural ecosystems cover 38% of the Earth's surface, emit 30-35% of the global greenhouse gases, and use 71% of the fresh water intake. Since 1960s, the area of irrigated land doubled, the amount of fertilizers used increased fivefold, and the volume of nitrogen went up by a factor of eight. To meet the needs of the population, the global food production has to increase by 50% by 2030 and by 100% by 2050[1]. At the same time, it is important to take into consideration the fact that 24% of terrestrial ecosystems have degraded. Thus, it is exigent to study the innovative sustainable opportunities of intensifying the agricultural ecosystems.

3. Food Equity According to a number of researches [13], one person out of seven experiences a lack of food supplies, two out of seven are exposed to iron deficiency and deficiency of other micronutrients [9]; almost all of these people live in the developing countries. On the other hand, obesity rates are increasing in developed countries due to overeating and irrational use of nutrients; the nature of a sustainable diet in a context of a wide choice of foods is being discussed.

4. Food regulation has become an urgent matter in the centres of consumption such as world megalopolises [1; 2]. Cities can create a closed foodscape through planning procurement and consumption policies focused on the demand for waste reduction. Within the scope of the new approach to sustainable consumption, it is important to increase the variety of foods in the cities presented in the new and existing selling points that would be accessible on foot or by public transport and promote urban agriculture by making it more accessible and creating job opportunities. To achieve this, the authorities should adopt three practical areas of focus, such as: "Logistics management and synergies (synergy with the consumption rates) and the development of a local food supply system", "social integration and generation of jobs within the scope of green economy", "the level of emissions and different type of environmental pollution and assessment of resource efficiency"[6]. Sustainability food governance involves different partnerships, city development plans and roadmaps; special marking and identification of urban food should be considered as possible. Environmentally and socially responsible business in the area of food production is expected to be the major growth engine of a city that creates new retail locations, fairs and spaces, and themed food courts. It is necessary to develop food literacy and resilience to the changes [12].

5. Countries featuring an extensive hedonistic cult of food should set the tone of sustainable consumption. The habitual food culture in Southern, Eastern, and Western European countries is more developed than in other countries when it comes to preserving the traditions and food as a part of daily life.

6. The temporal revolution of Slow Movement, that is, a local social movement organized by Carlo Petrini whose ideology is based on the idea of slowing down the rhythm of live and the lifecycle of production and consumption. Its principles are preserving the balance, the right tempo (tempo giusto), being aware of consumption and of one's actions, and being focused on the primal goal of utilizing a product. The temporal approach in the context of consumption brought up Slow Food vs Fast Food, Slow Fashion vs Fast Fashion, Slow beauty vs Fast beauty. Slow Food is striving to implement the principles of sustainable development and slow down the lifecycle of a product. Thanks to this movement, the Ark of Taste is being disseminated, which is similar in essence to the Red List and includes national, unique heritage foods and craft products associated with the culture, history, and traditions of different peoples in order to preserve them. Neo-gastronomy, a new approach to understanding the connection between the quality of life and the food culture, emerges. A neo-gastronome is an actor who practices the principles of neo-gastronomy and undergoes taste education to differentiate and create flavours. Attention is paid

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to waste reduction and sustainable mobility of a consumer, principles of sustainable logistics, reducing packaging when purchasing and carrying products, using lunchboxes, thermoses, or reusable mugs, purchasing food in bulk or wrapped into biodegradable packaging. The environmental politics focuses on the reduction of food waste (30% of food is wasted because it is almost expired, expired, or is not aesthetically appealing, even if it is still edible) Slow Fashion vs Fast fashion One of the branches of the slow movement is slow fashion introduced by Kate Fletcher in 2007 (Centre for Sustainable Fashion, UK)[7]. Its motto is "Quality over quantity". It means slowing down the rate of clothing consumption and preferring the clothes that will last longer. The progressive approach to clothing involves abandoning the overconsumption and passing trends that change from 6-7 to 20 times a year. The Global Change Award initiated by the H&M Foundation prepared a trend report on the future of sustainable fashion in 2017. Five megatrends were distinguished, such as innovative zero-waste materials, sharing clothes through applications, vintage clothing, innovative approaches to recycling clothes, smart clothes that communicate with their owner and implement live tracking by monitoring warmth, and striving for universalism. Moreover, five actors of the future of sustainable fashion were determined, they are: The Environmentalist, The Millennial (a young consumer, predominantly a female, interested in new green fashion trends), The Businessman (a young entrepreneur, a production manager or a founder of an app startup), The Scientist (a production engineer), The Fashionista (interested in creating clothes from eco-friendly materials, promoting sustainable brands, making it easier for people to have easy access to the latest fashion trends and high fashion). Slow beauty. After the appearance of a movement aimed at slowing down the tempo of the food cycle and consumption, a movement for slowing down the consumption of beauty products also emerged [9; 10]. Slow beauty stands against the cult of youth, quick-fix anti-age procedures, and beauty products containing chemicals; it promotes the utilization of natural and organic cosmetics sold in recyclable packaging whose production does not harm the environment and animals. The Going to Green portal exemplifies other similar beauty cultures, such as Clean Beauty, Wabi-Sabi (Japanese approach to self-care), and Siga-Siga from Cyprus [11]. The key factors in transitioning to the organic self-care are the perceivable behavioural control, knowing the product, the hedonistic value, the environmental value, and the safety value. Smart Beauty Such apps as Slapp ConnectBeauty and MDacne make it possible to customize the choice of skin products which helps to reduce the waste from the products that turned out to be unfit. The was a significant increase in the use of natural, organic, and ethic labels in the market of organic personal hygiene products, which is largely explained by the growing popularity of organic foods [13; 14]. Changing one's lifestyle, raising awareness, and improving the accessibility of a wide range of products are the key factors that promote market growth.

7. **Smart –** eco. Smart cities, smart kitchen, production and recycling. The changes are expected in the physical, digital, and environmental infrastructure of households and urban spaces; sustainable networks of consumers, manufacturers, and environmental production parks are created. The CONSENSUS project (that studied 1,500 households based on the approaches to sustainable behaviour and researches of social and environmental practices) offered consumers to imagine the desirable present and future of technologies regarding sustainable daily consumption. Households feature the technologies of in-house recycling, composting, home-growing of crops, and apps and appliances that economize water and energy. Households can be included into private or collective households that cultivate crops for communal use, eat together, learn housekeeping, can adapt to eco-agricultural tourism, and form a closed local economy with monetary units that reflect the reduction of the environmental load [5].

8. **Eco-Consumers and Consumer Ethics:** The green market does not only focus on sales, it also takes into consideration preserving the balance between meeting human needs and saving the environment, which means that green ethics imposes more and more social responsibility on the consumer. The green marketing strategy implies that the person who buys green products is not only motivated by his or her personal needs, but also their respectful attitude to the well-being of the society, since a green customer considers the environmental consequences (costs and benefits) in their personal daily consumption. Regardless of which motive in the context of consumption is in priority, be it egoistic or altruistic, the consequences for the environment are positive. The green customer is a customer who is motivated to preserve the environment [5, 13, 14] and purchases the products whose production involved resource-efficient and energy-efficient technologies and that will be recycled through introducing their materials back to the production cycle.

Even environmentally responsible citizens cannot always purchase pure organic products. There are certain habitual restrictions that allow us to distinguish two types of consumers:

- Prevention type consumers who feel responsible for the environment and wish to prevent pollution;
- Promotion type consumers who are rather focused on their goals and dreams and do not feel the urge to adjust their behaviour to become eco-friendlier.

9. The image of a consumer is changing. As a rule, an environmentally-conscious consumer is well-educated, has a family, is often 30-40 years old or retired [4]. Sustainable practices are more

common among women than among men. Women featured a higher level of sustainable consumption practices than men. Based on the value-conscious, two types of consumers were distinguished:

- Self -transcendent values are more common among women prone to supporting environmentally-responsible practices in housekeeping; and self-enhanced practices that are more common among men who are rather motivated by long-term profits, product manufacturing, and environmental protection. For men, sustainable consumption is a way to enhance their social image by showing others that they care about the environment, whilst women find it important to preserve a healthy environment in the private circle of their family.

CONCLUSIONS

The trending changes in sustainable food have an impact on a global level through ecopolitics (safety for the ecosystem and manufacturer, new requirements for the redistribution of food between the countries of different economic development); there are changes in the infrastructure of food redistribution and in the nature of logistics (cities turn into agricultural and industrial parks featuring automated systems); private households are changing technologically to utilize new resource-efficient technologies and are automated through smart technologies. The result is maintained thanks to scaling the practices throughout the mainstream population interested in an eco-friendly lifestyle, while also becoming beneficial for the rest of the population thanks to the introduction of the elements of the sharing economy. The major changes are associated with the consumer, their responsibility area, values, self-presentation, and motivation. The dissemination of new eco-friendly habits is fueled by a number of cultural drivers, such as the fact that the eco-friendly lifestyle is associated with an elevated quality of life through the sustainable market basket, the expectations of a long-run economy, and slowing down the tempo of life within the scope of major consumer segments (food, household chemicals, beauty products, clothing).

CONFLICT OF INTEREST

There is no conflict of interest.

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FINANCIAL DISCLOSURE

None.

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ARTICLE

THE HEDONIC MODEL OF THE LAND FOR AGRICULTURAL PURPOSES MARKET VALUE

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ABSTRACT

The authors identified and evaluated the key hedonic factors of agricultural land in the Arsk municipal district of the Republic of Tatarstan of the Russian Federation market value. The authors studied the composition of hedonic characteristics included in the specification of the model, taking into account the characteristics of the terms of the transaction. In order to identify the observed factors determining the value of land plots, a linear specification of the regression hedonic model of market value according to the data on 35 land plots in the Arsk municipal district in 2019 is constructed. The empirical estimates of the specifications presented in the article confirmed the hypothesis of the relationship between the market value of the land plot with its area and the availability of access roads with hard surface. The relationship of the land market value with the distance to the city, the population in the locality in which the land is located, the configuration of the site in the linear specification of the regression hedonic model was not confirmed. The quality of the results was tested using the coefficient of determination, Fisher test and Student test, the results of the official monitoring of prices for agricultural land in the municipal districts of the Republic of Tatarstan. The results of empirical estimates confirmed the feasibility of this approach practical use to the assessment of land market value.

KEY WORDS
hedonic model, comparative approach, land plot, regression, least squares method

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INTRODUCTION

Agricultural land can serve as an object of investment, as well as be the object of economic turnover, with respect to which a number of property relations are formed. The essence of the comparative approach to the assessment of market value is to obtain an assessment of market value using the analysis of market prices of transactions or proposals for the sale of objects that are comparable with the estimated object and took place in the market of the estimated object before the date of evaluation. In the comparative approach, there is also a method of assessing real estate objects using regression analysis. This method is useful for constructing evaluation models if the number of comparable objects exceeds the number of comparison elements by 5-10 times. The advantages of regression models of market value assessment are the following: to assess the regularity of the influence of the main factors on the value of the land, both in the aggregate and each of them separately; to describe the form of analytical dependence of the market value and to assess the closeness of this dependence; the ability to determine the market value of the land at specified values of factors. The sufficiency of the actual data on the prices of transactions or offers, the analysis of the main factors influencing their cost, and also determination of a market segment, allow applying regression models within the comparative approach to research of the market of the parcels of agricultural purpose. In our opinion, the regression model of the market value of a land plot can be considered as a hedonic model that links market prices with the value characteristics of land plots. The main idea of the hedonic model is that the market value of the land consists of the usefulness of the measured quantitative and qualitative value characteristics of the land as a commodity. The model analyzes the desire of the consumer to pay for certain clearly observed characteristics of the land. The coefficients in the hedonic model show the implicit price of each of the characteristics, that is, the value of each characteristic in the total value of the land. The first applications of the hedonic model to the analysis of prices were made [1-3]. Different functional forms of hedonic regression were compared in the problems of variation of office rent prices by several researchers [4-6]. As a rule, authors of works on commercial real estate [5-10] get similar results on the impact of the characteristics of the office on the price. Residential real estate was subjected to a closer analysis of researchers due to both social significance and data availability [11-16]. Publicly available and detailed data on the land market for housing construction are still insufficient, as are scientific papers devoted to its study. There is practically no econometric analysis of the land market, in particular the assessment of their market value, in Russian scientific practice. The aim of the study is to build a hedonic regression model of the market value of agricultural land with a set of variables that can take into account the effects of improvements in land quality.

MATERIALS AND METHODS

When calculating the market value of the land to be sold, the comparative approach used a statistical method of calculating the cost - regression analysis. The method of regression analysis was considered the most appropriate for calculating the market value of the estimated land plot, since the number of comparable objects - analogues is large enough. Therefore, the use of this method will reveal the regularity of the influence of the main factors on the studied indicator - the cost of land. The evaluation of the land plot to be sold on the basis of regression analysis consists of the following sequence of actions:

1. formation of a sample of homogeneous land - analogues and collection of initial information;
2. selection of the main pricing factors affecting the cost of land;

3. estimation of the regression model on a sample of land-analogues;
4. verification of model estimates;
6. calculation of the land market value to be sold.

As a result of the analysis of the land market, proposals for the sale of analogues - land plots of the category "agricultural land" in the Arsk municipal district of the Republic of Tatarstan of the Russian Federation were identified. The sample consisted of 35 plots of land for which information was collected from websites of real estate, in particular such as https://www.avito.ru, http://объекты-недвижимости.рф, https://torgi.gov.ru. was chosen as the main pricing factors that affect the value of the land for agricultural purposes: X1 - area of land; X2 – distance to the city, X3 – distance to the point of reception of agricultural products, X4 - availability of access roads with hard surface, X5 - the population in the village in which the land is located, X6 – configuration of the site.

The first pricing factor - area - refers to the physical characteristics of land. This element was included in the calculation of the regression model to identify its impact on the cost of land. Since the estimated land plot and all analogues are located in the Arsk municipal district, the distance from each comparable land plot to the administrative center of this municipal district – Arsk city was calculated as the second factor. To take into account the presence of access roads with a hard surface in the regression model, a fictitious variable was used: 1 - there are access roads with a hard surface, 0 - there is no. The configuration refers to the technological properties of agricultural land in terms of the suitability of similar land for mechanized processing, a fictitious variable is also used: 1 – convenient for mechanized processing, 0 – no. Also, for each land plot, depending on its location in a particular locality, the number in this locality was found.

The estimation of the linearized model specifications is performed by the usual least squares method in the Gretl Software environment [17-19]. The model takes into account potentially influencing price-forming factors, according to which the compared land plots differ and the changes of which can affect the change in the cadastral value of land plots. The authors made intuitive check of the signs validity when the coefficients of the econometric hedonic model, that is, their conformity with the nature of the influence of pricing factors. To verify the quality of the obtained models the authors used the coefficient of determination, the average error of the approximation, the statistics of Fisher and Student's t-test.

RESULTS AND DISCUSSION

To determine the presence and strength of the relationship between the variables, a correlation analysis was carried out using the MS Excel analysis Package. The results of the correlation analysis are shown in [Table. 1].

Table 1: Matrix of pair correlation linear coefficients

	Y	x1	x2	x3	x4	x5	x6
Y	1						
x1	0,868366	1					
x2	-0,19252	-0,26793	1				
x3	-0,18471	-0,22424	0,862357	1			
x4	0,65093	0,481863	0,029557	-0,0561	1		
x5	-0,23664	-0,21952	-0,22584	-0,15862	-0,30562	1	
x6	0,118963	0,149008	0,204432	0,086704	0,224201	-0,23147	1

The source: obtained by authors in MS Excel

Table- 1 shows that the variables x2 and X3 are collinear. Since the absence of correlation between variables and the more precise functional relationship between them is an important condition for factors included in multiple regression, it is necessary to exclude one of these factors from the model. Variable x2 describes the distance to the administrative center, and variable X3 – the distance to the point of reception, storage and processing of agricultural products. Based on the fact that both variables have a weak relationship with the remaining factors and also a weak relationship with the dependent variable, intuitive analysis is used to select the excluded variable. The distance to the administrative center is a more important factor compared to the distance to the point of reception, storage and processing of agricultural products, since not every owner may be interested in using the points of reception of agricultural products, for example, in the case of agricultural production on a relatively small area. Therefore, the variable X3 can be excluded from the model.

After the X3 variable is excluded, a regression analysis should be performed. The results of the regression analysis are shown in [Table- 2].

Table 2: The results of the regression analysis of the market value of land.

Regression statistics	
Multiple R	0,993742
R-square	0,987523
Normalized R-square	0,985372
Standard error	24277,12
Observation	35

Analysis of variance

	df	*SS*	*MS*	*F*	*P-value F*
Regression	5	1,35E+12	2,71E+11	459,0518	1,14E-26
Residual	29	1,71E+10	5,89E+08		
Total	34	1,37E+12			

	Factors	Standard error	t-statistics	P-value	Lower 95%	Upper 95%
Intercept	56583,32	17150,77	3,299172	0,002572	21506,06	91660,57
x1	3,736456	0,100766	37,08052	5,49E-26	3,530366	3,942545
x2	-890,897	626,5746	-1,42185	0,165736	-2172,39	390,5923
x4	35575,26	11178,97	3,182336	0,003471	12711,69	58438,83
x5	0,062612	1,24265	0,050386	0,96016	-2,47889	2,604118
x6	-4294,54	9029,481	-0,47561	0,637913	-22761,9	14172,82

The source: obtained by authors in MS Excel

Table-2 shows that the relationship of variables X2, X5, X6 with the dependent variable Y – the market value of the land plot (P-the value of Student statistics for regression coefficients for these variables is greater than 0.1).

The exclusion of insignificant variables from the model allowed to obtain the following regression analysis result, shown in [Table- 3].

Table 3: The results of the regression analysis after exclusion of insignificant variable

Regression statistics	
Multiple R	0,993112
R-square	0,986272
Normalized R-square	0,985414
Standard error	24242
Observation	35

Analysis of variance

	df	*SS*	*MS*	*F*	*P-value F*
Regression	2	1,35E+12	6,76E+11	1149,5	1,59E-30
Residual	32	1,88E+10	5,88E+08		
Total	34	1,37E+12			

	Factors	Standard error	t-statistics	P-value	Lower 95%	Upper 95%
Intercept	36819,19	8124,521	4,53186	7,7E-05	20270,08	53368,3
x1	3,781715	0,093328	40,5208	4,49E-29	3,591612	3,971817
x4	31409,44	10699,62	2,935566	0,006119	9615,028	53203,85

The source: obtained by authors in MS Excel

As can be seen from Table- 3, the land area (X1) and the availability of access roads with hard surface (X4) explain 99% of the variation of the dependent variable – the market value of the land. Only 1% of the variation in the market value of the land plot is explained by other value characteristics not taken into account in this regression model. According to the Fisher test [Table 4] at all possible significance levels, the null hypothesis of co-equality of regression coefficients to zero is rejected. The model is statistically significant and reliable. According to the Student test [Table 4] regression coefficients for factors X1 and X4 are statistically significant, which confirms at all possible levels of significance the existence of a linear relationship between the land area, the presence of access roads with hard surface and market value.

Table 4: Statistics of Fisher and Student's t test

Indicator name	Value	
F - Fisher statistics	actual	1149,5
	critical (0,1;0,05;0,01)	2,477; 3,295; 5,336
T - Student statistics	actual (β_0, β_1, β_4)	36819,19; 3,782; 31409,44
	critical (0,1;0,05;0,01)	1,694; 2,037; 2,738

The source: obtained by authors in MS Excel

Using estimates of the linear multiple regression model:

y = 36819,19+ 3,781715 * x1 + 31409,44 * x4 +ε you can estimate the market value of the land to be sold. For example, the object of valuation is the market value of the land plot with a total area of 2 009 000 sq. m, located to the address: Republic of Tatarstan, Arsky municipal district, rural settlement Kalasinski. The distance of the land plot from the administrative center (Arsk) is 8.3 km, the distance to the point of reception and processing of agricultural products is 12 km, the shape of the site is trapezoidal, there are access roads with hard surface. The market value of this site will be:

y = 36819,19+ 3,781715 * 2009000 + 31409,44 * 1= 7 665 694 rub.

Thus, the cost of 1m2. estimated land according to the correlation and regression analysis will be:
7 665 694 / 2009000 = 3,82 rub.

According to the monitoring of prices for agricultural land plots in the municipal districts of the Republic of Tatarstan, this value lies in the price range of land plots of this category located in the Arsk municipal district.

The simulation results can be summarized in several conclusions.

With an increase in the area of land per square meter, the market value of the land increases by an average of 3.78 rubles. This is understandable, as intuitively increasing the area of land leads to an increase in the value of the land. This feature should not be confused with the specific indicator of market value, which will decrease as the area increases. The presence of access roads with hard surface increases the market value of the land on average 31409.44 rub.

Among the factors of the market value of agricultural land plots, the relationship with the distance to the city, the population in the locality in which the land plot is located, the configuration of the site is not confirmed. This situation reflects the weak level of market competition in the market of agricultural land, caused by insufficient demand for agricultural land.

CONCLUSIONS

The diversity and internal heterogeneity of agricultural land requires adequate means of determining its value. Assessment of the market value of agricultural land plots is carried out mainly using the methods of income and comparative approaches. In the framework of the comparative approach, one of the adequate methods for determining the market value of agricultural land plots is the method based on the application of regression analysis of the characteristics of land plots - analogues.

The analysis of the features of evaluation of agricultural land plots shows that the specificity of evaluation of land plots of this category imposes certain restrictions on the choice and application of evaluation approaches and requires careful study of all factors affecting the value of agricultural land. An adequate method of evaluation of agricultural land consists of features related to the quality of land and economic characteristics and should be based on the principles of rental economy and the principles of evaluation.

CONFLICT OF INTEREST
There is no conflict of interest.

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ARTICLE

SOCIAL SENTIMENT INDEX AS AN INTEGRAL INDICATOR OF THE SOCIAL WELL-BEING OF THE POPULATION (THE CASE OF KAZAN, RUSSIA)

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ABSTRACT

Social sentiment is the reflection of public reaction to the social reality and authorities' actions that should be constantly monitored by sociologists. Designing indexes that demonstrate the integral assessment of the dynamics of a complex of social, political, and economic public sentiment is considered to be the most valid method of researching the social sentiment. Based on the results of the representative mass survey of the citizens of Kazan (n=1500, December 2018), we discovered a reduction in the social sentiment index of the population of Kazan conditioned by a number of political, social, cultural, and economic factors. Specifically, the index of current personal situation dropped by 12.6% (in 2018, it showed 127.1); the index of the assessment of public authorities decreased by 10.4% (126.3); the expectations index lowered by 9.7% (122.5). The decrease in the index of current personal situation was the smallest in the Republic of Tatarstan with the value of 6.9% (125.1). The composite SSI (Social Sentiment Index) amounted to 124.6 in July 2018 in Kazan, which is 9.5% less than in 2017.

KEY WORDS
social sentiment, social well-being, social sentiment index, mega events, regional research

INTRODUCTION

One of the key factors of the socioeconomic situation developing in a particular society is the social behavior of its members. Researching and predicting public attitudes and behaviors is impossible without studying and understanding the mechanisms that spur social subjects into action. Social sentiment is the incentive mechanism that practically acts as an indicator of the public reaction to the living conditions of the people and of the influence that a complex of social, political, and economic factors has on their lives [1].

Thereby, analyzing current social policies and specific social programs becomes a difficult research task that requires the development of scientifically based methods that would allow to perform a complex assessment of the results of such government policies.

When social and economic researches related to this area were conducted in Russia, a method of analyzing social processes and events based on the integral assessments of the dynamics of a complex of social, political, and economic public sentiments through the calculation of composite indexes was formed, which was new for the country.

When it comes to studying the social sentiment (and designing the SSI in particular), the integral approach features a number of advantages, such as attracting the population to the multifaceted assessment of different areas of the social life in order to develop the means of effective social management and the opportunity to see the public assessment and social consequences of the political solutions that have been implemented. Another advantage is that such indexes are easy to design, which allows stakeholders (authorities, the business community, the academic sector, etc.) to refer to the results of such researches to receive up-to-date information on public assessment of the current situation in the country. Lastly, social sentiment indexes feature a predictive potential in the sense that monitoring such indexes allows to predict the economic and socio-political behavior of the population in the short-term perspective [2].

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MATERIALS AND METHODS

The main goal of our research was to analyses the condition and dynamics of the social sentiment of the citizens of Kazan by applying a complex integral approach through designing a social sentiment index. The adult population of Kazan aged 18 and older was the object of the research.

A mass survey of the population of Kazan based on the representative stratified sampling (n=1500) was used as the research method; the average sampling error does not exceed 5%. The survey was conducted in December 2018. The data analysis was performed using the SPSS Statistics software package (version 20.0).

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When researching the social sentiment, we found on the updated technique of drawing an SSI developed by the Levada-Center team [10] as it is considered to be the most comprehensive and reliable technique based on the extensive experience of conducting such researches. The SSI assessment technique we used suggests the analysis of the respondent responses to 10 indicator questions. During the first stage of index calculation, individual indexes are drawn based on the

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distribution of respondent answers to each question. They reflect the difference between the affirmative and negative answers (on a percentage basis) to individual indicator questions that are taken into account when calculating the composite index. 100 is added to the difference to avoid negative answers. Afterwards, the individual indexes are grouped into four separate indexes: 1) the index of current personal situation; 2) the index of the current situation in the Republic; 3) the expectations index; 4) the index of the assessment of public authorities. The composite (integral) social sentiment index (SSI) is calculated as the arithmetic mean of the individual indexes. The indexes vary between 0 and 200, where any index value below 100 signifies the prevalence of negative opinions, and vice versa. We believe that the four individual indexes distinguished based on this technique (the index of current personal situation, the index of the current situation in the country, the expectations index, and the index of the assessment of public authorities) reflect the most relevant aspects of the public sentiment. Yet another advantage of this SSI drawing technique is the simplicity and pithiness of the calculations and analysis of the results, as well as the comprehensiveness of the results for the public.

RESULTS AND DISCUSSION

The results of the research we have conducted gave us basis to draw the individual indexes described above. First, we drew individual indexes based on every indicator question according to the previously developed technique. All the resulting values of individual indexes exceeded 100, which signifies the overall prevalence of positive respondent feedback. However, there are significant differences between the individual indexes we have calculated. The highest value (134.9) was deduced for the index characterizing respondents' answers regarding their personal future ("I believe that my family will live in better conditions in a year"). At the same time, the respondents' assessment of the future of the Republic turned out to be much leaner, as the corresponding indexes feature the lowest values ("Over the next few months, the economy of the Republic of Tatarstan will improve significantly" - 116.2; "Over the next few months, the political situation in the Republic of Tatarstan will improve significantly" - 117.1).

High index values were also received when analyzing the respondents' answers regarding their personal situation: "Lately, I've been in a great mood" - 126.9; "Over the past year, my life and the life of my family improved significantly" - 127.2. Besides, the population of Tatarstan tends to assess highly the political situation in the region ("I think that the political situation in the Republic of Tatarstan is favourable" - 127.7) and the authorities' actions ("I approve of the efforts of the current government of the Republic of Tatarstan" - 126.3). Remarkably, despite the fact that the citizens of Kazan often consider the changes that occur in Tatarstan to be positive ("In my opinion, everything is going well in the Republic" - 125.3), they do not expect the situation to improve soon ("Overall, in a year, the living conditions in the Republic of Tatarstan will be better than they are now" - 121.9).

Based on the individual indexes, we drew four separate indexes by distinguishing the indicators into four corresponding groups. The index of current personal situation featured the highest value (127.1), the index of the assessment of public authorities and the index of the current situation in the Republic of Tatarstan are a little lower (126.3 and 125.1). Despite the high hopes of the citizens of Kazan regarding their personal future, the expectations index features the lowest value (122.5) due to the extensive negative evaluation of the future of the Republic.

In this article, we also wanted to analyses the dynamics of the SSI of the population of Kazan. The authors conducted regular monitoring of the social sentiment of the citizens of Kazan from 2012 to 2015. In this article, we will review the dynamics of the SSI of the population of Kazan over the given period and analyze the way it changed by the time of the last sampling that took place in 2018. Overall, a different number of respondents was surveyed in different years: in 2012, 454 persons participated in the survey; in 2013, this number increased to 680; in 2014, the respondents were 1328; in 2015, 817 persons were surveyed; and in 2018, the number of respondents amounted to 1500. The survey technique and the method of selecting the respondents remained the same, which allows us to compare the results that were received in different years.

According to the results of the surveys, the social sentiment of the population of Kazan changed significantly over the period in question. During the first sampling (in 2012), the values of all four indexes were rather low. The composite SSI of the citizens of Kazan amounted to 109.3, which implies an insignificant prevalence of the positive assessment of the different areas of personal and public life. However, in 2013, there was a sharp spike in the values of the individual and composite SSI's of the population of Kazan. The index of the current situation in the Republic of Tatarstan underwent the largest increase (it amounted to 104.4 in 2012 and 146.8 in 2013). The expectations index grew significantly as well (it featured 144.3 in 2013), while the previous surveys discovered that the population considered their own future and the future of the Republic to be uncertain (in 2012, the index value was 106). Moreover, the index of the assessment of public authorities also increased (it featured 111 in 2012 and 146.1 in 2013). Notably, according to the survey of 2013, the index of the current personal situation of the citizens of Kazan was lower than other individual indexes, which contradicted the usual tendencies of SSI sampling. It could be preconditioned by a deeper social differentiation of the population of Kazan compared to the population of other cities and villages of the Republic [3].

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What could explain such notable positive changes in the social sentiment of the citizens of Kazan? The fact of the matter is, the survey of 2013 was conducted in November, 5 months after the Universiade, which was a significant mega event for the whole Republic of Tatarstan. In summer 2013, Kazan hosted the World University Games that became one of the most discussed events of the year. The results of the survey indicated that the citizens of Kazan were optimistic and had positive expectations, they were satisfied with the event that took place in their city and highly appreciated the efforts of the local authorities regarding the preparation and organization of the Universiade. This data correlates with the research data of the Center for Strategic Studies of Rosgosstrakh, according to which Kazan is the leading city in Russia when it comes to such markers as the confidence of the population in the future and satisfaction with life [9]. The high level of optimism among the population of Kazan after the Universiade can be explained by the fact that mega events trigger significant infrastructural, cultural, and socioeconomic development in post-Soviet cities. It is preconditioned by the fact that the heritage of the Universidad covers numerous areas and includes both material objects (the Universiade Village, about 30 new sports facilities, repairs of the existing facilities, transport junctions, a new airport, etc.) and changes in the public image of the city (making Kazan known to more people at the international level, improving the public image of the city for its citizens, high appreciation of the authorities' actions by the population of the Republic, etc.) [4].

Nevertheless, such positive sentiment did not last. Thus, in November 2014, there was a drop in all individual indexes except for the index of the public authorities' assessment which has been showing constant growth. The drop in the level of the social sentiment of the citizens of Kazan in November 2014 occurred against the backdrop of the crisis developments in the Russian economy. Specifically, such events as the economic sanctions against Russia, weakening rouble, and feverish demand for certain types of products could not but take their toll on the social well-being of the population of Kazan and Russia as a whole.

Nevertheless, the citizens of Kazan demonstrated a sharp increase in all index values the following year during the sampling of 2015 [1]. At the same time, the economic problems remained unsolved, as the embargo introduced in 2014 was still in force, consumer inflation in December 2015 amounted to 10.7% compared to December 2014 (in 2014, it was 9.7%), including consumer inflation for food commodities that featured 12% (it was 14.2% in 2014), 11.3% for non-food items (which was 5.9% in 2014), and 8.2% for services (in 2014, it featured 8.9%) [5]. According to the data of the sociological survey, the majority of the population of Tatarstan, including the citizens of Kazan, noted the price increase for all groups of goods and services offered for evaluation (about 40 items). The population is mostly concerned about the increase in prices of food items required for daily consumption, such as bread, eggs, dairy products, fish (over 80% of the respondents noticed an increase in prices of these goods) [6].

Nevertheless, during the survey of 2015, the citizens of Kazan demonstrated a high level of optimism. The analysis of the statistical data and results of sociological surveys showed that the Russian economy has not yet adapted to the brand new operating conditions (international sanctions, low oil prices, high inflation rates, etc.), which is quite the opposite for the population that adapts to the new economic reality and preserves its social optimism. This tendency is typical both for the population of the Republic of Tatarstan, and for the Russian population as a whole, which signifies that the "Russians comprehend the difficulties of the socioeconomic situation in the country and are ready to bear the complications in a short-term perspective" [12].

At the same time, the public SSI is usually higher in Tatarstan than in Russia as a whole [7]. This can be explained by the well-developed economy and infrastructure of the Republic (that also occurred due to the investments made in the course of preparation and organization of international sports events). According to statistics, the Republic of Tatarstan is the region with a significantly lower increase in the consumer price index against the backdrop of the economic crisis than in other Russian regions [2]. Undoubtedly, all of this has a positive influence on the consumer sentiment, social well-being, and the living standards of the population.

Within the scope of this work, the authors measured the dynamics of the social sentiment index of the citizens of Kazan based on the results of a representative mass survey of the population. The authors determined that the decrease in the index is conditioned by a complex of political, social, cultural, and economic factors.

The results of the last sampling performed within the scope of this research scientific work in July 2018, signify a drop in the social sentiment of the population of Kazan compared to the previous sampling that had taken place in June 2015. Specifically, the index of current personal situation dropped by 12.6% (in 2018, it showed 127.1); the index of the assessment of public authorities decreased by 10.4% (126.3); the expectations index lowered by 9.7% (122.5). The decrease in the index of current personal situation was the smallest in the Republic of Tatarstan with the value of 6.9% (125.1). The composite SSI (Social Sentiment Index) amounted to 124.6 in July 2018 in Kazan, which is 9.5% less than the results of the preceding sampling.

First of all, the drop in the approval rating of the President and Government of the Russian Federation after the election that was widely debated by experts [13, 14] took its evident toll on the political

IIOAB JOURNAL
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component of the SSI, as it was stated above, the index of the public authorities' assessment dropped by 10%.

The news of the upcoming pension reform implying the increase of the retirement age and the increase of the VAT was a significant factor in the negative dynamics of the social sentiment. Moreover, it is necessary to take into consideration the fact that the survey took place immediately after the World Cup that has been hosted in Russia. Kazan was one of the host cities, and the citizens could experience the energy of this football celebration in full. However, once the World Cup was over (given that there are no significant mega events expected in the near future), the optimism of the citizens of Kazan was shaken once they realized that there was no other large goal to look forward to.

CONFLICT OF INTEREST

There is no conflict of interest.

ACKNOWLEDGEMENTS

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FINANCIAL DISCLOSURE

None.

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ARTICLE

THE IMPACT OF INSURANCE ON INVESTMENT POTENTIAL

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ABSTRACT

Insurance of enterprises' risks and availability of a developed insurance market in the region allow to compensate losses of investment activity. This stimulates the development of investment potential in the region. But the relevance of insurance is not obvious for some economic entities. This raises questions about the need for insurance to carry out investment activities. However, insurance products can compensate for losses caused by investment risks, and allow companies to accumulate resources. Also, insurance companies own large insurance amounts and can become potential investors to finance investment projects in the region, which increases investment potential. The purpose of this article is to study the impact of insurance coverage on supporting the investment development of enterprises. Business entities engaged in investment activity often face certain risks which decrease the potential of the investment activity development. According to the company manager survey, investment risks occupy the third place among the factors limiting investment activity (30% of the companies surveyed in 2017). The first and the second position in the respondents' opinion belong to such factors as owned financial asset shortage (60%) and uncertainty of the economic situation (34%) in the country, and the fourth position - to high interest rates for business loans (29%). It is worth mentioning that insurance helps to reduce owned financial asset limit thus filling the shortage of financial resources of economic entities compensating for the losses caused by the realized risks. The high cost of business loans can be reduced as well in case of insurance guarantee provided by the borrower. Thus, insurance makes it possible to support investment activity reducing the impact of barriers.

KEY WORDS
financial risk, insurance, investment risk, investment, complex risk, complex insurance.

INTRODUCTION

The first and the second position in the respondents' opinion belong to such factors as owned financial asset shortage (60%) and uncertainty of the economic situation (34%) in the country, and the fourth position - to high interest rates for business loans (29%) [Table 1].

Table 1: Classification of companies according to the evaluation of the factors limiting investment activity [1]

Factors limiting investment activity	2002	2013	2014	2015	2016	2017
Inadequate demand for the product	21	19	19	19	21	23
Owned financial asset shortage	65	67	60	64	59	60
High interest rates for business loans	31	31	25	25	27	29
Complicated borrowing scheme for implementation of investment projects	17	15	14	13	14	16
Investment risks	25	23	27	27	27	30
Poor condition of technical facilities	9	5	6	7	8	7
Low profitability of fixed capital investments	14	11	11	10	13	13
Uncertainty of the economic situation in the country	18	32	31	26	26	34
Faulty legal framework regulating investment processes	17	10	10	11	9	11

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The comparative analysis of investment and insurance potential of regions shows the correlation between the developed insurance market and its investment potential. We have rated the regions with relevant amounts of insurance premiums and amounts of fixed capital investments as per insurance and investment potential. A higher absolute value of insurance premiums and investment corresponds to a higher rating position.

If the values of these ratings are similar, the development of insurance corresponds to its potential opportunities in the region. If the insurance rank is lower than the investment potential, this means that the insurance opportunities are not used sufficiently in the region. As shown in [Table 2], the insurance rank of the Republic of Tatarstan is higher than its investment potential which implies the necessity for more effective use of insurance in order to develop the investment potential of the region.

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Currently in order to increase investment potential it is necessary to consider certain methods of risk management, such as complete risk elimination, loss prevention and possible result control, risk assumption and possible loss insurance. A risk may be rated against two dimensions: the probability of a negative event with specifically unprofitable consequences and the amount of the possible loss caused by the negative deviation from the norm.

Table 2: Indicators of investment activity risk reduction for economic entities through insurance

	2015	2016	2017
Amount of fixed capital investments			
Rating position of the city of Moscow	1	1	1
Rating position of the city of Saint-Petersburg	3	3	3
Rating position of the Republic of Tatarstan	6	6	6
Amount of insurance contributions			
Rating position of the city of Moscow	1	1	1
Rating position of the city of Saint-Petersburg	2	2	2
Rating position of the Republic of Tatarstan	3	3	3

If the first three methods of risk management affect the possibility of its formation, insurance reduces the amount of possible future loss. If the insurance contributions are regarded as the realized function of insurance, i.e. protection against risks, it is possible to define by means of retrospective analysis in which part insurance reduces the risks of business entities, consequently, the realized risks are the amount the insurer's payments. This knowledge may help to determine the quantitative indices of risk reduction by means of insurance market.

So, the purpose of this article to explore the insurance as a support the investment activities of enterprises.

MATERIALS AND METHODS

We have applied the methodology put forward by Prof. M.R. Safiullin in order to study the influence of "the effect of insurance" on change of fixed capital investments. The conceptual framework of the system functional model of market economy reflects the key markets and market interactions [2].

The general economic and mathematical model of the chart represented in quadrant of [Fig. 1] appears as follows:

$$FCIt = F (EIt), \quad (1)$$

where

FCIt - fixed capital investments;

EIt - "the effect of insurance" as the difference between insurance contributions and insurance premiums.

The hypothesis of this study is the following. From our point of view, if the company insures the risks of investment activity, they have more funds to invest in the business.

RESULTS AND DISCUSSION

Risk management is subject of numerous research studies, the most prominent of which are works on cost estimate of risk management programs [3, 4]. In case of insurance risk realization, the indemnity received by an economic entity will make it possible to compensate for the loss incurred in full of partially. On the one hand, part of owned assets is diverted to insurance payments which will lead to insufficient investment of production and profit loss, but on the other hand, this will cause the expected flow of funds in the future in the form of compensation of the losses in case of the event insured. Thus, insurance coverage of enterprises helps not only to compensate for the losses associated with investment activity, but also to finance planned investment projects and compensate for the losses from pure investment risks. It is a well-known fact that pure investment risks are not covered by insurance as they are considered risks with unpredictable financial results which forces investors to manage risks by themselves and limits the amount of financial assets. The studies on the impact of insurance on financial market as well as on economic growth are of special interest [5]. The fact that the authors of these studies prove the correlation between insurance and economic growth implies that the investment potential of the market depends on the developed insurance market as well.

As a result of redistribution through insurance of financial flow, the value of net assets of the enterprise changes as well as the enterprise value, calculated considering the expected earnings, which influences the amount of investment activity funding. The research on the influence of risk management on enterprise value is subject of numerous studies [6, 7].

The comparative analysis of the volume of the net assets belonging to the enterprise in case of risk insurance and their retention enables us to draw the following conclusions:

first, the value of net assets of the enterprise in case of the risk event and loss compensation by means of indemnities is lower than their value in the absence of any insurance contract and loss but is higher than in case of risk retention. The main condition of the above mentioned equation is the advisability of business risk insurance;

second, the value of net assets of the enterprise in case of absence of a risk event and in the presence of a

valid insurance contract is higher than their value in case of a loss inflicted without any insurance contract, as the insurance premium paid is always lower than the amount of the expected loss;

third, the value of net assets of the enterprise in the presence of an insurance contract and in case of an un favorable event occurrence is higher than their value in case of risk retention in terms of the difference between the indemnity obtained and the insurance premium paid (the effect of insurance).

There is a great number of renderings and definitions of risk in economic literature. Let us consider these definitions. "Risk is a situation when the result of some action is not obvious or ambiguous or when there are several outcomes. The term "risk" is generally used to describe uncertainty in the situation when the actual result of some action is not known for sure and it is supposed to be determined as a result of random choice among several possible variants whose distribution is not known" [8].

"Risk is the danger of occurrence of unforeseen losses of the expected profit, income or property, funds caused by eventual change of economic activity conditions and unfavorable circumstances" [9].

The authors of "The Encyclopaedia of Financial Risk Management" distinguish various risks, including market, liquidity, credit, accounting, tax, macroeconomic risks, etc. From the point of view of the authors "market risk is a possible discrepancy between characteristic traits of economic state of an object and the values expected by the individuals making decisions under the influence of market factors" [10]. At the same time according to the authors, "the concept of risk is often used in relation to probability of unfavorable outcomes, losses and negative consequences" [11].

In insurance theory risk is often associated with the uncertainty of losses.

"Risk is ...:

- an event that can cause financial losses whose compensation is guaranteed by the insurance contract;
- the probability of suffering from some form of loss or damage;
- the probability of losses from commercial activity" [12].

The word "risk" in terms of business may designate absolutely different things. In particular, risk may imply [13]:

- the potential possibility (danger) of occurrence of the probable event or chain of events causing certain material damage;
- the possibility of insufficient receipt of profit or income;
- the characteristic feature of damage is the frequency or/and size (extent) of damage;
- the insured object that may suffer from damage.

Investment activity is risk-bearing. Investment risk is part of financial risks according to economic literary sources. Financial risks, in their turn, are subdivided into two groups [14]:

1) risks associated with purchasing capacity of money (inflation, deflation, exchange, liquidity risk);
2) investment risks, i.e. risks associated with funding (profit, earning capacity risks, risk of direct financial loss).

There are numerous definitions of investment risk. Summarizing the definitions suggested by various authors, we have obtained the most complete definition of investment risk: investment risk is the risk occurring upon implementation of investment activity which corresponds to measurable probability (threat) of asset and resource losses (loss at least of a part of investment), insufficient receipt of income or additional investment expenses as well as the opportunity to receive significant profit (income) in the course of investment activity by the economic entity under conditions of uncertainty.
[Table 3] represents the possible risks associated with implementation of investment projects.

Table 3: Risks associated with implementation of investment projects

Internal	External
Risk of loss of health and disability of staff	Exchange risk
Risk associated with staff liability	Inflation risk
Risk of breach of contract	Deflation risk
Bankruptcy risk	Risks associated with suppliers, contractors, executors
Profit risk	Risk of payback period change
Risk of loss/damage of property	Risk of project cost increase
Risk of insufficient receipt of expected income from business activities	
Risk of loss of property rights	

Risk of partial or complete loss of invested funds	
Liquidity risk (credit risk)	

Quite often an investment risk is regarded as a complex risk as it includes numerous subtypes of risks anyhow related to investment activity [Table 4]. There are certain regulations of insurance in which insurance companies establish the scope of liability (insurance risks) basing on their own work experience in the insurance market, taking into account the financial opportunities for compensation of losses caused by risk events stipulated in the insurance contract which leads to practical "individualization" of the latter.

Table 4: Classification of risks as per branches of insurance

Personal insurance	Property insurance
Risk of loss of health and disability [15]	Risk of insufficient receipt of expected income from business activities
	Risk of loss/damage of property (including equipment)
	Title insurance (risk of loss of property rights)
	Employee liability risk
	Risk of breach of contract before third parties

The above mentioned implies that we may speak about comprehensive insurance as possible insurance support for implementation of investment projects. The concept of comprehensive insurance, which may become a method of complex risk management, can be found in Russian legislation but it mainly concerns the objects of personal and property insurance. Comprehensive insurance is currently provided by ensurers for builders' risks [16], [17]. Thus, conducting comprehensive insurance of investment risks it is necessary to include six kinds of insurance services:

Title insurance is the only remedy that can keep the investor from losses caused by the third party fraud when a bona fide purchaser loses the property right for the object.

Insurance of the enterprise property that will render it possible to compensate for losses caused by floods, fires, accidents and other direct damages. Insurance protects means of production, real estate property, means of transport.

Insurance of means of production against breaking, damage or destruction as a result of faulty engineering, installation and operation. This service is available for industrial enterprises. However, insurance of outdated equipment may be too expensive.

Insurance of loss of profit. If the industrial process stopped after two cases of risk event occurrence and the investor lost part of profit, they will receive a part of insurance premium based on indices of previous periods. Compensation can also be received in case of disruption of supplies by the other party to a contract. Insurance of financial business risks that can be ascribed to profit insurance is situated in the matrix of insurance type distribution in terms of loss ratio and premium increase in quadrant III, which has the lowest premium increase and low loss ratios [18].

Officials liability insurance provides compensation of losses caused by errors or deliberate misconduct by the management.

Risk of losses caused by force majeure in the course of installation and construction work at the enterprise that lead to damage or destruction of incomplete construction at any stage.

According to the results of the statistical research "the effect of insurance" of business risks constitutes in average 50% of fixed capital investments [Table 5]. Unfortunately, the time frame studied in our research is limited to the period between 2012 and 2016 due to restricted availability of statistical data concerning insurance of business risks of legal entities. There is no available record of the extent of insurance of legal entities business risks until 2012.

It is worth mentioning that there is no clear statistics concerning insurance risks associated with investment activity in Russia. In most cases the statistical data reflects the insurance of activity of economic entities in general without singling out the insurance of the risks associated with investment project implementation. For instance, insurance of property of legal entities implies both the property involved in implementation of investment projects and the property obtained outside the framework of investment activity. Such a situation has negative impact on the possibility of research on efficiency of insurance related to implementation of investment projects and hinders the use of all insurance possibilities necessary to increase the investment potential and economic growth.

Table 5: Dynamics of insurance of business risks of legal entities and fixed capital investments

Year	Insurance premiums, mln. rub.	Insurance contribution, mln. rub.	The effect of insurance, mln. rub.	Fixed capital investments, mln. rub.
2012	6,151,147	901,742	5,249,405	9,595,700
2013	7,058,343	643,010	6,415,333	10,065,700
2014	7,058,343	2,244,982	4,813,361	10,379,600
2015	7,819,338	14,389,940	-6,570,602	10,496,300
9 months 2016	6,855,641	7,195,936	-340,295	not available

Table 6: Dynamics of general market "effect of insurance" and fixed capital investments

Period of time	Insurance premiums, mln. rub.	Insurance contributions, mln. rub.	The effect of insurance, mln. rub.	Fixed capital investments, mln. rub.	GDP, billion rub.
2004	374,398.8	198,307.7	176,091.1	2,246.8	17,027.2
2005	349,912.2	142,019.6	207,892.7	2,893.2	21,609.8
2006	406,763.3	162,028.4	244,734.9	3,809.0	26,917.2
2007	479,265.9	201,073.6	278,192.3	5,217.2	33,247.5
2008	551,901.6	248,649.6	303,252.0	6,705.5	41,276.8
2009	513,176.3	285,129.4	228,046.9	6,040.8	38,807.2
2010	557,180.1	294,508.7	262,671.4	6,625.0	46,308.5
2011	664,370.2	303,524.5	360,845.6	8,445.2	59,698.1
2012	809,059.8	369,439.7	439,620.0	9,595.7	66,926.9
2013	904,429.8	420,769.0	483,660.8	10,065.7	71,016.7
2014	987,772.6	472,268.6	515,504.0	10,379.6	77,802.7
2015	1,023,819.3	509,217.5	514,601.8	10,496.3	81,287.2

The quadrant reflects the relation between "the effect of insurance" and fixed capital investments. The regression analysis based on the statistical data of table 6 suggests the following results (see [Fig. 1]). Thereat, during the period between 2004 and 2015 the equation of regression of correlation between "the effect of insurance" and fixed capital investments in the Russian Federation appears as follows: Y=0,0208*X.

As seen in [Fig. 1], the character of relation between "the effect of insurance" and fixed capital investments has been confirmed. The increase of "the effect of insurance" results in growth of fixed capital investments. This is quite logical. Simultaneously, both indices may be influenced by general economic factors such as increase or decrease of economic cycle, as both indices depend heavily on presence of financial resources in economy.

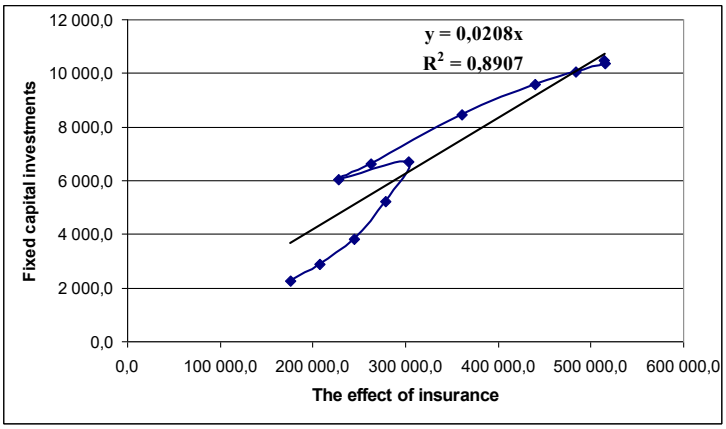

Fig. 1: The correlation between "the effect of insurance" and fixed capital investments in the Russian Federation.

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CONCLUSIONS

Macroeconomic modelling has a long history. We have conducted macroeconomic research on insurance as the tool of investment activity stimulation. The analysis revealed significant influence of insurance on investment activity development. Insurance coverage of enterprises helps not only to compensate for the losses associated with investment activity, but also to finance planned investment projects and compensate for the losses from pure investment risks.

CONFLICT OF INTEREST

There is no conflict of interest.

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ARTICLE

THE ROLE OF THE REINSURANCE SYSTEM IN ENSURING STABILITY OF THE INSURANCE MARKET OF RUSSIA UNDER ECONOMIC SANCTIONS

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ABSTRACT

The macroeconomic conditions of Russian insurance market functioning under Western economic sanctions predetermine the appearance of a number of problems. Not the least of which is the growing number of unprofitable insurance companies, as well as the revocation of licenses of a number of insurers. One of the factors is the reduction of volume of risk transfer to reinsurance. Insufficient capacity of the domestic reinsurance market, high level of a number of risks transferred in insurance are the problem that have a rather long history. The present article is concerned with the search for the ways that allow reinsurance to fulfill its role in respect of ensuring the stability of the insurance market. We have analyzed a number of indicators in dynamics. The correlation analysis showed a high correlation between premiums transferred in reinsurance and the total authorized capital of the reinsurance company. During the crisis, to maintain the stability of the insurance market the involvement of the state in the face of a national reinsurer is advisable.

KEY WORDS
reinsurance, economic sanctions, financial stability, state reinsurer, insurance premiums.

INTRODUCTION

Sustainable functioning of the insurance market implies recording and managing specific risks of the insurance activity, in particular, the risk of non-fulfilment by the insurer of obligations to the client upon the insured event occurrence.

From this perspective, the need for a developed system of reinsurance which ensures the financial stability of insurance companies is obvious.

The reinsurance market accumulates a number of issues, wherein the centre of responsibility for many of them is in the realities of the insurance market. The main ones are:

- extremely low capacity of the reinsurance market, small number of reinsurance companies, a stable trend to their reduction with simultaneously low level of capitalization both in relation to the Russian insurers, having a license for reinsurance, and to foreign reinsurers;
- a comparison of the leading universal large companies with their diversified portfolios, investments with reinsurance companies shows that the latter are much inferior in all positions;
- distrust of the partners in the reinsurance business because the reinsurer gains access to commercial information and provides the insured more advantageous insurance conditions;
- increase by the insurance companies of the size of their own deductions in order to reduce the cost of reinsurance;
- providing the reinsurance protection on the basis of reciprocity, often the equivalence of the relations on the transferred premium volumes is not accompanied by a similar process on the transferred risks quality;
- high capacity and security of risk distribution abroad, qualitatively the worst risks remain to the Russian reinsurers;
- the growing number of large losses (high degree of depreciation of fixed industry assets, the low level of control and security industries systems), this leads to an increase in rates for reinsurance.

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From 2014, the financial market of Russia functions under economic sanctions. In general, economic sanctions are actions taken by one country or group of countries aimed against the economic interests of another country or group of countries, usually with the aim to achieve social or political changes in this country [1].

Therefore, despite the fact that the goals of the anti-Russian sanctions are political, first and foremost, they affected the economy of our state. Accordingly, this is reflected in the reinsurance system [2]. At that two sets of problems are revealed. The first occurs indirectly, through the macro economy: economy contraction, capital outflow, drop in the exchange rate of national currency, declining living standards of Russians, reduction in lending – all this leads to a reduction in fees in the insurance market. The second set of problems arises directly from the sanctions policy of the West. It should be noted that sectoral sanctions did not affect directly the insurance and reinsurance business. However, the presence of the sanction risks leads to the increase in the cost of reinsurance protection [3].

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In financial literature of Russia and other countries there are plenty of studies related to the influence of reinsurance on the stability of the economic system: relationship between capital, risk and reinsurance [4],

reasons why national insurers utilize program composed foreign reinsurers [5], the likelihood of primary insurer's downgrade increases with its reinsurance default risk exposure from downgraded reinsurers [6], indicators of systemic risk insurer [7], the traditional model of reinsurance and its exposure to risks [8], the impact of mega-regulator in the Russian financial market [9], reinsurance in Islamic finance [10]. Determine the factors related to reinsurers' net financial positions vary based on the characteristics of the countries, the reinsurers, and the industry [11]. Offer a model of equilibrium in reinsurance and capital markets in which professional reinsurers arise endogenously [12].

MATERIALS AND METHODS

In order to study the impact of such ratio as a total authorized capital of the reinsurers, as well as the country's GDP per the reinsurance relationships we used the method proposed by Prof. M.R. Safiullin [13]. The conceptual bases of the system functional model of the market economy reflects the main markets and intermarket interactions.

To identify the relationships between the individual macroeconomic indicators and the indicators characterizing the system of reinsurance, the correlation analysis method is used.

The general economic and mathematical model of the graph in quadrant of [Fig. 1], is as follows:

$$Pret = F(Kret) \quad (1),$$

where

Pret is the premiums transferred in reinsurance;
Kret is a value of the total authorized capital of the companies engaged in reinsurance.

The hypothesis of our study. A number of factors affect the reinsurance. This GDP, a total authorized capital of the reinsurers, insurance premiums, capital outflows. Their change will improve the state of the reinsurance market.

RESULTS AND DISCUSSION

It should be understood that the capacity of the Russian reinsurance market is small, the financial stability of Russian insurers in the current environment is variable, that is why the placement of risks abroad is a vital necessity. Table 1 summarizes the institutional characteristics of the Russian reinsurance market [14]. There is a clear trend of reducing the number of companies engaged in reinsurance, and in the period of the sanctions measures, these rates increased. The effect of currency risk implementation resulted in a sharp fall in total authorized capital of Russian reinsurers that is denominated in foreign currency.

Table 1: Institutional characteristics of the Russian reinsurance market

Years	Insurance companies licensed for reinsurance			Reinsurance companies		
	Quality	Total authorized capital		Quality	Total authorized capital	
		bln. rubles	mln. U.S. dollars		bln. rubles	mln. U.S. dollars
2006	121	61.81	2349.8	26	5.65	214.8
2007	195	91.33	3766.9	30	8.70	358.7
2008	184	98.15	2853.7	25	6.74	196.1
2009	172	97.97	3323.8	22	5.44	184.4
2010	147	105.08	3603.2	21	7.10	243.5
2011	128	122.43	3918.9	19	10.87	348.0
2012	101	131.27	4355.0	14	9.22	305.9
2013	98	146.32	4496.2	13	8.72	267.8
2014	86	155.87	2470.8	13	8.88	140.7
2015	72	136.38	1820.6	7	4.91	65.6
2016	57	134.84	2140.8	5	2.99	47.4
2017	53	140.66	2410.6	4	23.68	40.58
2018	46	133.64	2131.0	3	22.58	36.01

Compiled by the authors

The crisis phenomena in the economy, caused, in particular, by the sanctions led to the decline of the insurance market. This decline is shown in the [Table 2] [15]. After the imposition of sanctions there has been a dramatic reduction in the number of insurance contracts in force. There is a decrease in the average insured amount under one insurance contract.

Table 2: The individual characteristics of insurance contracts

Years	Number of insurance contracts in force at the end of the reporting period, units	Total insurance sum under all insurance contracts, trn. rubles	Average insured sum per one insurance contract, mln. rubles
2013	103381801	38934.3	376.6
2014	124333011	35251.5	283.5
2015	111172642	34975.6	314.6
2016	115955018	38466.2	331.7
2017	128823888	34523.8	268.0
2018	135031259	35153.4	260.3

Compiled by the authors

In general, we can note the following.

First, the reinsurance system ensures the financial stability of the insurance market because it is used to manage the risk of non-fulfilment of obligations by the insurer to the client upon the occurrence of the insured event.

Secondly, the system of reinsurance in Russia should be developed at a higher rate than the insurance market, as there is its backlog.

Thirdly, the level of net retention of risk by insurance companies is high in recent years, leading to a decrease in their financial stability [16].

Fourth, the low capacity of the Russian reinsurance market determines the need to reinsurance the risks abroad.

The purpose of this article – to investigate the impact of the current situation on the Russian reinsurance market.

To be sure, the reinsurance is an effective mechanism that ensures the financial stability of the insurance company. However, in a crisis caused by falling in oil prices and Western sanctions, Russian insurers have tended to neglect this mechanism [17]. The share of premiums, transferred in reinsurance, decreases [Table 3]. And the greatest decline occurs during the large-scale introduction of sanctions. The proportion of net retention of insurance companies becomes high.

Table 3: The share of insurance premiums transferred in reinsurance

Years	Premiums under the contracts transferred in reinsurance, bln. rubles	Insurance premiums, bln. rubles	Share of insurance premiums transferred in reinsurance, %
2010	87.54	557.2	15.71
2011	97.50	664.4	14.67
2012	114.79	809.1	14.19
2013	120.16	904.9	13.28
2014	138.45	987.8	14.02
2015	120.63	1023.8	11.78
2016	132.12	1180.6	11.19
2017	108.90	1278.8	8.52
2018	115.49	1479.5	7.81

Compiled by the authors

We believe that the decline in risk transfer to reinsurance, summed with the negative impact of a number of macroeconomic factors, leads to an increase in the number of unprofitable insurance companies [Table 4]. At the end of 2014 the share of unprofitable companies has grown more than twice.

Table 4: The share of unprofitable companies in the Russian insurance market [18]

Years	The total loss of unprofitable organizations, bln. rubles	The share of unprofitable enterprises in the total number of insurance and reinsurance companies, %	The rate of change in the share of unprofitable enterprises, %
2010	4	14.2	–
2011	3	14.4	101.41
2012	12	11.1	77.083
2013	16.2	7.2	64.865
2014	17.1	14.8	205.56
2015	12.3	16.3	110.14
2016	34.5	21.1	129.45
2017	59.4	22.5	106.64

Compiled by the authors

Still, a significant share of the risks is transferred in reinsurance abroad. As shown in [Table 5], more than two-thirds of premiums for reinsurance, and in 2015-2016 and more than 80% of premiums is transferred outside the Russian Federation. That stands to objective reasons. The main one is a low capacity of the Russian reinsurance market. The problem arising from this aspect is an exit of the financial resources from the Russian financial market. That is, the cash flows of about 100 billion rubles could be traded each year on the Russian financial market as investment assets. In addition, in terms of anti-Russian sanctions action a number of problems arose: the growth of tariffs for reinsurance coverage abroad, refusal of the foreign reinsurers to accept a number of risks. Also the risks of the Russian sanctioned companies are not accepted for reinsurance abroad. In addition, if the sector sanctions will be introduced, it would lead to the suspension of insurance payments under the insured events [19].

Table 5: Indicators of the reinsurance market

Years	Premiums under contracts transferred in reinsurance, bln. rubles		Share of premiums transferred outside the Russian Federation, %
	Total	Transferred outside the Russian Federation	
2010	87.54	53.81	61.47
2011	97.50	65.82	67.51
2012	114.79	79.41	69.18
2013	120.16	83.17	69.22
2014	138.45	101.40	73.24
2015	120.63	98.45	81.61
2016	132.12	112.55	85.19
2017	108.90	87.00	79.89
2018	115.49	88.47	76.60

Compiled by the authors

In autumn of 2016 the Russian National Reinsurance Company with paid authorized capital of 21.3 billion rubles was created. 100% of the Company's shares belong to the Central Bank of the Russian Federation. The state reinsurer is obliged to accept for reinsurance risks in respect of the objects which are under the international sanctions in the amount of not less than 10% of their placement. For other risks, the insurers will be required to place 10% of the risks transferred in reinsurance. According to preliminary estimates, the company's business in 2017 will be 500 mln. rubles by the sanction objects and about 12 bln. rubles by other risks.

Thus, 12.5 bln. rubles of 100 bln. rubles exiting to the international reinsurance premiums market hypothetically could stay on the Russian financial market. That is the problem of the Russian reinsurance market positions strengthening is not removed.

Fig. 1 shows the relationship between premiums transferred in reinsurance and the net outflow of the capital by the private sector (excluding banks).

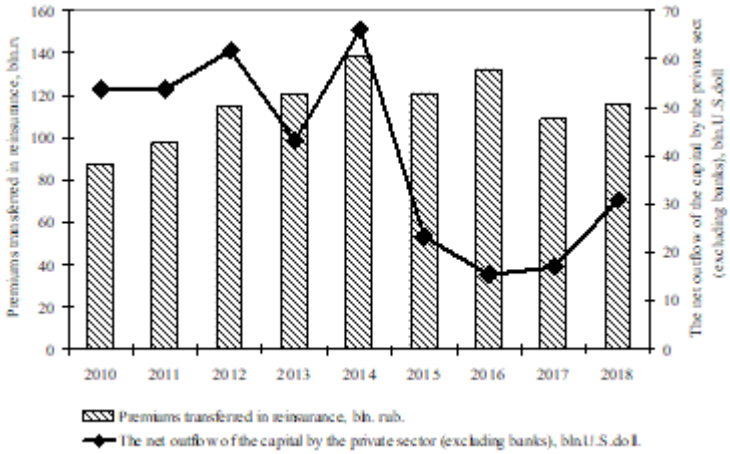

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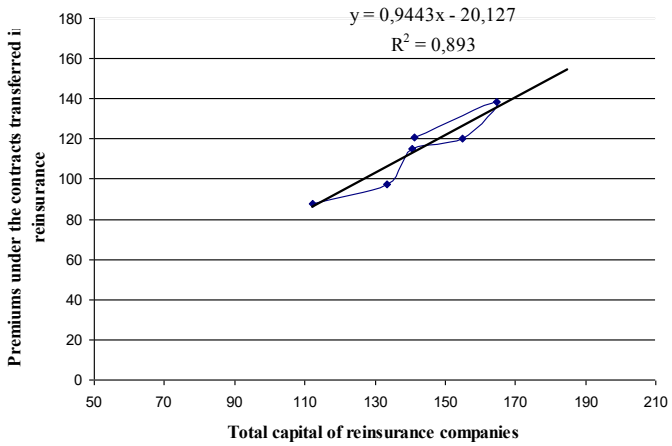
Fig. 1: The relationship between premiums transferred in reinsurance and the net outflow of the capital by the private sector (excluding banks).

Reducing the outflow of the capital leads to a reduction of premiums, transferred in reinsurance. Perhaps, there is a transfer of premiums, related only to the withdrawal of funds abroad.

We believe that it is necessary to increase the stability of the Russian reinsurance system through a series of measures aimed at increasing equity of the reinsurance companies. This will allow, based on market mechanisms, to place the risks inside the country.

We have analyzed a number of indicators in dynamics: the Russian GDP, the net outflow of the capital by the private sector (excluding banks), the average weighted exchange rate of the US dollar, insurance premiums, total authorized capital of the reinsurance companies, as well as premiums transferred in reinsurance. The correlation analysis showed a high correlation between premiums transferred in reinsurance and the total authorized capital of the reinsurance company (0.945). Also the correlation coefficient of premiums transferred in reinsurance, with insurance premiums across the insurance market is high (0.926). This relationship is evident. There are two aspects. First, the increase in the insurance premiums collection shall be ensured by the solution of macroeconomic problems and problems of the insurance market. Secondly, it is not beyond argument that the increase in the insurance premiums collection will provide a similar increase in reinsurance premiums. Thirdly, even if this assumption is realized, the reinsurance companies still will not have enough capacity for taking reinsurance risks. The relationship between premiums, transferred in reinsurance and the Russian GDP is 0.906, but even here the solutions have macroeconomic nature and direction.

Therefore, we analyzed the relationship between premiums, transferred in reinsurance, and the authorized capital of the reinsurance company (both reinsurance companies and insurance companies that are licensed for reinsurance). The regression analysis carried out on the basis of statistical data of Tables 1 and 3, allowed us to obtain the results summarized in [Fig. 2].



Compiled by the authors

Fig. 2: The relationship of the volume of premiums transferred in reinsurance and the total authorized capital of the reinsurance company in the Russian Federation.

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For the period of 2010-2018 the regression equation of the relationship of premiums transferred in reinsurance and the total authorized capital of the reinsurance companies has the form: Y = 0.9443X – 20.127. With the increase of the authorized capital of the reinsurance companies, the premiums transferred in reinsurance grow too. However, the regression equation shows that not any capital growth will ensure an increase in premiums. The positive effect will come when the increase of capital will be more than 21.3 bln. rubles. It is merely a coincidence or not, but the paid authorized capital of the Russian national reinsurance company amounted to 21.3 bln. rubles It means that now at least a minimal increase in total authorized capital of the reinsurance companies will increase the cash flow for the reinsurance.

During the crisis, to maintain the stability of the insurance market and preserving the cash flows for operations in the domestic financial market, the involvement of the state in the face of a national reinsurer is advisable. At the same time it is necessary to take measures to increase the capacity of the reinsurance market by further purification of the market from unfair participants, as well as introducing measures of the state regulation, in particular, the mandatory transfer of all risks accepted on insurance in reinsurance. With the improvement of the macroeconomic situation the reduction in the share of the state participation in reinsurance companies is advisable.

CONCLUSIONS

The indicators of the performance of the insurance companies worsen under the economic sanctions. One of the factors is a high net retention of insurers and lack of capacity of the Russian reinsurance market. We conducted a study of the reinsurance role in the insurance market sustainability. It was determined that the amount of reinsurance coverage reduces due to a number of reasons. The conducted analysis showed that the direction of the situation change is the increase of the capacities of the Russian reinsurance market, as well as certain measures of the state influence on the reinsurance system.

CONFLICT OF INTEREST

There is no conflict of interest.

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FINANCIAL DISCLOSURE

None.

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ARTICLE

MOVEMENT OF FINANCIAL RESOURCES IN AFFILIATED SMES

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ABSTRACT

The object of the study is represented by non-public companies not listed on the Russian organized stock market, with related, subsidiary, affiliated companies. All companies are small and medium-sized enterprises. The subject of the study was cash flows of companies associated with the attraction, distribution and redistribution of financial resources within the affiliate structure. We observed 94 SMEs of the Republic of Tatarstan, forming 12 affiliated structures. In 92% of affiliated structures, the interests of the owners of the parent companies or the interests of the owners of key companies were violated. The following results were obtained: we studied and described two main types of affiliated structures with violated interests of the owners; we highlighted the essential features of affiliated structures in which the interests of owners are violated; we described the basic scheme of movement of financial resources indicating a violation of the owners' interests; we proposed a method of justifying the price of providing financial resources for distribution within the affiliate structure.

KEY WORDS
investor, owner, affiliates, financial resources, WACC, audit, parent company, tax effect, cost of financial resources , SMEs, related parties.

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INTRODUCTION

The ability to generate and properly manage financial resources is an important feature of a successful company. This is especially true in the current conditions, when the unstable situation in the money and stock markets forces companies to look for alternative sources of financing. One of the options to optimize sources of financial resources is the creation of affiliated structures where it is possible to accumulate, distribute and redistribute both own and attracted financial resources. At the same time, it is important to lay the main criterion for the movement of financial resources, namely: financial resources should be distributed within the affiliated structure in the direction of their most efficient use, allowing to improve the welfare of the owners of the affiliated structure. In practice, this criterion is not always met, which leads to a decrease in the welfare of individual groups of owners in an affiliated structure, and therefore their interests are violated.

In domestic legislation there is no unity in the definition of the terms "affiliated parties", "affiliated structure" [1- 5]. For example, from a regulatory point of view, an affiliate structure can be understood as a group of legal entities that can influence the activities of legal entities engaged in entrepreneurial activity. The Civil Code interprets the term "affiliation" as "relatedness" [1].

In this matter, we will rely on the conceptual view set out in IAS 24 "Disclosure of information about related parties." Under the affiliated parties we will understand the company associated with the company that constitutes its financial statements. This relationship may arise in the following situations: both companies are members of the same group of companies; one of the companies is associated with the other; companies conduct joint activities with each other, or with the same third party; one and the same individual has a significant impact on the activities of companies, etc. By an affiliated structure, we mean the aggregate of legal entities affiliated with each other.

MATERIALS AND METHODS

The object of the study is represented by non-public companies not listed on the Russian organized stock market, with related, subsidiary, affiliated companies. All companies are small and medium-sized enterprises; in foreign practice the abbreviation SMEs is applied.

The subject of the study was cash flows of companies associated with the attraction, distribution and redistribution of financial resources within the affiliate structure.

The study identifies similar signs, which make it possible to cast doubt on the expediency of attracting, distributing and redistributing financial resources within the affiliated structure. All the studied affiliated structures are characterized by the following main features, which are, in our opinion, essential in the matter of violation of the interests of investors (owners):

- the lack of public quotes for stock prices or public assessments of ownership shares in the company;
- the presence of two or more owners of the parent (key) company;
- the presence of at least five legal entities that are part of an affiliated structure.

To the selected features we should add quite often observed lack of competence of management in complex issues related to the peculiarities of the domestic financial legislation, as well as lack of knowledge of the modern financial fundamentals of business.

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In the course of the research, we identified and studied two main types of affiliated structures formed by non-public joint-stock companies and limited liability companies:

1. affiliated structures consisting of a parent company, established, as a rule, in the form of a non-public joint-stock company, and a number of subsidiaries, established in the forms of limited liability companies;
2. affiliated structures, consisting of several affiliated companies, created, as a rule, in the form of non-public joint-stock companies or limited liability companies with no pronounced parent company, however, consisting of one or several key companies. Key companies occupy a leading position in the affiliated structure, have the authority to make strategic and operational decisions that may affect the activities of the entire affiliate structure.

As a rule, the parent company in the form of a non-public joint-stock company, establishes a number of affiliated and subsidiary companies. One of the goals of creating, for example, subsidiaries can be vertical or horizontal integration, which will result in the achievement of additional synergistic advantages with a certain monetary value. Such integration is carried out in the interests of the owners only if the total market value of the company with its subsidiaries is higher than the value of the company without the establishment of subsidiaries. In the conditions of the modern Russian market, the justification for separating horizontally or vertically integrated subsidiaries, due solely to synergistic benefits, is questionable.

Another goal of creating subsidiaries is to optimize the tax burden. In this case, it is possible to use transfer pricing, reorganize in order to obtain benefits for certain types of activities (for example, agriculture) or use other organizational and legal forms subject to preferential taxation; due to tax deductions (for VAT, export, etc.). The creation of such subsidiaries is carried out in the interests of the owners of the parent company if it can take advantage of the release of part of financial resources as a result of savings on tax payments.

Creating subsidiaries, companies may pursue other goals. For example, optimization of the company's management system, political considerations, etc. However, as long as a joint-stock company grows within one region, city, district, when it is difficult to realize any other benefits besides synergistic and tax advantages, it is reasonable for owners to demand from management a justification of the reasons to create the new subsidiaries. The creation of new subsidiaries within an affiliated group may lead to a decrease in transparency within the group, and, as a consequence, the inability to assess the performance of managers. Creating new subsidiaries can occur at the request of individual owners, then, one of the consequences may be infringement of the interests of other owners included in the affiliated structure.

RESULTS AND DISCUSSION

Simplified, the flow of financial resources in an affiliated structure with the participation of the parent company is shown in [Fig. 1].

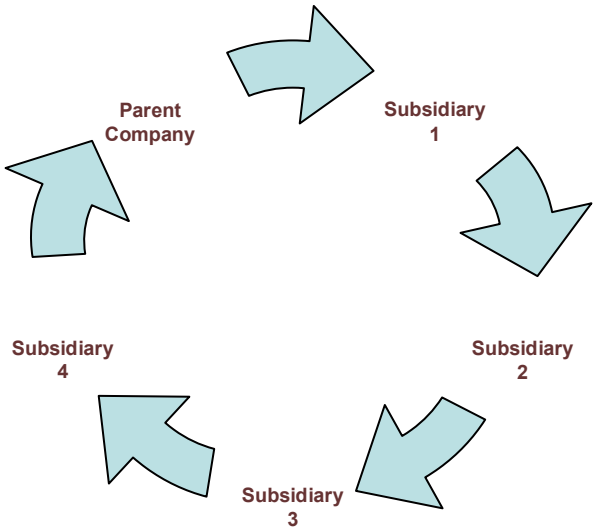

Fig. 1: Movement of financial resources in an affiliate structure with the participation of the parent company.

In the variant presented in [Fig. 1], the interests of the owners of the parent company may be violated as follows: the parent company provides the subsidiary 1 with money in the form of a low interest (or interest-free) loan, and takes, in turn, money as an interest loan from the subsidiary 4. Redistribution of financial resources reduces the degree of informational transparency between subsidiaries. At the same

time, in the corporate reporting of the parent company, the amounts issued are reflected in the composition of financial investments, and the funds received - in the form of paid long-term funding sources. If the parent company used its cash on its own, the corporate reporting amounts would be in the cash account, and there would be no increase in debt obligations. [Table 1] presents the option when the parent company does not provide "non-market" lending to affiliated companies. To illustrate the example, assume that the company initially did not have paid sources of borrowed funds.

Table 1: Statement of financial position of the parent company without issuing funds to affiliated companies (RuR)

Assets		Equity and liabilities	
PPE	500	Ordinary shares, RuR 1	900
Inventories	100		
Cash	400	Trade payables	100
Total	1000	Total	1000

[Table 2] presents the option when the parent company sends its own funds to an affiliate company under “non-market” conditions and receives them back at “market prices”. At the same time, suppose that in such a way 300 rubles are redistributed.

Table 2: The report on the financial position of the parent company after the redistribution of funds with the participation of affiliated companies (RuR)

Assets		Equity and liabilities	
PPE	500	Ordinary shares, RuR 1	900
Inventories	100		
Financial investments	300	Long-term liabilities	300
Cash	400	Trade payables	100
Total	1300	Total	1300

When the above-mentioned redistribution of the most liquid assets due to unreasonable market laws leads to a distortion of corporate reporting data, and, consequently, to incorrect analytical indicators, calculated on its basis, which, in turn, may affect the adoption of investment and credit solutions, both by the owners of the company and other stakeholders.

Affiliation of companies does not always mean the allocation of the parent company. [Fig. 2] presents one of the options for the movement of financial resources in affiliated structures without a pronounced parent company.

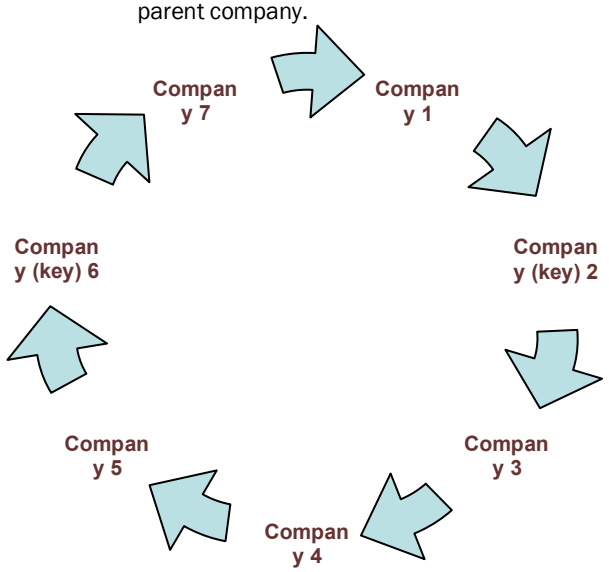

Fig. 2: Movement of financial resources in an affiliate structure without a parent company.

In the course of the study, we came to the conclusion that in the variant presented in [Fig. 2], the violation of the interests of the owners will occur in the same way as in the variant shown in [Fig. 1]. Theoretically, the interests of the owners of any of the companies may suffer here, but in practice, as a rule, there is a violation of the interests of key companies' owners.

It should be noted that in market conditions, the company's financial management is carried out in three main areas: management of investment projects (assets), management of sources of financing (liabilities) and management of dividend policy. Therefore, the distribution of financial resources within the affiliate structure in substantial amounts should contribute to the achievement of the company's long-term goals. Companies assume the implementation of certain investment projects and carry out a search corresponding to the cost and volume of financial resources. Investment projects should be economically viable, i.e. lead to an increase in the welfare of the company owners. In a market economy, the attraction of financial resources for the implementation of investment projects is fee-based. This means that each new ruble attracted will cost the company a few kopecks. If the parent (or key) company has a WACC value of 18%, then, by financing affiliated companies at an effective rate of less than 18% per annum, it destroys its market value. An exception will be situations where the economic benefits from cooperation with an affiliated company, by monetary terms, will cover losses from the provision of financial resources at a "low" price.

In general, the minimum cost of financial resources for an affiliated company can be determined by the formula (1):

$$CC_{min} = WACC - \frac{NI}{CE_{af}} \times 100\%, \quad (1)$$

where: CCmin – the minimum cost of financial resources released to the affiliated company (%),

WACC – weighted average cost of capital of a company that disburses the financial resources to an affiliated company (%),

NI – is the company's annual net income from cooperation with an affiliated company (RuR),

CEaf - capital invested in an affiliated company - the total amount of financial resources provided to an affiliated company (RuR).

Providing the affiliate company with financial resources at the minimum price (CCmin), theoretically, will not entail a negative impact on the market value of the giver.

CONCLUSIONS

During the study we observed 94 SMEs of the Republic of Tatarstan, forming 12 affiliated structures. In 92% of affiliated structures, the interests of the owners of the parent companies or the interests of the owners of key companies were violated. Consequently, the problem of protecting the interests of investors in affiliated SMEs is extremely acute today.
The need to protect the interests of investors in the movement of financial resources is primarily due to the low degree of transparency of information provided by a non-public SMEs to its owners regarding cash flows and their distribution and redistribution within an affiliated group of companies.

Thus, based on our study, the following results were obtained:

- we studied and described two main types of affiliated structures with the violated interests of the owners;
- we highlighted the essential features of affiliated structures in which the interests of owners are violated;
- we described the basic scheme of movement of financial resources indicating a violation of the interests of owners;
- we proposed a method of justifying the price of providing financial resources for distribution within the affiliate structure.

In our research, we were faced with the fact that none of the available databases contain information about affiliated structures in the planes we need, which significantly limited our research. Nevertheless, we obtained the results described in this article, which can be a subject for discussion, as well as a starting point for further research.

CONFLICT OF INTEREST

There is no conflict of interest.

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ARTICLE

ANALYSIS OF THE MODERN CONDITION OF TOURISM IN THE ECONOMY OF THE REPUBLIC OF TATARSTAN

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ABSTRACT

The modern tourism industry, based on the unique natural and cultural potential of the Republic of Tatarstan (RT), is a natural backbone of flexible integration of tourism with system of international trade in tourist services, one of the most dynamically developing and efficient in terms of return on capital invested by the industry, despite its capital intensity. Today, almost all existing types of tourism are represented in Republic of Tatarstan. As part of the development of the tourism cluster in the Republic of Tatarstan., priority directions for the development of tourism were identified, such as business, environmental, cultural and educational, as well as extreme types of tourism. After analyzing the current state of tourism in RT, the authors propose to solve the following questions in order to increase the investment attractiveness of the tourism sector:- to raise the awareness of the international business community on the tourist opportunities of the RT; - take measures to create and develop the tourist and souvenir industry with the use of the capabilities and resources of the Small Business Support Fund and other domestic institutions development; - to develop regional master plans for development of areas most attractive for the development of inbound tourism, tourist infrastructure facilities that meet international standards.

KEY WORDS
personnel training, evaluation, forecasting, tourism, system, economy.

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INTRODUCTION

In modern conditions of development of the world economy, tourism is becoming one of the leading and fastest growing industries. According to the World Tourism Organization (UNWTO), tourism is the fourth largest global exporter of goods and services (7.4%), second only to cars, chemicals and fuels [1]. By profitability, this industry ranks third in the world after the oil industry and the automotive industry. The growth of the revitalization of the travel industry was able to extend, even despite a number of factors that adversely affect tourism: local wars, ethnic conflicts, a series of terrorist attacks in different countries, the effects of tsunamis, a prolonged period of tropical storms in the Western Hemisphere, incredibly hot summer months or vice versa, large-scale floods in European countries, etc.

According to the World Trade Organization (WTO), tourism is recognized as the number one global industry [2]. At the beginning of the third millennium, it employed more than 200 million people, half a billion tourists spent on travel more than one-third of a trillion US dollars, which is about 10% of annual consumer spending.

But, unfortunately, today RT, having a rich tourist and recreational potential, is characterized by an insufficient level of tourism development. In 2019, in the Russian Federation, according to the data of Rostourism [3], 4377 tourist organizations and tourist companies function. According to the UNWTO, the Russian Federation is among the ten most visited countries by tourists [4]. The number of foreign citizens who visited the Russian Federation in 2017 compared to 2016 decreased by 0.74%, from 24,571 thousand to 24,390 thousand people [4].

At the same time, the number of outbound tourist trips of Russian citizens to foreign countries for 2017 compared to the same period in 2016 increased by 25.17%, which amounted to 39,629 thousand people (31,659 thousand people in 2016). Currently, the share of tourism in the GDP of the Russian Federation is 1.5%, although in developed countries this figure reaches 10% [4].

In 2016, the flow of tourists to Tatarstan grew by 7% and amounted to 2.9 million people. The number of foreign visitors increased by 6.7% to 250.5 thousand tourists. Most of the foreigners were visited by the representatives of Turkey (13.5 thousand), China (10.2), Germany (6.3), the DPRK (2.7) and India (2.7).

The turnover of services rendered in the field of tourism, taking into account related industries amounted to 19.5 billion rubles. 2.9% more tourists began to use hotel services, sanatorium and health - by 5.6%

In 2018, the flow of tourists to Tatarstan grew by 9.6% compared with 2017 and amounted to 3.4 million people. This was stated by Chairman of the State Committee of Tourism of the Republic of Ttarsta Sergey Ivanov at a meeting of the final board of the department. “Tatarstan is one of the leaders among the regions of the Russian Federation in the field of tourism and shows a steady positive trend in the main indicators of the development of the industry. In 2018, the flow of tourists to the Republic of Tatarstan amounted to 3.4 million people, which is 9.6% more than in 2017 ” , Ivanov noted [5].

According to him, the Kazan Kremlin Museum-Reserve was especially popular among tourists. It received almost 3 million visitors, the Bulgarian State Historical and Architectural Museum-Reserve (more than 520 thousand tourists), Sviyazhsk Island (510 thousand). and Yelabuga (505 thousand). The total volume of services rendered in the field of tourism, taking into account related industries (the cost of food,

transportation, shopping) in 2018 should reach 28.3 billion rubles. This is almost 37% more than in 2017 [5].

An analysis of tourist flows in Tatarstan shows that mostly foreign tourists visit Kazan. Tourist flow in Kazan in 2018 reached 3 million 200 thousand people, which is 14% higher than the previous year. This is 6 times more than in 2005, when Kazan celebrated its millennium, and 2 times more than in the year of the World Summer Universiade 2013. The capital of the republic has become the fifth city in Russia, the number of tourists in which exceeded 3 million. At 26.5%, there were more tourists from abroad compared with 2017. In 2018, Kazan visited 251 thousand 973 foreigners, mostly guests from China, Colombia, Germany, Iran and the United States.

The number of tourists who spent 4 to 7 days in Kazan increased by 11%. Most travelers (47.7%) still stayed in the city for 2-3 days.

The average annual hotel load increased by 3% and reached 60%. The peak load fell on the days of the FIFA-2018 World Cup matches and amounted to 91.5%. The average percentage of loading hotels and hostels during the championship period was 81%.

The number of hostels has increased in Kazan. If in 2017 10 hostels were opened, last year - 30. Today, the hotel fund of Kazan is represented by 230 accommodation facilities for 8.2 thousand rooms (19 thousand beds), 103 of which are hostels.

The most attractive places to visit for tourists in 2018 were traditionally the hotel-entertainment complex with the Kazan Riviera water park and the Kazan Kremlin, which visited 837 thousand 712 people and almost 2 million 923 thousand people, respectively.

In 2018, the active development of the tourist infrastructure of Kazan continued. Thus, within the framework of the program of installation of tourist navigation in the city, 50 additional objects were installed: 18 music stands, pointers of monuments, 28 information signs of the direction of movement, and 4 maps of the city in Russian, Tatar and English.

The most ambitious and bright events of the tourism calendar were the opening of the tourist season in the format of the quest “Ai Da Kazan!”, The festivals “Tasty Kazan”, “Gastronomic Map of Russia”, “Window to Spain”, the festival of military orchestras “Fanfares of Kazan”, and winter festival "KyshDaKar-fest" and night cycle fest. It is worth noting that the festival “Delicious Kazan” won the Grand Prix in the final of the Russian Event Awards and became the best gastronomic event in Russia.

MATERIALS AND METHODS

As a research methodology, general scientific methods of cognition were used in the work: dialectical, abstract-logical, statistical, functional and structural-level research methods, methods of system analysis and synthesis.

RESULTS AND DISCUSSION

The situation that has emerged today in the domestic tourism market is characterized by the following factors: the demand for tourist services in Tatarstan is limited by the material resources of citizens, by a small number of recreation centers that provide an adequate level of comfort.

Inconsistency of interests in relations between tour operators of the domestic market and enterprises of the sanatorium-resort complex of the country leads to dissatisfaction of the needs of Tatarstan citizens.

Therefore, it is natural to assume that with the qualitative development of tourism in the Republic of Tatarstan, a certain number of local tourists vacationing now abroad will give preference to Tatarstan tourist destinations, leaving tourism expenses within the Republic of Tatarstan.

It is quite obvious that in the RT there is an integral system of tourism. But there are also significant shortcomings: separate branches of the tourism industry are developing, practically unrelated to each other, each of them has its own shortcomings, shortcomings and at the same time positive aspects.

Creating a developed competitive tourism industry to provide employment, a stable growth of state and population incomes by increasing the volume of inbound and domestic tourism is impossible without appropriate investments.

The main reasons that impede the accelerated development of tourism in Russia and in RT include:

- high prices for all types of services, including transport, hotel and restaurant;
- insufficient development of infrastructure (transport, utilities, condition of roads, considerable distance between settlements, etc.), including considerable physical and moral deterioration of a large number of tourist industry objects, lack of tourist-class hotels, insufficient development of

engineering, transport and social infrastructure in places of tourism, inaccessibility of tourist facilities, low level of service in tourist places, insufficient quantity and quality of service of roadside facilities infrastructure;

- lack of qualified personnel in the field of tourism - including the academic nature of education, some isolation of educational programs from the requirements of the labor market, the needs of production, the expectations of employers, etc;
- inadequate level of regulation of the tourism industry and hotel business in terms of the lack of definition of places of accommodation, as well as standards applicable to certain types of accommodation, the absence of legislation regulating social tourism applicable to workers and employers (lack of a system of tourist certificates) tax incentives for the tourism industry;
- possible obstacles for the development of the tourist business, including the presence of administrative barriers, the availability of state support instruments that require further improvement.

According to experts, Tatarstan's competitive advantage lies in its unique culture (cultural tourism), its rich natural potential (ecological tourism), increased business activity (business tourism), and the opportunity to engage in active leisure activities, such as sports and adventure (extreme) tourism.

Indicative experience of the development of tourist centers in Italy, USA, United Arab Emirates and Turkey. At the heart of the development of the tourism industry in these countries was the formation of the infrastructure of the tourism industry, transport and services.

The basis of the tourism infrastructure of world tourist centers is modern hotels, theaters, entertainment centers. Also an important role in the development of these tourist centers played a rich historical and cultural heritage and climatic conditions. The effective development of the tourism industry in these regions has been facilitated by the state's support for entrepreneurial business initiatives, as well as public-private partnerships in the development of tourism infrastructure. Also one of the priority activities for all areas is the development of social tourism, which provides opportunities to meet the needs of tourist services within the country for certain categories of the population, including elderly citizens and people with disabilities. In partnership with the private sector and industry associations, it is necessary to step up efforts to promote incentive tourism and introduce a mechanism for encouraging workers with recreation vouchers. Measures for the development of social tourism will include economic incentives for organizers of social tourism and benefits for its participants in the provision and receipt of tourist services, the creation, reconstruction and operation of social tourism facilities.

Sustainable development of the economy of Tatarstan, the implementation of a set of measures for industrial-innovative development contribute to the active attraction of foreign capital. Therefore, there are all the prerequisites for attracting foreign and domestic investment in the development of the tourism industry, forming a high level of tourism management in order to ensure clear coordination of actions of regional levels of government, promote the development of private initiatives; the creation of the information space of the industry, the development of an effective system for promoting the Tatarstan tourism product to foreign and domestic markets; adoption of the necessary regulatory acts on investment and taxation. These are the main directions of the cluster development of tourism, planned for implementation in the framework of the developed regional master plans.

Tourism infrastructure. The reformation of social and economic life carried out in the Republic of Tatarstan has not yet fully affected tourism and its infrastructure. Due to the weak material base of tourism, Tatarstan loses millions of dollars annually, which makes it necessary to attract capital investments in the tourism sector, as well as funds from domestic and foreign investors [6, 7].

One of the reasons for the underdevelopment of the infrastructure of the tourism industry in Tatarstan is that, at the regional level, it was not targeted as a branch of the economy. No attention was paid to integrated forecasting, long-term planning, the territorial organization of tourism and non-state tourist structures. A factor hindering the development of the industry is also the non-recognition of tourism activities a priority on the part of local governments, despite the fact that most of the revenue from tourism goes to the local budget.
The domestic tourist market in most developed countries in the tourism plan brings from 30 to 50 percent of the total income from tourism [8].

In this regard, Tatarstan has good prospects. At the same time, it should be noted that today domestic tourism is mostly spontaneous, unorganized. The exception is the activities of a few resorts, resorts and tourist centers. Due to the lack of a proper understanding of the development of this type of tourism, the state budget does not receive a huge amount, the infrastructure continues to collapse, and serious damage is caused to the ecological state of natural, cultural and historical monuments.

The most important component of the tourist product is transport.

Analysis of tourist activities showed that tourists arriving from abroad in the cities of Kazan, Nizhnekamsk, Naberezhnye Chelny have business visit goals (business tourism) and prefer to stay in hotels that provide quality service and a full range of services.

The further development of a network of hotels of international level in large cities - business centers of the Republic of Tatarstan will depend on business tourism.

One of the most serious limiting factors in the birth of the tourist business in the Republic of Tatarstan was the low material resources of the tourism industry. The main reason for the provision of low-quality tourist product in regional centers to foreign visitors was and remains the lack of hotels of the appropriate class, boarding houses, homes and recreation centers, as well as spa facilities, which are characterized by a high degree of moral and physical deterioration.

In the field of air transport. At the present stage of its development

The transport complex of the republic is characterized by a satisfactory condition of fixed assets, but insufficiently developed infrastructure and technologies. As a means of transporting tourists to Tatarstan, the main role is played by air service. Therefore, an extremely important issue is the development and strengthening of positions in the market of the national air carrier.

One of the main factors influencing the development of international tourism is passenger air travel. Most tourists prefer in terms of service and reliability of services of foreign carriers, which entails a reduction in passenger traffic on flights operated by domestic carriers. Moreover, the high cost of air tickets increases the cost of tourism products in Tatarstan and, accordingly, reduces its competitiveness in the international market.

Currently, Tatarstan has airports that have access to international air transportation in the cities of Kazan and Nizhnekamsk.

Air transport in the Republic of Tatarstan is represented by the activities of five enterprises engaged in air transportation: - YuVT AERO, carrying out regional air transportation from the airports of the Republic of Tatarstan - airlines “Tulpar Air”, “Tulpar Express”, “Kazan Aviation Enterprise” and “Aviaservis” operating in the segment “Business Aviation”. Clients of airlines are state and public organizations, large and medium business of the Republic of Tatarstan and the Russian Federation [9].

Each of the three agglomerations formed in the Republic of Tatarstan (Kazan, Kama, Almetyevsk) has the presence of its own airport complex. The Kazan International Airport is located on the territory of the Laishevsky municipal district of the Republic of Tatarstan, 28 km south-east of Kazan. Regular and charter flights are carried out from the airport to the cities of Russia, to the near and far abroad. Currently, Kazan International Airport is a multifunctional airport complex with great potential, well-equipped technically. The work of the airport is highly appreciated by leading experts, repeatedly making Kazan Airport one of the leaders in the global airport industry [9].

International Airport "Begishevo", located 21 km from the city of Nizhnekamsk and 24 km from the city of Naberezhnye Chelny. To date, work continues on the reconstruction of the Begishevo airport complex, the implementation of which began in 2010 and is envisaged until 2021. Measures to modernize the airport "Begishevo" are reflected in the Strategy of Social and Economic Development of the Republic of Tatarstan until 2030 and are of particular relevance due to the intensive development of industrial production in the Kamsky innovative territorial production cluster [9].

Bugulma Airport is the “air gate” of the oil southeast of Tatarstan. The airport is located 7 km from the city of Bugulma. From the airport there are regular and charter flights to the regions of Russia.

According to the Ministry of Transport and Road Management of the Republic of Tatarstan, in 2018, the airports of the Republic of Tatarstan served (on arrival and departure) 3,961.9 thousand people, which is 21.3% more than the same period last year (2017 - 3,265, 2 thousand people). An additional factor stimulating the development of the industry is the participation of the Republic of Tatarstan in the implementation of federal programs to subsidize regional air travel. In 2018, the Republic of Tatarstan took part in the co-financing of 23 routes under the program of subsidizing air travel in the Russian Federation (from Kazan to Orenburg, Samara, Penza, Perm, Nizhny Novgorod, Nizhnevartovsk, Surgut, Novy Urengoy, Tomsk, Voronezh, Barnaul, Yaroslavl, Kaliningrad , Makhachkala, from Nizhnekamsk to Nizhny Novgorod, Yekaterinburg, Mineralnye Vody, Krasnodar, Rostov-on-Don, from Bugulma to Nizhnevartovsk, Surgut, Novy Urengoy, Noyabrsk). Regular flights at special fares made it possible to ensure the availability of regional air transport for the population, strengthen air traffic between the cities of the Republic of Tatarstan and other regions of Russia, and provide new opportunities for development and interaction [9].

In the field of railway transport. In recent years, rail transport is a popular means of transportation for the majority of the population of the republic because of the more affordable ticket prices.
On the territory of Tatarstan pass 132 routes of passenger trains of their own formation. Including in the commuter train run on 69 routes; in local traffic - 49. Also, 17 passenger transit trains run through the territory of the Republic of Tatarstan.

Railway passenger transport of the Republic of Tatarstan is represented by the activity of the suburban company JSC Commonwealth. According to the results of work in 2018, 6.43 million passengers were sent

by suburban rail transport, which is 105.7% compared to last year (6.08 million passengers in 2017), including 295.026 thousand citizens of preferential categories and 632.470 thousand students and schoolchildren. In 2018, for the convenience of passengers, a transfer was made to the daily run of the suburban train Izhevsk - Nizhnekamsk. In early December, the new route Sviyazhsk - Bois - Sviyazhsk was opened. Together with JSC Russian Railways, work was done to improve the quality of public services provided by rail. A new high platform was built at Sviyazhsk station. In the framework of the execution of orders of the President of the Republic of Tatarstan R.N. Minnikhanov, following the results of working visits to the Republic of Belarus and Uzbekistan, together with the Federal Passenger Company JSC, a direct railway connection was organized in Kazan-Minsk and Kazan-Tashkent directions. In December 2018, the movement of accelerated daily trains from Kazan to Samara was organized.
Currently, the Ministry of Transport and Road Management of the Republic of Tatarstan is working on the issue of opening a direct train from Kazan to Simferopol.

Water transport. The maintenance of waterways in the Republic of Tatarstan is entrusted to the Kazan region of waterways and navigation and the Nizhnekamsk region of waterways and navigation. The Republic of Tatarstan is connected to the international network of waterways by the Volga and Kama rivers. From Kazan waterways pass: - in a southerly direction - through the city of Volgograd, Astrakhan, Rostov-on-Don (the Caspian, Azov and Black Seas); - in the western direction - to the city of Nizhny Novgorod, Moscow, St. Petersburg and the north-western regions of Russia with access to the Baltic Sea; - in the east direction - to the city of Ufa and the city of Perm. There is a possibility of a direct exit from the Kazan port to the ports of the r. Danube river-sea class vessels. Passenger transportation in suburban traffic on water transport in the republic is carried out by two companies: JSC Shipping Company Tatflot and LLC Naberezhnye Chelny Production Association of Nonmetallic Materials.

According to the results of work in 2018, water passenger transport in the suburban traffic carried 326.7 thousand passengers, of which 73.4 thousand people are a preferential category of passengers.

Automobile transport. In recent years, motor transport has been actively used for tourist purposes, since, in accordance with a decree of the Government of the Republic of Tatarstan, the list of public roads of republican significance includes roads leading to large tourist sites and representing the greatest interest in terms of further tourism development. Also, road transport is used to organize excursion routes. However, its development depends entirely on the condition of the roads and the availability of proper maintenance of tourist vehicles [10]. To date, 150 inter-municipal regular transport routes are serviced in the republic, which employ 579 buses.

Automobile transport of the Republic of Tatarstan is represented by the activities of 43 carriers of various forms of ownership, including 15 major road transport enterprises of the Republic of Tatarstan.

For 2018, motor transport enterprises of the republic transported 216.3 million passengers on regular routes, which is similar to last year; passenger traffic on public buses on regular routes in 2018 was 1,379.5 million passenger kilometers, which is 0.08% more than in 2017. Thus, for the development of a tourism infrastructure capable of ensuring a steady influx of tourists, taking into account the specifics of the national tourist product, it is necessary:

- development of transport and road infrastructure for general use and to meet tourist needs;
- development of related infrastructure: water, electricity, sewage and solid waste disposal systems, telecommunications in existing and potential tourist areas;
- the creation of tourist complexes, ethnographic museums and recreation areas;
- restoration and museification of historical, cultural and ethnographic monuments;
- development of projects and construction of tourist facilities, including medium and small accommodation facilities, with a view to ensuring year-round use [10].

Thus, the main directions and measures for the development of tourism in Russia and the Republic of Tatarstan will be: 1. Increasing the availability and improving consumer properties of tourist products through the use of package tours, cooperation with Russian Railways and an increase in charter flights; 2. Development of infrastructure due to the implementation of FTP; 3. Diversification of tourist offers due to the development of tourist routes; 4. Improving the quality of tourist service through training, certification and certification of tourist personnel; 5. Increasing market transparency by maintaining registers and changes in legislation; 6. Raising the awareness of tourists through the introduction of the national tourist portal Russia. Travel.

CONCLUSIONS

Today we are obliged to build all the necessary infrastructure of the modern tourist industry. If we want tourists to come to us, we must urgently reconsider many approaches in this direction: from the cost and terms of visa processing to the construction of large tourist centers for recreation and entertainment. In the development of tourism should be interested in many government departments and regional executive bodies, as tourism covers a huge range of services and production in various industries. A lot depends on the initiative of local authorities, on their understanding that tourism can be a source of prosperity for the region. In addition, for the creation of powerful tourist centers capital investments are needed, both from the state and from domestic and foreign investors. Therefore, we must create the necessary conditions for

the early emergence of a developed tourist complex that meets all international standards and requirements.

CONFLICT OF INTEREST

There is no conflict of interest.

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ARTICLE

PROBLEMS OF TRAINING SPECIALISTS IN THE SPHERE OF TOURISM OF THE REPUBLIC OF TATARSTAN

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ABSTRACT

The paper deals with the problems of training specialists in the field of tourism in the Republic of Tatarstan, the problems of standardization of vocational education, global trends in the training of personnel for the tourism industry. The analysis of state and public requirements for the tourism industry professionals. As a result of the analysis, the main problems in the preparation of tourist personnel were revealed: excessive academic character of specialized higher education, while a clear lack of practical skills among students; the lack of a scientifically based vocational education system for students, which in the practice of educational institutions is, at best, replaced by social education activities; the content of the state education standard does not meet the requirements of the labor market in the field of tourism and service.

KEY WORDS
education, tourism and service, training, innovation.

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INTRODUCTION

Recently, there has been a trend in the world and in the Republic of Tatarstan associated with the transition to an innovative type of training for professionals in the tourism industry, however, at present, there is no uniform concept and methodology for continuous training for the tourism industry. On the one hand, professional tourism education has not yet gained sufficient experience in training highly qualified personnel. On the other hand, blind copying of foreign experience is inefficient, as sectoral training systems in developed countries are aimed at solving the problems of developing national tourism within the global tourism market, in which the share of the Republic of Tatarstan is insignificant. Achieving this goal was carried out by setting and solving the following research tasks: to investigate the current state of the personnel training system for the tourism industry in the economy and culture of Tatarstan, as well as to analyze domestic and foreign experience in personnel training for the tourism industry; to consider the theoretical aspects of training specialists in the field of tourism. The main task in the field of training in the tourism industry for the Republic of Tatarstan, according to the authors, is not only the training itself, as well as periodic training, but also training in related professions of specialists in the field of tourism industry with new knowledge quickly changing economic conditions in the global and domestic markets of tourist services.

MATERIALS AND METHODS

The following research methods were used in the work:

- bibliographic analysis of literature and materials on the Internet;
- system analysis;
- isolation and synthesis of the main components.

RESULTS AND DISCUSSION

The domestic system of multi-level training of specialists in the field of tourism develops under the influence of two socio-economic factors: first, this is the intensive introduction into the national system of elements of continuous education and the practice of multi-level training, the search for new forms of vocational education; secondly, the sectoral factor, the search for ways to prepare scientific and pedagogical personnel in accordance with the needs of the emerging tourist business market.

In accordance with Article 10 of the Federal Law “On Education in the Russian Federation”, the following levels of professional education are provided in the Russian Federation [1]:

1) secondary vocational education;
2) higher education - bachelor degree;
3) higher education - specialty, master;
4) higher education - training of highly qualified personnel.

Also regulated and additional education.

The basic training of tourism industry specialists in Russia as of the end of 2018 is characterized by the following indicators: the number of universities leading training in the direction of 43.03.10 Tourism amounted to 286 [2]. Of these, the state - 228 universities, and 58 - non-state universities. In the Republic of Tatarstan, 9 universities (Kazan Innovation University named after VG Timiryasov; Kazan State Institute

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of Culture; University of Management "TISBI"; Kazan (Volga Region) Federal University; Russian University of Cooperation (branch in Kazan); Volga State Academy of Physical Culture, Sports and Tourism; Kazan (Volga Region) Federal University (branch in Naberezhnye Chelny); Kazan National Research Technological University; Naberezhnye Chelny State Pedagogical University) [2].

The number of specialized universities is growing. For the period 2014–2018 academic years, all higher educational institutions of the country issued specialists with higher education for the tourism sector in 2014 — 868 people, in 2015. - 1116, in 2016 - 1393, in 2017 - 1402, in 2018 - 1935 people [3].

Analyzing the training of specialists of secondary vocational education, it can be concluded that there is an insufficient number of educational institutions and a low level of training of specialists. In the Russian Federation, there are 110 secondary vocational schools that have a training direction for mid-level specialists 43.02.10 - Tourism. Of these, 71 relate to state ownership, 39 to non-state ownership [4].

In the Republic of Tatarstan, only two educational institutions provide training for mid-level specialists for the tourism industry - the College of the Kazan Innovative University named after VG Timiryasov and the faculty of secondary vocational education of the Kazan National Research Technological University.

The quality of training graduates of secondary vocational education is also in many respects not satisfying to employers (up to 25%). At least 25% of graduates perform jobs where secondary vocational education is not required. Therefore, each graduate of secondary vocational education, getting a job, faces certain problems: 1. Lack of jobs in the received specialty; 2. Low wages (due to lack of work experience); 3. Non-compliance of the professional competence of graduates with the requirements of employers (low level of knowledge, skills and practical skills); 4. Excessive requirements for employers in employment.

The training of highly qualified specialists (graduate and postgraduate) is carried out in 22 universities of the Russian Federation. In state universities - 16, in non-state - 6 [5], but such an increase of highly qualified specialists is clearly insufficient. In the Republic of Tatarstan, such training does not exist. Thus, targeted training of candidates and doctors of science who have experience in the tourism industry is required in order to form a highly qualified faculty of educational institutions and industry science personnel.

Pre-university vocational training is mainly vocational guidance and includes the formation of specialized classes. Its goal is to orient schoolchildren to professional activities and identify their predisposition for their chosen profession. To date, only a few schools of the Republic of Tatarstan have specialized classes, focused on further graduates of vocational education in the field of tourism.

Further work in the industry continues to be carried out only by about 44% of specialists with secondary vocational training, which is about 10% of the labor market demand and they are clearly not enough.

The analysis showed that a significant number of posts in the tourism industry are occupied by people with non-core education. This determines the importance and the need for additional training and skills development. A number of higher educational institutions are also engaged in advanced training, but a significant gap in this system is the small number of programs targeted at specialists with primary and secondary vocational education.

It can be concluded that the existing system of additional professional education does not meet the requirements of retraining not in quantitative or qualitative composition.

The quality of vocational training of graduates of various levels of education is low and does not meet the requirements of employers and the corresponding international standards. An analysis of the curricula of primary, secondary and higher vocational education has shown that from 10 to 20% of study time is allocated to work experience [6, 7].

Thus, the analysis of the existing system of training for the tourism industry has revealed the following contradictions in various functional areas:

- in the scientific and methodological field: between the requirements of integrative professional training of tourism industry specialists and the existing scientific foundations of the theory and methodology of vocational education;
- in the educational and methodological field: between the need to modernize the process of professional training of tourism industry professionals to ensure their competitiveness in the labor market and the level of educational and methodological support for the implementation of this process;
- in the economic field: between the needs of the labor market in competent specialists of various qualifications and the number of graduates of primary, secondary and higher professional education for the tourism industry.

The indicated contradictions allow us to conclude that currently there is no effective continuous system of personnel training for the tourism industry.

A simple listing of educational institutions shows some discrepancy in the ratio of managerial personnel in comparison with the service personnel.

When calculating the need for qualified personnel and specialists of the tourism system, it is shown that the employment formula in the industry for levels with higher, secondary vocational, secondary special for mass (working) professions and human resources with initial vocational education is respectively: (1-1.35) - (2.8-3.5). The analysis of these proportions suggests that the successful functioning of the entire system of tourist services essentially depends on the professionalism of specialists at all educational levels.

This condition for multi-level professional training determines the increased requirements for ensuring the quality of the educational system and the pedagogical process of the educational institution.

Overcoming this imbalance may be solved by organizing multi-stage training of personnel like the French education system in the field of tourism, when students are required to complete all stages - from primary to higher education.

Foreign educational programs implement the above recommendations through an extensive network of tourist educational institutions [8].

The system of training tourist personnel in France, for example, annually provides specialists in the hotel industry and restaurants, drivers of tourist buses and other specialties of up to 6,500 people, with training periods of 2 years or more.

The initial level of education provides training for tour organizers and tour operators, service bureau workers.

Travel agents and travel business intermediaries are trained in colleges and institutes, special schools and lyceums. A characteristic feature of training in educational institutions of the specified type is the obligatory passing of each trainee at all levels of training: intern - professional - bachelor - master. An analysis of official documents and practice of tourism in France shows that the education of specialists for the tourism sector includes the following levels of training: apprenticeship school (vocational guidance, level 1); school of professional personnel (qualified personnel by profession, stage 2); School for the formation of techno-managerial specialists (specialists of average qualification, bachelor 3 degree); School of training specialists of economic and managerial profile (specialists-managers, specialists in the field of marketing, business of the highest qualification, masters, level 4); postgraduate education that responds to changes in the nature of labor, market requirements, scientific and technological progress, and the economic situation.

On the other hand, in order to increase academic and professional mobility, to enable them to fully realize their abilities in gaining knowledge and successfully applying them in further activities, it became necessary to expand contacts with various structures of the Council of Europe, UNESCO and other organizations in order to join the Tatarstan system of higher professional education. education in the European educational space.

The study of these features showed that the quality of tourism education and the training of specialists in tourism activities are widely reflected in the documents of the UN, UNESCO, ILO, WTO and other international instruments. Among them, a special place is occupied by the documents of the UN Rome Conference on Tourism and Travel (1963), the Manila Conference on World Tourism (1980), the Inter-Parliamentary Conference on Tourism in The Hague (1989), the World Conference of Ministers for Tourism in Osaka (1994 city), "Charter of Tourism" (1985). These documents contain detailed requirements for professional training of tourist personnel.

For example, the Tourism Charter states: “Employees in the field of tourism and service providers for tourism are obliged to comply with any obligations undertaken in their professional activities, ensuring the high quality of the tourist product provided in order to promote the approved humanistic nature of tourism” [9].

And the Hague Declaration on Tourism identifies measures to ensure the quality of tourism training, in particular: taking effective measures to train specialists for organizing travel and tourism by incorporating the study of tourism into the curricula of schools and universities; encouraging young people to choose a career in tourism; the creation of a network of educational institutions capable of providing not only training, but also education in the field of tourism based on an internationally standardized curriculum that would facilitate the mutual recognition of diplomas and the exchange of tourist personnel.

Therefore, it can be argued that in the professional training of specialists in the field of tourism, the ideas of improving the quality of education play a leading, dominant role.

The advantage of European models of professional training for the tourism industry is: a significant part of the training time is designed to gain practical skills during practical exercises, practices and internships in enterprises of the industry; emphasis on shaping student psychology in customer service; close cooperation of educational institutions with the industry; high mobility of students. Most of the tourist and

hotel schools in Europe are open on the basis of existing hotels, students live there, which allows them to gain practical professional skills in an environment close to reality. This experience is undoubtedly interest and prospects for improving the quality of training in Tatarstan, since there is practically no such hotel bases in local educational institutions.

The experience of staff training in the United States deserves attention, where specialized departments are formed on the basis of educational institutions (recruitment agencies) connected by a single information system with tourism industry enterprises that regularly monitor the needs of the labor market, employing young professionals and correct a set of applicants for specialized specialties [10]. Accordingly, educational institutions have the ability to quickly respond to the changing needs of the industry in personnel of a particular profile and qualification level. The advantage of the American model is also: close integration with public professional organizations; deep study of general theoretical positions in the field of management; availability of a large number of various advanced training and retraining courses, etc.

The results of the study are as follows:

- for the Republic of Tatarstan, characteristic basic contradictions between the requirements of integrative professional training of tourism industry specialists and the existing scientific foundations of the theory and methodology of vocational education were revealed;
- identified the need to modernize the system of vocational training of tourism industry professionals to ensure their competitiveness in the labor market;
- identified the need to modernize the teaching and methodological support of professional training of tourism industry specialists in accordance with the needs of the labor market;
- A shortage of competent specialists of various qualification levels of primary, secondary and higher professional education for the tourism industry was revealed.

CONCLUSIONS

Our research allows us to form a general idea of the existing system of training specialists for the tourism industry of Tatarstan in the context of dynamic changes in the market of tourist services.
At the same time, the need to further develop the system of professional training for managers and specialists for tourism organizations suggests the solution of a number of problems. The first is the improvement of the learning process itself.

The whole system of personnel training for the tourism industry seems to be effective only if there is an appropriate base for practical training. Meanwhile, at present, there is a significant estrangement from the enterprises that organize tourism, from the hotel, restaurant and other sectors of the tourism industry, which is one of the most acute problems facing this system.

To solve this problem, methodological aspects of long-term internships of students of higher educational institutions and students of specialized secondary educational institutions should be developed and tested in practice directly at tourism enterprises. This will allow them to acquire real practical skills, the ability to respond to existing and potential demand, to understand and take into account the psychological expectations of the target audience, etc., but also increase the competitiveness of enterprises in the hospitality industry.
It should be particularly noted that curricula (both in the system of higher and secondary vocational education) should include more intensive courses in foreign languages. And this should apply not only to the English language, but also to a number of widespread in the world of oriental languages. The latter is due, in particular, to the fact that, according to forecasts of WTO specialists, a significant increase in outbound tourism from China is expected in the foreseeable future, a large number of these tourists can take our country, thereby winning important positions in the international tourism market.

In addition, in the process of preparing future managers and specialists in the tourism industry, it is necessary to strengthen general theoretical training. Such educational disciplines as mathematics and statistics, management and marketing, as well as special courses in psychology, communication culture, negotiation, etc., must be present as the main subjects in the curricula.

In general, when educating future managers and specialists for the domestic tourism industry, it is necessary to use not only the most modern teaching methods, but also to maintain close ties with the tourist business enterprises, provide trainees with the opportunity to participate in the international exchange of information, stay abroad to gain foreign experience.

CONFLICT OF INTEREST

There is no conflict of interest.

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ARTICLE

IMPROVING THE EFFICIENCY OF THE ENTERPRISE PRODUCTION SYSTEM ORGANIZATION (ON THE EXAMPLE OF NIZHNEKAMSK TRUCK TIRE PLANT COMPANY LTD)

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ABSTRACT

The post-industrial vector of economic development and the intellectualization of economic activity would seem to create prerequisites for shifting emphasis to the improvement and development of the service sector, however, the basic and decisive importance of human needs even more strongly determine the need to implement the intellectual capital of the nation in a new, noospheric quality expanded reproduction of the industrial sector of the domestic economy. Rapid changes in the operating conditions of companies and fierce competition in the market set the rules of management, which state that ensuring the competitiveness of products of domestic enterprises again and again requires modernization. Moreover, it should also cover the production potential and, the introduction of new technologies and ways to stimulate labor, search for reserves to improve the organization of production. The positive decision in favor of the put-forward alternatives is mediated by the production system diagnosis results and the problem areas exact definition. In this regard, the research is devoted to implementation of the analytical potential of methods for assessing the efficiency of the production system organization on the example of the production workshop of the tire industry enterprise of the Republic of Tatarstan.

KEY WORDS
production system, organization of production, production efficiency, fixed assets.

INTRODUCTION

As a result of the Russian economy transformation the economy manufacturing sector more suffered. It proved to be uncompetitive both on the price factor, and therefore production cost, and on qualitative and assortment parameters of the offered market of production. The sphere of trade in foreign-made products in the domestic entrepreneurs business ideas implementation came to the forefront, which yields profitability, calculated by tens of percent, while in production, this indicator hardly reaches to ten.

In such conditions, the remaining relatively small share of production workers in a pursuit of quantitative results, first of all, concerning prime cost, began to produce previously unknown actions, for example, related to outsourcing of the main business processes (systems of supply, distribution, economic providing, etc.), that within the undeveloped market more led to deterioration in production results (increase in the cost of the consumed services, increase in troubleshooting time, deterioration of the performed works quality). Thus, the knowledge and skills of the production system organizing and ensuring its effective functioning gradually began to be erased from the field of entrepreneurial competencies. At the same time, the resource potential of Russia, and also the country's historical production orientation, indicate the need to develop a system of knowledge about industrial production and production system.

An analysis of the theoretical works of domestic researchers in the field of production organization showed that the most significant results were achieved by several economists. It was they who gave the most comprehensive picture of the content and functions of the production system, revealed the principles of its organization and indicated the indicators for evaluating its effectiveness, revealed the design alternatives. However even in their works insufficient attention is given to binding elements and relationships of cause and effect between a production system, the enterprise functioning efficiency and factors of production. Despite the fact that the ideas of efficient production organization are quite well known and popular now, there is still a significant gap between theory and really used approaches in the enterprise activity.

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MATERIALS AND METHODS

The methodological basis of the research presented in the article is represented by scientific achievements and the most famous research programs of domestic authors in the field of production organization. The conclusions and recommendations indicated in the work are proved by results of research received on the basis of economic-mathematical, abstract-logical methods and methods of system analysis.

The materials of periodicals and also regulations and reporting of tire business enterprises of PJSC TATNEFT formed information base of the presented research.

The practical significance of the research results is determined by basic provisions, generalizations, conclusions and recommendations that will help the enterprise to create competitive advantages, provided with increase performance indicators of production.

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RESULTS AND DISCUSSIONS

In cybernetics, a system is understood anyway as ordered set of elements interacting among themselves, each of which can represent an independent system. The production system incorporates all system characteristics and has it only inherent features. So, M. Kh. Hasanov and A.I. Protopopov understand the production system as «a living cognitive system, a part of global nature-society-person system with function of useful powers generator ensuring the process of life evolution» [1].

Unlike them, A.V. Bandurin considers the production system as «a special class of systems, including workers, tools and objects of labor, and other elements necessary for the functioning of system, in the course of which products or services are created» [2].

According to I.V. Shurtukhina, the production system represents «a part of the production process which stood apart as a result of the public division of labor and is able, independently or in conjunction with other similar systems, to satisfy these or those needs, requirements and inquiries of potential consumers with the help of goods and services produced by this system» [3].

Thus, some authors of educational literature consider production systems as a part of more global systems, others – as a special class of systems providing production and consumers satisfaction. As its content is considered a combination of human, natural and material factors that ensure reproduction of economic benefits.

The factors and resources are the human, natural, immaterial and material values by means of which the production process is carried out. Elements of the production system and stability of communications between them, ensure the system integrity and its property to keep the originality.

The efficiency of production system functioning depends on the mechanism and quality of feedback, the components of which can include offers and requirements of consumers of the enterprise's products, claims and new information in connection with the unsatisfactory quality of the produced goods and scientific and technical achievements.

Now the structure of production system can be represented as follows [Fig. 1].

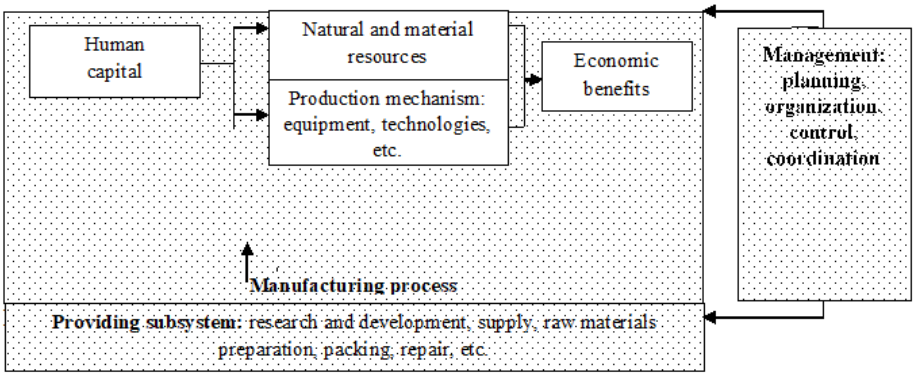


Fig. 1: Structure of the production system.

The aforesaid determines structure of production system of the country's tire industry enterprise.

Its prominent representative is Nizhnekamsk Truck Tire Plant Company Ltd (hereinafter referred to as ООО «НЗГШ»), the history of which began from 1978 to this day is described by significant results of economic activity. So, according to a study by the marketing agency of DISCOVERY Research Group, the named company produces about 38% of the total truck tire production in the country [4].

So, the formation of ООО «НЗГШ» production structure is dictated by tire production technology, which includes the processes for the manufacture of rubber compounds and the required components, the assembly and vulcanization of the tire [Fig. 3] [6].

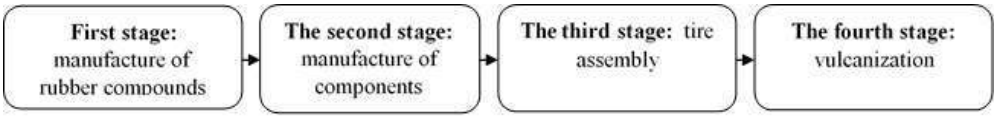
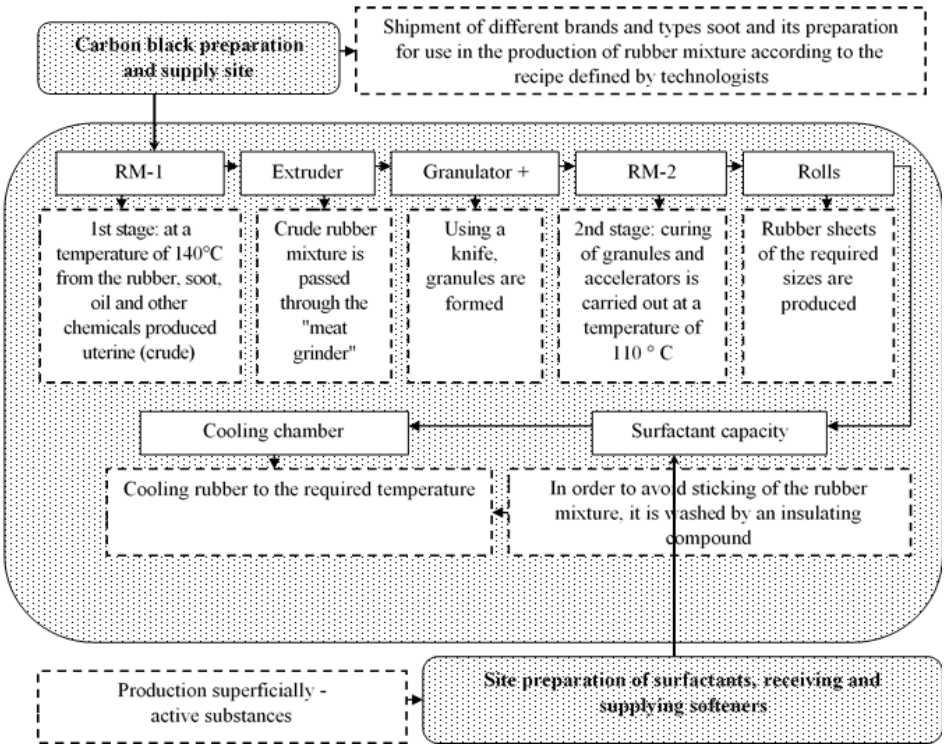


Fig. 3: Stages of tire production.

Significant production volumes and the complexity of the technical organization of the conditions for the implementation of each of the processes led to the creation of a workshop for the preparation of rubber compounds consisting of four sections: the preparation and supply of carbon black, rubber mixing and the preparation of surface-active substances (surfactants), the reception and supply of softeners; workshops for the manufacture of semi-finished products (assembly shop); tire vulcanization shop and auto chamber shop.

Detailing the production system to the level of the workshop indicated a research interest in the preparatory workshop of the enterprise in which the tire production process begins. The production structure of the workshop and the system of relationships and dependencies are presented in [Fig. 4].



Note: RM – rubber mixer

Fig. 4: Production structure of the preparatory workshop.

Analysis of the enterprise reporting information showed that the human capital of the workshop was formed from the composition of 215 employees, who annually produce about 130 thousand tons of rubber mixtures. The average annual output of the workshop workers is 611.8 tons of rubber compounds. Further, the analysis of the documents showed that the shop's costs for downtime due to equipment breakdown, seasonal fluctuations in demand for finished products and instability in the supply of raw materials only in 2017 amounted to about 11,187 thousand rubles [Fig. 5].

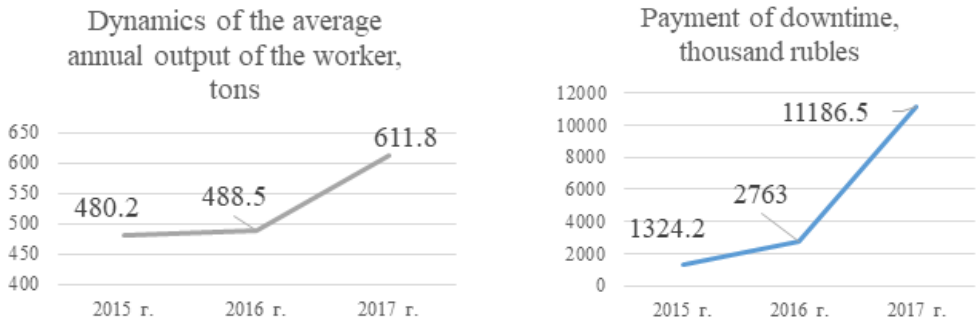


Fig. 5: The dynamics of the average annual output of workers and the cost of downtime in the preparatory workshop of ООО «НЗГШ».

The frequent breakdown of the workshop equipment is due to a high percentage of not only moral but also physical deterioration of fixed assets. The company has been operating since 1978, despite the annual measures for the overhaul and partial replacement of equipment, the accounting data of the tire business enterprises of PJSC TATNEFT petrochemical complex, with the exception of the Nizhnekamsk All Steel Tires

Plant Ltd (since its launch dates back to 2009) indicate that the funds of the complex are almost 70% worn out, their active part is more than 80%. As was noted, the increase in expenses for capital and current repairs of the equipment of the workshop only for the period from 2015 to 2017 amounted to 27%, determining the increase in the share of these costs and equipment maintenance costs in the structure of shop cost to 55%. The decisive value of the cost of capital and current repairs of fixed assets of the shop for the cost of operating activities necessitates a search for reserves to reduce them.

Frequent equipment breakdowns and physical wear and tear of equipment affect the amount of primary and final rejects of rubber compounds, the value of which was respectively 0.50% and 0.011% [9]. The volume of defective products is affected by the state of not only the main technological, but also the auxiliary metrological, transporting equipment, which is reflected, for example, in measurement errors, the waking of the supplied raw materials.

Thus, a point analysis of the production system of the preparatory workshop of ООО «НЗГШ» showed that its economic losses are due to:

firstly, the work of the organization of the flow of resources along the technological chain of rubber mixtures, which determines the increase in the rates of consumption of raw materials, the cost of products, reducing the quality of incoming raw materials and materials;
secondly, the depreciation of the basic production assets of the enterprise and the used metrological equipment, most of which is at the age of more than 20 years;

thirdly, in the high costs of organizing the production of rubber compounds in the workshop (an annual increase in expenses by an average of 8%), a significant proportion of which is aimed at maintaining and repairing equipment (55%).

In this regard, to reduce costs and improve the efficiency of the production system of the enterprise at the stage of manufacturing rubber compounds, it is necessary to update the rubber mixing line; adjust the system of transportation and supply of carbon black into rubber mixers; work to improve the organization and rationing of labor of workers of the workshop [Fig. 6] [10].

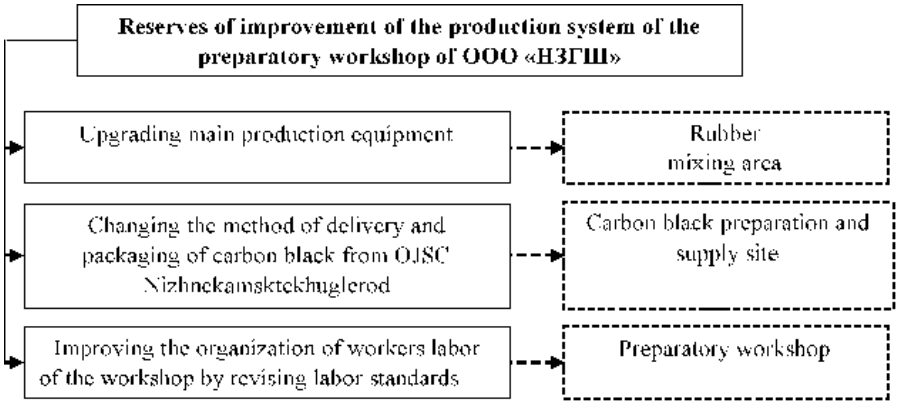


Fig. 6: Proposals to improve the efficiency of the production system of Nizhnekamsk Truck Tire Plant Company Ltd preparatory workshop.

In the preparatory workshop of ООО «НЗГШ» there are two rubber mixing lines, each line is equipped with two rubber mixers, one extruder and a pelletizer, three pairs of rollers.

According to the price list of JSC Polymermash [11]. Completion of one line of rubber mixing will cost the enterprise 27 350 thousand rubles plus 50% – costs associated with the transportation and installation of equipment, total – 41 025 thousand rubles; two lines – 82 050 thousand rubles. Already in the first year of the implementation of measures, the savings will amount to 0.4 million rubles, in subsequent years, subject to a guarantee for the equipment for 5 years – about 80 million rubles annually [Table 2].

Secondly, the site for the preparation and supply of carbon black workshop was created specifically for the shipment of carbon black, which is transported from the Nizhnekamsk carbon black plant to the preparatory workshop of the plant. The cost of transporting one ton of carbon black according to accounting data for 2017 make up 340 rubles. With the help of shop transport and working personnel consisting of 13 people, carbon black is discharged into carbon black storage silos, which are vertically installed containers with a diameter of 5.64 meters and height of 15.4 meters. The capacity of one silage is 90 tons of carbon black. On the site there are 30 silos.

Table 2: The economic effect of the rubber mixing line modernization

Indicator	Current conditions (2017 conditions)	In terms of equipment modernization	Savings (-)
1	2	3	4=3-2
Annual costs for capital and current repairs of equipment (estimates of the workshop), million rubles	75,1	3	-72,1
Production costs from defect (with an average price per ton of rubber compound 30 thousand rubles * 106488 tons * 0.011%), million rubles	0,4	0,2	-0,2
Payment of downtime due to equipment failure (90% of 11.2 million rubles)	10,1	-	-10,1
Capital investment	-	82	+82
Total	85,6	85,2	- 0,4

Further, carbon black from silos is conveyed by belt to conveyor hoppers, which are tanks with a diameter of 3 meters, a height of 6 meters and a capacity of 2.3 tons, from which carbon black enters the rubber mixers of the first stage. In the preparatory workshop, 8 units of supply bins were installed [Fig. 7].

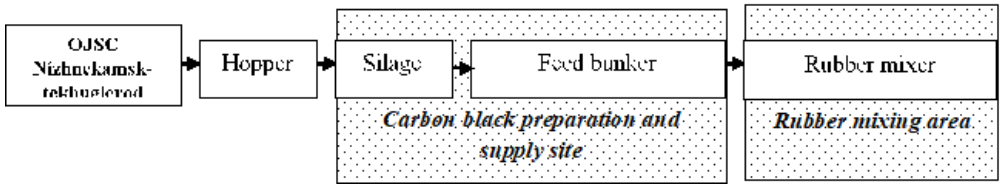


Fig. 7: Scheme of the organization of transportation and supply of carbon black to the rubber mixing area.

In the process of transporting and supplying carbon black to rubber mixers, their losses occur due to spillage. The cost of transporting carbon black by rail per year is 110 * 340 * 360 = 13,464 thousand rubles.

In addition, the cost of labor of workers in the area of preparation and supply of raw materials is 16 million rubles.

Total expenses only for the preparation and supply of carbon black amount to 38,969.2 thousand rubles excluding the cost of purchasing carbon black.

In order to reduce these costs, it is proposed to use modern methods of transporting raw materials and materials in large rubber bags – Big Beg. Taking into account the needs of the company in the carbon black in the amount of 110 tons per day, the daily cost of purchasing big bags will be 22,2 thousand rubles, in a year 7992 thousand rubles.

During the development of the proposal to change the scheme of transportation and supply of carbon black in rubber mixers. First, carbon black will be supplied by road. In this case, transportation costs for the delivery of carbon black will be 1,650 rubles per day, per year 594 thousand rubles. Secondly, the need for silage maintenance will disappear, since carbon black will be immediately discharged into the feed bins by air forcing through pipes; thirdly, the loss of carbon black in the supply of carbon black in rubber mixers will be eliminated; fourth, the number of the area of preparation and supply of carbon black for 5 people of the wage fund will be reduced by 1,170 thousand rubles. Fifthly, it will be necessary to install two crane beams, which will be mounted above the rubber mixers for shipment of carbon black into them from the feed bins. Their purchase and installation will cost the enterprise 400 thousand rubles.
The proposed scheme for the transportation and supply of carbon black is presented in [Fig. 8].

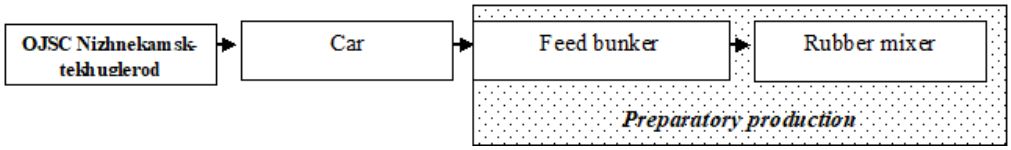


Fig. 8: The proposed scheme of transportation and supply of carbon black.

Thus, the update of the rubber mixing line will save about 80 million rubles annually, change in the method of transportation and supply of carbon black – 7 million rubles, which will reduce the cost of production and increase its competitiveness in the domestic and foreign tire market.

CONCLUSIONS

Thus, the production system is a structured set of factors and resources involved in a targeted production process and service delivery. Evaluation of the effectiveness of the production system organization is made on indicators reflecting the results of production, as well as relative indicators of the efficiency of using the capabilities of the staff, working capital and non-current capital of the company.

The economic analysis of the production organization in Nizhnekamsk Truck Tire Plant Company Ltd allowed to identify the main shortcomings in the activities of the workshop and to develop solutions aimed at improving the economic efficiency of production and ensuring the competitiveness of the products of the workshop in terms of quality and price.

CONFLICT OF INTEREST
There is no conflict of interest.

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ARTICLE

METHODOLOGY OF FORMING THE ASSORTMENT POLICY OF THE ENTERPRISE

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ABSTRACT

The article reflects the analysis of the most important determinants in the field of forming the product range, proposes the basic definitions from the marketing point of view. The analysis of existing approaches to the multi-nomenclature assortment formation is presented. The information base is presented by Russian and foreign methodological researches of the assortment planning, creation and management. Currently the assortment management methodology is represented by a wide range of scientific articles. However, there is no common view of the assortment policy essence. There is also a scatter of opinions regarding the assortment characteristics (depth, width, structure). It is established the controversial opinions about correlation between "assortment policy", "assortment strategy", "assortment management", "assortment formation". The article provides a detailed analysis of the assortment management conception, the state of the problem, the assortment formation approaches. It reflected the absence of a unified and clear understanding of the main terms. As a result of the general scientific review and analysis, the methodological conception of forming the assortment policy is formulated. Scientific novelty: the content of the term "assortment policy of the enterprise" is clarified. It is a set of marketing decisions which defines the range and volumes of products and is aimed to the profit and efficiency of the enterprise. The definition limits the scope of action and identifies the general objective clearly. The research results are of scientific and methodological importance in the assortment management theory and practice. Clear terminology and methodology facilitates the task of developing practical methods of the assortment formation. Further research prospects are related to the development of practical recommendations on the assortment policy. The article is intended for a wide range of theory and practice specialists of economics, management, and marketing.

KEY WORDS
assortment, assortment policy, assortment strategy, assortment management, assortment position, assortment group.

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INTRODUCTION

Assortment management is the basis of many management decisions. From the point of view of practice, the most important financial and economic indicators depend on the assortment policy. Adequate response of production to market requirements provides the firm with a profit and a positive reputation. However, from the scientific and theoretical point of view, the formation of assortment policy is impossible without a terminological and methodical apparatus. Establishing clear basic categories is necessary for the further development the assortment management science.

Various aspects of the assortment policy formation were considered in the works of domestic scientists, who made a big contribution to the study of problems of the product range management. In modern conditions, the concept of the assortment planning, creation and adjustment causes a lot of discussions in the scientific and popular economic literature [1-4]. The issues of forming the assortment cover strategic and production management, commercial business, and commodity science. But the main role belongs to marketing, since the range of products should be in demand by the market [5]. The financial results, reputation, competitiveness, economic security depend on the demand for goods [6]. In the same time, the demanded assortment must be made in conditions of resource and production limitations [7]. This condition should be reflected both in the terminology of the assortment policy, and in the methodology for its formation.

The subject of the research is the theoretical and methodological aspects of the assortment policy formation.

MATERIALS AND METHODS

Research methods are methodological analysis of the assortment formation, synthesis, comparison. The theoretical and methodological basis was the research works of leading domestic and foreign scientists in the field of marketing, and in particular, of assortment management.

In the process of work, materials from specialized publications, scientific and practical works, legislative and regulatory documents were used.

RESULTS AND DISCUSSION

The assortment policy formation: analysis of the state of the problem

The assortment policy has a direct impact on all the indicators of the enterprise. Thanks to a rational assortment, it is possible to compete, gain a market share, make a profit. Studies [8, 9] etc. are confirmed, that the assortment policy formation can be considered the dominant (priority) element of management. In the final analysis, the future functioning and development of the enterprise depends on the correctness of the decisions made [8].

In theory (and in practice) work on the assortment usually consists: 1) grouping of goods according to similar characteristics; 2) determination of the number of assortment groups; 3) the specification of the assortment [4, 10-12]. Calculation of production volumes is based on previous sales.

At the same time, other assortment issues (market research, pricing, competitiveness assessment, output volume optimization, product positioning, etc.) remain outside the assortment policy. In addition, increasing profits is not always the goal of assortment activities [8, 9, 12]. Often the decision to include or exclude goods from the range is made on intuition, or on imitation of competitors, or on other scientifically unreasonable reasons. As a result, many products do not meet the requirements of buyers.

The introduction of various assortment policy methods in practice has a number of difficulties:

1) underestimation of the importance of marketing research;
2) the complexity of adapting the methodology to a particular enterprise;
3) lack of specialists;
4) multi-nomenclature;
5) the lack of a single methodological apparatus.

Analysis of the conceptual apparatus of the assortment policy

Unfortunately, today there is a gap between the academic conceptual categories describing the range indicators, and their perception by practitioners. Until now, there is no universal textbook, universal work which devoted to this topic. Scatter and discrepancies in conceptual categories are observed even in economic dictionaries [13, 14]. There is no unity even in the definition of "assortment" among domestic economists and marketers. Even more disagreements are revealed in the description of the most important components of the assortment - width, depth, saturation, etc.

Let's consider the basic terms. “A product is anything that can be offered to a market for attention, acquisition, use or consumption” [10]. In other words, a product is the subject of trade, of exchange, of sale. This definition is a classic of marketing. It comparatively rarely differs.

The terms "assortment" and "nomenclature" are also often used in economic literature. Looking at the origin: the nomenclature is a list of names used in any branch [13], and assortment ("assortir" means "to select, supply various goods") – is the selection of different types and varieties of goods in a trading or manufacturing [13]. Consequently, if the assortment is a list of goods, then the nomenclature is a list simply. Therefore, speaking about the activities of the enterprise (and, first of all, activity in the field of marketing), the term "assortment" should be used, and not "nomenclature".

The assortment consists of assortment groups and separate assortment items. The main essence of these determinants (as most authors agree) is as follows:

Assortment group – a group of goods, united by the enterprise for the commonality of certain features (functioning, use, purpose, etc.).
Assortment position – a specific model, brand or size of products.
The assortment has a number of characteristics widely used not only in marketing, but also in business, management and other related fields.

Having collected the experience of many sources, a single essence was established:

- breadth of the assortment is the number of assortment groups;
- width of the assortment group is the number of items within the same assortment group;
- depth of the assortment is the number of variants (models, modifications) of the goods of one denomination;
- structure of the assortment is a characteristic of the quantitative ratio of the types of products and their share in the total output.

As for the definition "assortment policy", "assortment strategy", "assortment management", "assortment formation", there is also a wide range of opinions.

Management is the process of planning, organization, motivation and control to achieve the goals of the organization [14]. Consequently, this definition in combination with the concept of "assortment" characterizes the range of possible activities with respect to products - collection, transfer, adoption and implementation of decisions, their monitoring, etc.

The formation of the assortment, correlated with the management functions, exhausts itself at the planning stage and, in comparison with the management of assortment is a narrower concept. Formation of the assortment is the preparation of a specific list of goods that the enterprise outputs to the market. However, the concept of "forming an assortment policy" covers much more measures than the formation of the assortment.

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In view of the foregoing, the following definition is proposed.

Assortment policy is a set of marketing solutions that determine the range and volumes of products and aimed at improving the profit and efficiency of the enterprise.

Along with the assortment policy in the literature another term is used – the assortment strategy. How do the concepts of "enterprise policy" and "enterprise strategy" correlate? Strategy is a set of objectives of the enterprise and the means to achieve them, determining the direction of action for a long-term perspective [8]. This definition (with minor variations) is shared by many authors.

The analysis of literary sources made it possible to find out the following approaches to the relationship between the concepts "strategy" and "policy": either the enterprise strategy acts as a base for general corporate management, and the policy is in subordinate position [10], or the strategy is considered mainly as part of the firm policy [8], or these concepts are identified [15].

All the above points of view have the right to exist, however, in relation to the assortment, it will not be an error to use the concepts "assortment policy" and "assortment strategy" as synonyms, especially since the semantic difference does not give any advantages in the process of enterprise management.

Forming the assortment policy of the enterprise: analysis of approaches

The analysis of approaches in the field of assortment management showed that at the moment there is no methodology that allows to systematically formulate assortment policy aimed at achieving the objectives of the enterprise.

Some sources (in particular, [8]), offer to formulate assortment policy according to the following scheme: first, a strategic assortment policy is developed, then operational-tactical one.

In the area of calculating the production program, optimization methods with different criteria and constraints are proposed, but this approach contradicts the optimal choice for the consumer. So, as a criterion of optimality, it was suggested to use the maximum of the total load or the minimum underload of equipment, the total output, the minimum total costs, labor productivity, return on capital, profit or profitability [6]. But, focusing only on one indicator of the company's activity, these models ignore a system. Therefore, the problem arises of forming a production program with a new criterion of optimality, reflecting not only production opportunities, but also market conditions.

At the same time one of the best methods of assortment analysis on the basis of the generalizing integral indicator - the product adequacy ratio to the market, presented in [12], allows to choose the assortment reasonably, but needs additional studies. The essence of it is that each product is analyzed in terms of its compliance with market demand, enterprise objectives and resource opportunities. After calculating this coefficient for each product a conclusion is made about the conformity of the nomenclature to the existing conditions. This analysis allows to reasonably making decisions about changing the assortment. The methodology does not require special material costs, complex marketing research, allows (in case of inaccessibility) to replace or exclude certain indicators.

However, this technique is not complete. So, it allows only reasonably remove from production "inadequate" goods, ignoring the fact that some products could have greater success in the market, if to promote them [15]. In addition, the coefficient itself needs some standardization. To calculate it you need a fairly solid list of indicators and a special procedure for quantitative evaluation of disparate data.

1. Analysis of the main terms of the assortment activity showed the following. Today there is no universal terminological approach to determining the essence of the assortment and its characteristics. The lack of unity in the definition of key concepts does not allow to speak about the existence of a scientific conceptual and methodical apparatus in this field. In general, most authors adopt this definition: assortment is the whole range of goods offered by the enterprise to the market. The assortment consists of assortment groups and separate assortment items. The assortment has a number of characteristics.

2. Assortment policy is a set of marketing solutions that determine the range and volume of products and aimed at improving the profit and effectiveness of the company. The proposed definition makes it possible to clearly limit the scope of its operation and to identify a general goal. A significant addition "marketing solutions" indicates the attracting of special attention of decision-makers to the requirements of the consumers.

3. Assortment policy should reflect the solution of two groups of problems: production (economic constraints) and market (conformity to consumer preferences).

4. It is established that the semantic difference of the similar phenomena (for example, "assortment policy" and "assortment strategy") does not play a special role in the management of the enterprise, although some authors see the nuances. In comparison with "assortment management", assortment policy is a narrower concept. Actually, the assortment policy ends with the adoption of appropriate

managerial decisions that determine the range and volumes of products. The implementation of the same decisions and related issues (the concretization of decisions, making adjustments, evaluating the results, creating support systems, transferring information, etc.), being the stages of the assortment management process, are not the assortment policy.

5. In the field of solutions for the formation of a set of goods, there are various methods, generally either un formalized, or offering only marketing procedures for the creation of new products. There is no methodology that allows adequately assessing the existing range of products and ensuring its change in according to market requirements. Existing scientific methods in this field differ either by mathematical complexity and statistical cumbersomeness, or by logical incompleteness and extra-systemic nature. Many authors limit the assortment work by its actual formation, without calculating the production program. However, there is some unity in the allocation of the stages of the assortment planning (market segmentation, definition of needs, choice of goods, estimation of production, etc.). The still common shortcoming of the proposed methodologies is the weak scientific basis and the lack of quantitative estimates.

CONCLUSIONS

The article systematizes the main methodological aspects of the assortment policy formation. The detailed analysis of the conceptual apparatus of assortment management, the analysis of the problem condition, the analysis of approaches to formation assortment policy is carried out. It is established that there is no unity of authors in determining the main categories, but as a result of the general review, the most capacious determinants were collected, formulated and substantiated.

Analysis of approaches to assortment management showed that at the moment there is no method that allows to systematically formulate assortment policy aimed at increasing profit and achieving other goals of the enterprise. The main provisions of the existing scientific methodology require further elaboration with the aim of creating concrete practical tools.

The direction of the further development of the methodological concept of creating and managing an assortment should be the practical implementation of a holistic method of forming the assortment policy of the enterprise.

CONFLICT OF INTEREST

There is no conflict of interest.

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ARTICLE

ANIMATION SERVICES AS A FACTOR OF FULL TOURIST RECREATION

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ABSTRACT

The article reveals the role of animation services as one of the most important factors stimulating a full-fledged tourist recreation. Movement and sport are essential for health, and therefore quality of life. Poor health is often the result of a sedentary lifestyle. The concept of "rest" for many Russians means passive pastime. The article argues that the promotion of an active and healthy lifestyle is of great importance not only in everyday life but on vacation. The article shows the influence of a specialist-animator on the formation of a new way of life and thinking of vacationers. The article focuses on the key position – the unity of animation and sport in achieving the main goal of tourism and rest – recreation and wellness. The main emphasis of the article is on the fact that the direct participation in animation gives a good psychological relaxation, but, in conjunction with sports exercises, this effect much increases. The article establishes that the greatest recovery effect is achieved by combining physical (motor) activity with positive emotions, that should be provided by animation service. The scientific novelty of the research consists in substantiation of the main provisions of the recreation policy based on animation activities, where animation services are the main activator of regenerative processes of human health. The proposed concept is of great social importance from the standpoint of the current economic situation, the state of tourism and health care in Russia. The article has a scientific-practical character and is intended for a wide circle of specialists in the field of tourism and hospitality, physical education and sport, psychology and health.

KEY WORDS
animation, animation services, tourism, recreation, sport, physical activity, health.

INTRODUCTION

The relevance of the research: Modern man spends more and more time in a sitting position, often in an uncomfortable and tense posture. IT-innovations also do not contribute to motor activity. Getting used to moving a little in everyday life, a person does not want to be active on vacation either. At the resort, for many Russians, the concept of "rest" means to a simple lying (on the beaches, in spa-salons) or a simple sitting (in bars, relaxation areas). A very small percentage of tourists participates in active games, takes jogging or does exercises. Meanwhile, just on vacation, promotion of active and healthy lifestyles could produce the greatest results.

The subject of the research: animation services in tourism and recreation.

The degree of knowledge of the problem: Various aspects of tourist recreation were considered in many works devoted to recreational activities in tourism, health care, sanatorium-resort sphere, etc. Usually tourist animation is referred to as an additional, leisure-related element of entertainment [1, 2]; [3], or as a way to promote tourist services, as a factor of competitive advantage of a hotel [4-6]. However, animation services as the main activator of recovery processes in human health is considered relatively rare.

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The purpose of the research: to discover the role of animation services as one of the most important factors of stimulating full-fledged tourist recreation; to list the main methods and means of recreation used in animation activities.

The significance of the problem and the results obtained for the further development of theory and practice in this area of knowledge is that the use of research results in the field of health, tourism and recreation will contribute not only to improvement of the population's health, but also to the country's economic growth.

MATERIALS AND METHODS

The research methods are the method of analysis and synthesis, the method of comparison and generalization, analysis of literature, statistical and Internet data, observation, survey.

The methodological base of the research consists of the works of domestic and foreign scientists in the field of tourism and hospitality, health and sport.
The reliability of the results is based on a scientific and practical analysis of domestic and foreign works devoted to recreational activities in the sanatorium and resort sphere, healthcare, tourism, and on the research experience of the authors.

Further researches are related to the development of specific recovery and recreation instruments used in animation activities and tourism.

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RESULTS AND DISCUSSION

Recreation (from Latin recreatio – "recovery", "create") is the process of restoring the psychophysical balance of the human body, including recreational activities for the emotional and psychological state, health and working ability of a person. Many authors believe that recreational activities are activities that create a healing, regenerating effect, that is, constructive, positive, aimed at the development and improvement of human [7-9]. Recreation is a necessary condition for full human life, a means of compensation voltage, recuperation, health, energy, all-round development of the human spiritual world, and as well as a condition for the continuation of social production and for improving the economic well-being of society.

Recovery of strength and health is a long and complex process. Modern medicine has many restorative procedures, but the main is prevention, not treatment. For example, climatic and infrastructural conditions of the resorts provide a variety of services that give recreational effect [10]. A wide range of recovery procedures necessarily include sports and physical activity.

Recreation, as an important aim of tourism and leisure, has led to the emergence of animation services.

The purpose of the animation services is to create bright impressions of the guests as a result of their personal participation in sports, recreational programs, cultural and entertainment events. Animation also allows you to satisfy the needs not only in movement, but also in communication, creativity and leisure [11].

A range of recovery tools is very wide, depending on the needs and characteristics of each individual. From an animation point of view, there are the following recreational methods [12]:

- movement (sport and physical activity);
- experiencing (novelty of feelings, overcoming anything, participation in a contest or competition);
- communication (new people);
- sedation (usually in contact with nature);
- entertainment (theatrical performances and shows);
- creativity (spiritual development and creative work).

Most often these methods are used in combination, which provides a general, systemic restorative and healing effect.

The sports and fitness animation activities include: morning gymnastics in the hotel or on the beach; all kinds of active games; fitness with special equipment; water aerobics and water games. Among the most popular hotel events are charging, stretching, Pilates, aerobics, step, archery, field hockey, cricket, bocce, miniature golf, tennis, billiards, bowling, dancing, water polo, water contests, and many others. Besides hotel fitness there are boat trips, jeep safari, rafting. Swimming, aqua fitness, thalassotherapy (from gr. "sea" + "treatment") are among the most effective means of healing. They are shown without restrictions to almost all healthy people of any age.

Sports and recreational activities are of great importance for the recovery and improvement of human adaptation forces, both physical and mental. Physical inactivity, or hypodynamy, negatively affects the cardiovascular system and metabolism, it provokes obesity and atherosclerosis. Progressive hypodynamia reduces strength and endurance, leads to the breakdown of the nervous system, vascular dystonia, depression.

Understanding the importance of a healthy lifestyle should be implemented into the consciousness of people gradually, and a huge role plays here the image (and appearance) of the promoter. The animator must meet certain requirements: to be healthy, active, athletic, able to organize and direct motor activity, to develop and implement animated venture, to think creatively and outside the box, to simulate the technological process of the tourist and entertainment activities, manage group work, etc. [13]. He must not only love sports and the movement himself [14], but also be able to lead others, be a psychologist.

Resort, recreation, traveling help people to perceive actively everything new. They readily agree to change their lives more often, they make plans more often, and plan to act. Therefore, the main goal of the animation service should be to direct the recreation into the mainstream of active movement, physical actions. Involving people on vacation in sports activities, their introduction to physical education, games, movement are in itself a step towards recovery.

In addition, sports events with elements of animation programs (fun run, obstacle course, tourist route and others) are based not only on speed, skills and abilities of the participants, but also on important humanistic values – team cohesion, friendship, mutual assistance and responsibility, activity, creativity. Animation implements these features with a focus on health promotion, removing the everyday stresses, the development of social (communication) skills, physical development human. The stronger the community of sports and animation, the more benefits.

Mass activities – games, competitions, festivals, contests – play an important role in the formation and popularization the ideas of healthy lifestyle. They need to attract as much as possible not only the direct participants, but also the spectators. And though many vacationers, as a rule, are far from the sport, bringing them to be active, sports, exercise in itself are the first step towards recovery and helps to stimulate vitality.

Sports and movement as a part of the recreation policy are of great importance for the recovery and improvement of the adaptation of human forces, both physical and mental. They allow to save human from physical inactivity, nervous disorders and depression.

Sanatorium and resort conditions allow to provide all kinds of services for recreational (recovery) effect. However, without the understanding of the vacationers themselves the need to make efforts to improve their health and physical form, all these conditions remain only temporary support of the body.

Health and strength of a nation depend not only on medicine and nutrition, physical education classes in schools or fitness clubs. This is a lifestyle, a complete model, the implementation of which is impossible without the desire of the person.

The value of animation activities is very large for recreation (recovery process). Even a simple theatrical evening program (or a concert) gives positive emotions, but, compared with personal participation in the same program, or in an active team game, or in a sports competition, passive viewing gives much less emotional and physical relax.

If a tourist becomes a direct participant in both sports and leisure activities, this positive message gives a huge psychological detente, and together with sports exercises the effect is multiplied.

Animation service specialist should not only love sports and active games himself, but also to conduct extensive educational work, bringing the idea to each guest: if you are not a passive observer, but an active participant (of games, competitions, contests), psychological and emotional detente increases, and, together with physical movement, gives a powerful impetus to the recreational (recovery) effect.

CONCLUSIONS

1. Health is an integral part of the quality of life. Health recovery often proceeds in resort conditions. The recreation quality ensuring depends on the level of professionalism of the tourist industry.
2. Recreation (recovery) is a necessary condition for proper rest and health. Physical activity plays a huge role in the recreational process.
3. Animation service in tourism is a means of stimulating full-fledged recreation. The sphere of responsibility of the specialist-animator includes the organization of sports and leisure activities, the well-being and comfort of tourists, their mood and enthusiasm, their impulse for movement and activity.
4. The direct participation of the tourist in the animation events gives a huge psychological relief, and together with the sports exercises the effect is multiplied. The greatest recovery effect is achieved by combining physical (motor) activity with positive emotions that should be provided by animation service specialists.
5. Animation and sport are closely linked. The greatest recreational effect manifests itself only in unity of the animation and sport. The closer the community of sports and animation, the more benefit. Promotion of this idea, promotion of healthy and active lifestyles, stimulation of independent physical exercises – are the part of the job of animator.
6. An animated accompaniment of various sports games improves not only the body but also the spirit. Sport and group animation activities form an important universal values, such as solidarity, friendship, mutual help, commitment, perseverance, activity, creativity, etc.

Thus, the animation services are not only a major factor in tourism and recreation, but also the foundation of a strong, healthy and successful country.

CONFLICT OF INTEREST
There is no conflict of interest.

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ARTICLE

SUBSTANTIATION OF ECONOMIC EFFECT FROM THE RESTRUCTURING OF ENTERPRISE THROUGH USE OF OUTSOURCING

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ABSTRACT

From the moment of emergence in scientific and practical literature of the concept "outsourcing" process of formation of the new direction characterized by development of new models, forms and types of sourcing and on its basis of programs of strategic development began. Each of the models of sourcing existing today has the advantages, shortcomings and a scope. Also today in scientific and practical literature various methods and techniques of an assessment of expediency and efficiency of application of this or that model of sourcing, its this or that look are presented. Despite a demand and popularity of outsourcing, illiterate use of this model of management in the Russian conditions of production and underdeveloped small and medium business in the country can seriously worsen a financial solvency of the enterprise. Therefore, the major factor in making decision on application of production outsourcing is competently carried out economic assessment taking into account features of production and nature of introduction of this tool at the enterprise. According to researches of the Accenture company, the majority of the organizations has even no elementary techniques and indicators for an assessment of economic efficiency of application of outsourcing. As a rule, the management of the enterprises more is necessary on "whims" of the market and opinion of more competitive partner outsourcers. The purpose of the real work is development of a technique of an assessment of economic effect of application of restructuring outsourcing at the large industrial enterprise.

KEY WORDS
Out sourcing, insourcing, economic effect, restructuring, industrial enterprise.

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INTRODUCTION

From the moment of emergence in scientific and practical literature of the concept "outsourcing" process of formation of the new direction characterized by development of new models, forms and types of sourcing and on its basis of programs of strategic development began. Each of the models of sourcing existing today has the advantages, shortcomings and a scope. Also today in scientific and practical literature various methods and techniques of an assessment of expediency and efficiency of application of various model of sourcing are used.

Despite a demand and popularity of outsourcing, illiterate use of this model of management in the Russian conditions of production and underdeveloped small and medium business in the country can seriously worsen a financial solvency of the enterprise. Therefore the major factor in making decision on application of production outsourcing is competently carried out economic assessment taking into account features of production and nature of introduction of this tool at the enterprise. According to researches of the Accenture company, the majority of the organizations has even no elementary techniques and indicators for an assessment of economic efficiency of application of outsourcing. As a rule, the management of the enterprises more is necessary on "whims" of the market and opinion of more competitive partner outsourcers [1].

However, on the other hand, the scientific literature existing today offers enough methods of an assessment of economic effect of outsourcing introduction. Production outsourcing considers main classical way where a difference between costs of own production and costs of acquisition of production of the supplier is used [2].

The assessment of structure of its components has a great influence on calculation of economic effect. As a rule, economic effect of application of outsourcing consists of two indicators: direct and indirect economic effects [2]. Also allocate the following types of effects [3]:

- economic effects (for example, reduction of expenses, growth of revenue and others);
- social effects (for example, improvement of system of motivation of the personnel);
- marketing effects (for example, increase in a share of the market, increase of speed of passing of the order and others);
- resource effects (for example, reduction of time of adoption of administrative decisions, possibility of the best resource ensuring key processes and others);
- structural effects (for example, improvement of interaction between divisions).

One of the main reasons for application of production outsourcing in the Russian industry is increase competitiveness of production by use of components from the leading global manufacturers. Transition of the enterprises to this type of production outsourcing means rise in price of products therefore it is obvious that carrying out an assessment of economic effect with use of the method given above isn't possible. It is possible to bring the “GAZ Group” company which increased competitiveness of the cars by application of auto components from the leading global manufacturers [4] into qualities of an example.

In this regard in this work the technique based on experience of restructuring of the "KAMAZ" company automobile building enterprise [5] that is on the analysis of change of profitability of a product is offered.

MATERIALS AND METHODS

The following indicators are applied to creation of a technique:

1. Marginal profit of a product before outsourcing application.

Application of outsourcing involves decrease in a value added of the enterprise in product cost, therefore loss of marginal profit – the obvious phenomenon. Decrease in marginal profit of KAMAZ trucks at application of outsourcing is presented in the [Table 1] [6].

Table 1: Increase in the cost price and the price of KAMAZ trucks when using outsourcing (as of 2011), %

Indicator	Family		
	The transport (KAMAZ-65115)	The heavy (KAMAZ-6520)	The all-wheel drive (KAMAZ-43118)
Increase in variable expenses	22	23	20
Increase in the price of shipment from the conveyor, without the VAT	5	8	5
Loss of marginal profit	- 25	- 21	- 20

2. A share of profit of the customer at joint ventures.

Today the main problems of the Russian industry are excessive floor spaces with strongly worn-out equipment and the limited budget of the enterprises. One of effective methods of the solution of these problems is the organization on own squares of coproduction with foreign partners which will allow to optimize business processes, to update the existing equipment due to association of the capitals [7] and it is essential to reduce quantities of "narrow places". Therefore, at an assessment of economic effect of application of outsourcing it is necessary to consider a share of profit of the customer at joint ventures.

Within modernization of a model range of KAMAZ trucks the following joint ventures presented in the [Table 2] were organized [5].

Table 2: Participation of "KAMAZ" company in the capital of joint ventures

Joint venture	The car component transferred to outsourcing	Share of "KAMAZ"in authorized capital, %
CUMMINS KAMA	Small diesel engines	50
Federal Mogul Naberezhnye Chelny	Details of cylinder-piston group	50
ZF KAMA	Transmissions	49
KNORR-BREMSE KAMA	Brake mechanisms	50

The main components of the car were transferred to joint ventures to outsourcing. The profit on activity of data of the enterprises at a rate of a share of authorized capital belongs to "KAMAZ" company.

3. Profit of the customer on localization of details of production of joint ventures.

Creation of joint ventures is also directed on reduction of price of purchased components of a product. This effect is reached by depreciation of delivery and the customs duties (due to delivery of SKD and CKD components), and also application of strategy of sourcing's maneuver – localization and performance of part of operations at plants of the customer. Therefore, at an assessment of economic effect of application

of outsourcing it is necessary to consider profit of the customer on localization of details of production of joint ventures.

Application of elements of sourcing's maneuver allows to compensate partially loss of marginal profit at application of production outsourcing.

4. Potential reduction of prices of purchased components of a product.

At an assessment of economic effect of application of outsourcing it is necessary to consider potential reduction of prices of purchased components of a product. This decrease can be caused by the following reasons:

- Increase in production of products leads to increase in volumes of the order for purchased components. It is a guarantee of the serious and long-term relations for the supplier who has to reduce or clean a risk extra charge the price of the production over time. Also the supplier can apply various systems of discounts depending on volumes of the order [8].

- Development of activity of joint ventures consists in increase in a share of localization which has to lead to reduction of prices of production released by them over time [9].

Therefore, for calculation of economic effect it is necessary to consider target indicators which need to be reached.

For an assessment of economic effect of application of restructuring outsourcing the concept "full marginal profit of a product after outsourcing application" which will consider all indicators given above is entered:

$$TMP=MP+MPJV+MPL+PT, \quad (1)$$

where TMP – full marginal profit of a product after outsourcing application; MP – marginal profit of a product after outsourcing application; MPJV – total profit on the joint venture on products unit; MPL – total profit of the enterprise on localization of details for production of the joint venture on products unit; PT – total potential reduction of prices of purchased components of one product.

RESULTS AND DISCUSSION

The assessment of economic effect consists in a difference between "full marginal profit of a product after outsourcing application" and marginal profit of a product before outsourcing application:

$$E=TMP-TMPI, \quad (2)$$

where E – economic effect of application of restructuring outsourcing; TMPI – marginal profit of a product before outsourcing application.

If from (2) follows that $E \geq 0$, application of restructuring outsourcing is effective as even at $E = 0$ there is a preservation of marginal profit at reduction of a value added of the enterprise in product cost.

If $E < 0$, it is necessary to analyze change of net profit which can increase even at decrease marginal as application of restructuring outsourcing can significantly cut down overhead costs of the enterprise. If there was a decrease in net profit of a product, negative economic effect is obvious.

At negative economic effect the following directions of works for increase in profitability of a product are possible [5]:

- artificial advance in price of a product;
- actions for increase of indicators of MPJV, MPL, PT;
- decrease in overhead costs.

It should be noted that the indicator of PT is used only for an assessment of target economic effect therefore for calculation of actually reached economic effect of application of production outsourcing it is necessary to use the truncated version of a formula (3) without PT indicator:

$$TMP=MP+MPJV+MPL, \quad (3)$$

The developed technique is one of ways of an assessment of economic effect of application of restructuring outsourcing at the enterprise which allows to estimate more fully influence of various factors and actions on profitability of production.

The technique showed that economic effect of application of production outsourcing on "KAMAZ" company averaged 3,7 thousand rubles on each truck of transport family (as of 01.01.2011) [6].

Also it is necessary to add that formulas (1) and (2) can be supplemented with other indicators, for example, additional profit on products unit at application of model of sourcing's maneuver "additional charge of floor spaces by providing outsourcing services". Thus, the presented technique allows to estimate economic effect of application of some models of sourcing's maneuver [10].
In particular, the assessment of economic effect of application of model of sourcing's maneuver "localization of components of production of subsidiary" with the help above the presented technique which is based on the analysis of change of profitability of a product when carrying out restructuring of the enterprise is carried out by means of replacement in a formula (1) some indicators:

$$TMP=MP+MPSC+MPL, \quad (4)$$

where TMP – full marginal profit of a product after application of model of sourcing's maneuver; MP – marginal profit of a product after application of model of sourcing's maneuver; MPSC – total profit in subsidiary on products unit; MPL – total profit of the enterprise on localization of details for production of subsidiary on products unit.

Similar approach can be applied to an assessment of economic effect of application of such models of sourcing's maneuver "localization of components of production of the sold division", "localization of components of production of the third-party supplier" and others.

CONCLUSIONS

The offered technique of an assessment of economic effect of application of restructuring outsourcing, without doubts, is interesting from the point of view of further scientific researches in the field, and also practical application at the real enterprises. However, this technique isn't only possible and universal for an assessment of all existing kinds of production outsourcing.

CONFLICT OF INTEREST
There is no conflict of interest.

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ARTICLE

IMPACT OF RESTRUCTURING OUTSOURCING ON LEVEL OF BREAK-EVEN ENTERPRISE

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ABSTRACT

The most important indicator of the effectiveness of the industrial enterprise in modern rapidly changing conditions of production and sales is the level of break-even. It should be noted that the profitable activity of the enterprise and the ability to respond flexibly to market changes directly depend on this indicator. The lower the break-even point value, the more likely the company is to survive in the event of a sharp drop in the volume of sales caused by negative socio-economic processes. The main feature of determining the break-even point is the division of production costs of the enterprise into variable and constant depending on the volume of production. Variable costs are those costs of the enterprise, the value of which varies with the change in production volumes or the degree of utilization of production capacities. Variable costs include the cost of raw materials, purchased components of the product, wages of the main production workers, and others. Break-even analysis is an effective tool for planning and evaluating the company's activities. Since it is by analyzing the behavior of variables and fixed costs depending on changes in production volumes, it is possible to make management decisions flexibly and quickly. One of the positive economic effects of the use of restructuring outsourcing is the translation of fixed costs into variables. This fact leads to a decrease in the level of break-even enterprise. However, we will conduct a more detailed analysis of the impact of outsourcing on the break-even point, and also consider some areas of work to improve the efficiency of this tool in the enterprise.

KEY WORDS
restructuring outsourcing, variable costs, fixed costs, break-even point, enterprise optimization.

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INTRODUCTION

The most important indicator of the effectiveness of the industrial enterprise in modern rapidly changing conditions of production and sales is the level of break-even. It should be noted that the profitable activity of the enterprise and the ability to respond flexibly to market changes directly depend on this indicator. The lower the break-even point value, the more likely the company is to survive in the event of a sharp drop in the volume of sales caused by negative socio-economic processes. The main content characteristic of determining the break-even point is the division of production costs of the enterprise into variables and constants depending on the volume of production [1]. Variable costs are those costs of the enterprise, the value of which varies with the change in production volumes or the degree of utilization of production capacities. Variable costs include the cost of raw materials, purchased components of the product, wages of the main production workers, and others. It should be noted that an important provision of the theory of classification of production costs is the conditionality of this classification, since in nature there is no type of cost that can be unambiguously attributed to variables or constants.

Break-even analysis is an effective tool for planning and evaluating the company's activities. Since it is by analyzing the behavior of variables and fixed costs depending on changes in production volumes, it is possible to make management decisions flexibly and quickly.

One of the positive economic effects of the use of restructuring outsourcing is the translation of fixed costs into variables. This fact leads to a decrease in the level of break-even enterprise. A good example of the positive impact of restructuring outsourcing on the position of the break-even point is the American automotive industry.

According to the analysis of the market of trucks submitted by the company Paccar Inc., the U.S. and Canadian markets are more sensitive to socio-economic processes than the European market [Fig. 1] [2].

When negative socio-economic processes are manifested, the truck market in the USA and Canada "sags" deeper than in Europe. Therefore, a feature of the production of trucks in the United States is a low level of break-even point of enterprises, which is achieved through the widespread use of industrial outsourcing.
Truck manufacturers in the US mainly focus on the production of the cab, frame and Assembly of the finished car, and the production of other components is outsourced. It should be noted that the frames in the US are standardized in width, so, for example, bridges and axles of American manufacturers of automotive components, such as "Dana Holding Corporation", "Meritor Inc." and others, suitable for all American trucks [3].

As a rule, the consumer can choose the composition of the car from the components supplied by outsourcers. For example, the company "Peterbilt Motors Company" offers the buyer the engine for the selected car from at least two different suppliers: Paccar Inc. and Cummins Inc. [4].

However, we will conduct a more detailed analysis of the impact of restructuring outsourcing on the break-even point, and also consider some areas of work to improve the efficiency of this tool in the enterprise.

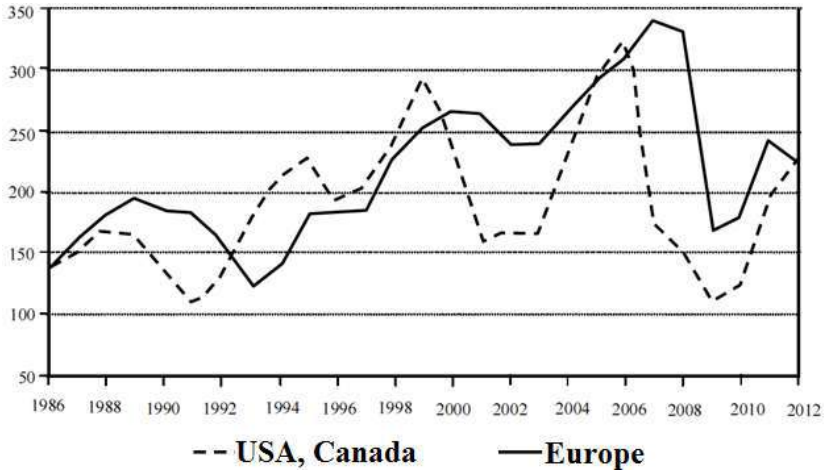

Fig. 1: The cyclical truck market in Europe and America in the years 1986-2012, thousand.

MATERIALS AND METHODS

To begin with, we note that this analysis is reduced to determining the classical break-even point and is performed in the short term under the following conditions in a certain acceptable range of production volumes:

- costs and revenue from sales are expressed in a linear relationship;
- cost behavior can be measured accurately;
- sales and production volumes are approximately equal;
- performance does not change within the scope of the release changes considered;
- prices remain stable.

The most popular direction of industrial outsourcing in Russia is the restructuring of industrial outsourcing.

The consequence of this type of outsourcing is the reduction of production space, which leads to a decrease in fixed costs of the enterprise and an increase in the share of variable costs in the cost of the product [Fig. 2].

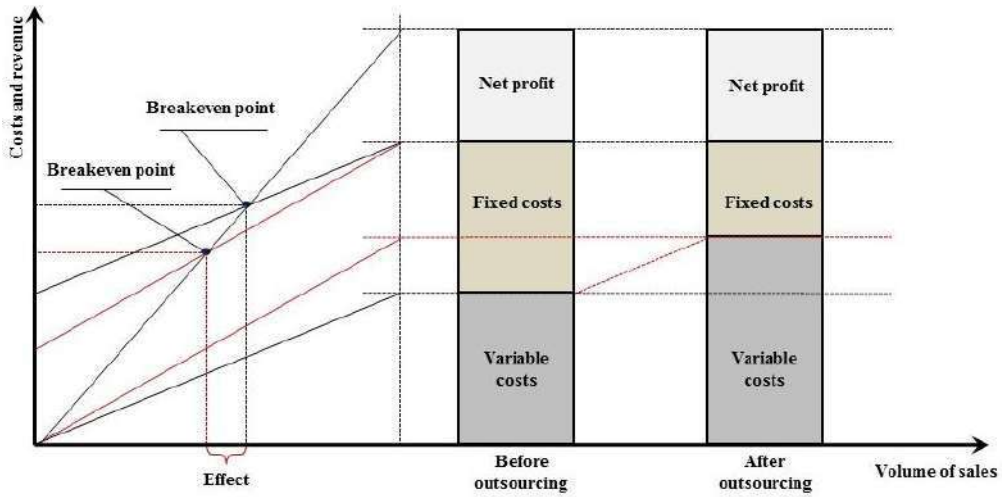

Fig. 2: Change the break-even point when using outsourcing.

The figure shows that the use of restructuring outsourcing increases variable costs, as well as reducing fixed costs.

Since after outsourcing the added value of the enterprise in the value of the product is reduced, the loss of margin profit is an obvious phenomenon.

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Therefore, the positive impact of restructuring outsourcing on the position of the break-even point is obvious. However, in the above reasoning, it was assumed that the cost of production in the application of outsourcing remains relatively unchanged.

The experience of Russian and foreign companies shows that, as a rule, the use of restructuring outsourcing affects the cost of production in the direction of its increase and decrease. It depends on the purpose for which this tool was used at the enterprise [5].

Consider each of the options.

RESULTS AND DISCUSSION

1) The cost of production in the application of outsourcing increases.

In this situation, it is assumed that the use of restructuring outsourcing increases the cost of production [Fig. 3]. An example is the modernization of the model range of trucks at PJSC KAMAZ, which meant the purchase of more expensive automotive components from leading global and Russian manufacturers, which leads to a rise in the cost of products [6].

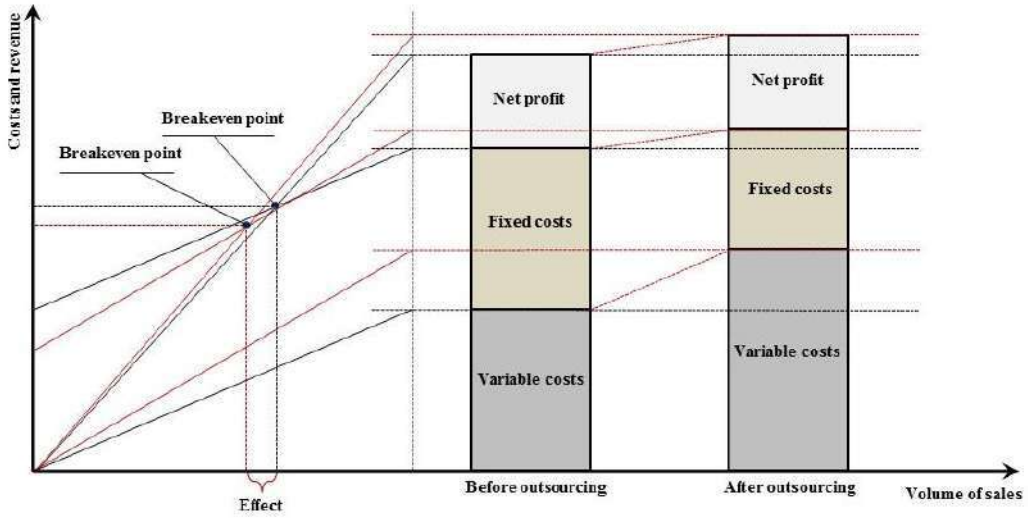

Fig. 3: Change the break-even point when the cost increases.

The increase in variable costs is higher than the decrease in fixed costs per unit of output.

It should be noted that the rise in the cost of finished products cannot always compensate for the increase in cost. Therefore, it is obvious that in order to achieve a positive economic effect from the use of outsourcing in the enterprise, it is necessary to compensate for the increase in the cost of production by increasing its price. Otherwise, it will be necessary to take measures to reduce costs or generate additional profits by reloading the equipment.

We will present some areas of work to improve the efficiency of the restructuring outsourcing in the enterprise:

1. Localization of parts production outsourcing company.

Localization of parts of outsourcer's products allows, firstly, to reduce the prices of purchased components. Second, it will partially compensate for the loss of margin profit associated with the transfer of production components to the side [7].

2. Reduction of prices for purchased components of the product.

In addition to the localization of parts of the outsourcer's products, there are several ways to reduce prices for purchased components:

- harmonization of the purchase of the product components. This allows to increase the volume of orders for outsourcer's products, which has a positive effect on the supplier's commercial offer;
- availability of alternative suppliers. One of the main limitations of outsourcing development in Russia is the monopoly position of the supplier [8]. Therefore, the presence of alternative suppliers allows to increase competition between outsourcers, which will protect against unfair increase in prices for purchased components [9];
- conclusion of long-term contracts. It is a guarantee of a serious and long-term relationship for

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the supplier, which begins to reduce the risk premium in the price of its products and offer the customer a variety of discount systems.

3. Reduction of overhead costs of the enterprise.

2) the cost Of production in the application of outsourcing is reduced.

The next scenario of the impact of restructuring outsourcing on the break-even point is to reduce the cost of production when using this tool in the enterprise. In this situation, outsourcing is used as a tool to reduce costs. As an example, the statement of the company "Mercedes-Benz" that the automaker plans to significantly reduce the costs of the enterprise by replacing automotive components with cheaper analogues [10].
In this scenario, a decrease in the cost of production can be accompanied by either an increase in variable costs or a decrease in them. We will consider both situations.

Cost reduction and increase of variable costs [Fig. 4].

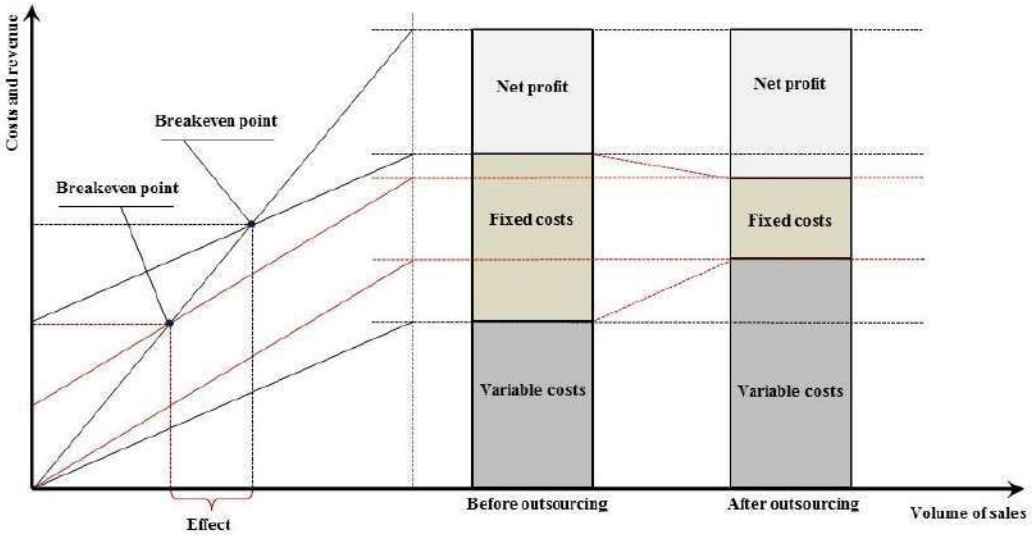

Fig. 4: Change of break-even point at cost reduction and increase of variable costs.

The increase in variable costs is less than the decrease in fixed costs per unit of output. [Fig. 4] shows that there is a decrease in the break-even point.

Reduction of variable costs and production costs.

The use of restructuring outsourcing can also be accompanied by a reduction in variable costs. This situation may be due to the fact that outdated production facilities can produce new products only by "bypass" technologies, which leads to excessive labor intensity and increase in marriage. Therefore, in this situation, the use of outsourcing allows to achieve acceptable fixed and variable costs. Such a situation was faced by “KAMAZ” company when transferring its trucks to the Euro-4 environmental class, when the modified car layout required the production of new types of brackets. However, the plant did not have the equipment for their production, so at the initial stage of "KAMAZ" company produced these components by "bypass" technologies. But in the future, the company had the task to reduce the cost of brackets and the level of marriage either by purchasing new equipment or by bringing production to the side. As a result, it was decided to use outsourcing [5].

Reduction of production costs after outsourcing can lead either to a decrease in the price of products, which will increase sales volumes, as the product becomes more competitive in the price struggle, or to the preservation of product prices, which will increase both the marginal profit of the product and the net profit. In both cases, there is a positive impact of outsourcing on the profitability of the enterprise.

CONCLUSIONS

The analysis allows us to conclude that the use of restructuring outsourcing has a positive impact on the position of the break-even point. However, there are always risks associated with uncontrolled increase in prices for purchased components of the product and inefficient reduction of fixed costs of the enterprise. Therefore, in addition to the well-carried out restructuring of the enterprise with the help of outsourcing should periodically monitor the deviation of the actual prices of purchased components from the target, and in identifying negative deviations should be applied measures to eliminate them. The use of industrial outsourcing should always be accompanied by the implementation of works aimed at the gradual

reduction of prices for the products of the outsourcer, which will eventually improve the efficiency of the use of this tool in the enterprise.

The results of this work may be of interest to theoretical economists for further research in this area in terms of continuing to study the impact of sourcing's models on the stability of the enterprise.

CONFLICT OF INTEREST

There is no conflict of interest.

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ARTICLE

AN INTEGRATED APPROACH TO THE ORGANIZATION OF KINDERGARTENS TERRITORY

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ABSTRACT

The necessity of taking into account various factors in the process of improvement of the territory of preschool institutions (PI) is considered. There is an urgent need for an integrated approach, associated with the great importance of healthy and proper education of the growing generation. By authors it is established that the landscape organization of the territory of preschool institutions with a set of planning elements, subordinates to the general plan, despite the obvious appeal, can meet serious obstacles in the form of need of zoning of the site for groups of children of different age. Laying of the "an ecological track" playing an important role in the system of accumulation by each child of personal experience of the correct interaction with the nature can be the decision. By authors it is also shown that the correct planning of the territory of preschool institutions is impossible without competent solution of questions of gardening. It is one of the major moments in all a complex of actions for creation of the comfortable environment.

KEY WORDS
preschool, defensible space, CPTED, landscape gardening, ecological pathway

INTRODUCTION

The territory of preschool institutions (PI) is a huge component in the lives of most children. According to NAEYC, more than 5 million people under the age of five attend nurseries in the United States [1], and staying in kindergarten is mandatory. In Russia, according to estimates by Forbes Russia [2], there are more than 58 000 PI (data 2012); according to [3], the number of pupils in organizations engaged in programs of preschool education, supervision and care of children rose increased from 2014 to 2016 by 7.8% (table), over the last 2 years (2016-2017) 788 thousand additional seats were created.

Table 1: Number of pupils in the organizations performing educational activity on educational programs of preschool education, supervision and care of children [3]

	2014	2015	2016
The number of pupils in organizations engaged in educational activities on educational programs	6 813,6	7151,6	7342,9
among them: in cities and towns	5 415,6	5693,8	5856,3
in rural areas	1 398,0	1 457,7	1486,6

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We analyzed similar indicators in the Republic of Tatarstan; noted that only for the period from 2015 to 2016 the growth of the number of pupils was 2.7% (211 757 and 217 384 people respectively), and in a large city, which is Kazan, the increase is even greater (the number of children attending preschool increased by 12.34% [4, 5]).

Such large-scale figures indicate the special relevance of the task of improvement of the territories of the DDU, creating a healthy and comfortable environment necessary for the competent and full education of the younger generation, taking into account the social, emotional, cognitive and physical development of children.

Numerous attempts to introduce modern international approaches to the design of kindergartens in the Russian regions are faced with various obstacles that can be objective, for example, a more severe climate and associated severe restrictions in the plant range during landscaping. Implementation barriers [6], which arise as a result of the discrepancy between domestic and Western regulations, have a huge impact.

It is proved [7,20] that there is an undeniable relationship between the characteristics of the place and the behavior of the child in landscape spaces, and this applies to children attending different types of institutions – public, private DDU, centers or families for child care [8].

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At the same time, at present a large number of Russian DDU does not have an environmental space that fully meets modern artistic and aesthetic, ergonomic, functional and other requirements. The undoubted importance of creating "open, flexible and child-oriented space" (in the terminology of [6]) requires consideration of many different factors – climatic, ecological, economic, social, behavioral, and others. We will consider each of them in detail on the example of an average kindergarten in a large city (Kazan, MADOU "the combined kindergarten №316", "bedroom" area in the city, the size of the occupied land area of 0.99 ha, 245 pupils [9,10]).

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MATERIALS AND METHODS

1.Security issues in difficult conditions of social, natural and environmental disadvantage. At once we will make a reservation that we do not concern various risks, such as possibility of receiving small injuries, stings of insects, food poisoning, sudden emergency situations, undesirable contacts with stray animals, etc., and we focus on other serious problem, namely – possibility of criminal manifestations in relation to children.

The emergence of in 1972 defensible space theory O. Newman [11] marked the creation a new criminological sub discipline, which has become called by many «Crime Prevention Through Environmental Design» or CPTED [12,13]. It has evolved from a theoretical explanation of the relationship between the characteristics of physical space and the criminogenic level, and today it is a global strategy to combat crime and fear of it by developing elements of the environment that prevent the criminal events. It assumes that, in order to ensure an adequate level of security, the facility must be "actively protected, controlled and owned". The last word the authors of [14], obviously, interpreted as "having the owner, someone else, not abandoned."

Protection of kindergartens from criminal attacks is a set of measures, the list of which depends not only on the preferences and wishes of the kindergarten management and parents, but is dictated, first of all, by objective necessity. CPTED defines them as:

- Natural observation, which involves good lighting and visibility of the territory at any time of the day and eliminates the existence of physical environment deficiencies in the form of abandoned areas, "blind" zones, including video equipment. It is clear that such closed locations primarily attract possible criminal elements; here we can also include visual control of the street from the windows (the concept of "eyes upon the street" [17])
- Proper maintenance and care of the territory. Well-maintained, well-groomed, comfortable spaces not only attract regular, "authorized" [14] users, but also repel others, in full accordance with the "theory of broken windows" Wilson-Kelling [15] and the policy of zero tolerance for any manifestations of deviant behavior [16]
- Strengthening of the territory and organization of access control, i.e. implementation the principle of "locked gates". Reliable fencing will prevent, on the one hand, unauthorized entry into the territory of unauthorized persons through uncontrolled entrances, breaks, manholes, looseness in the fences, and on the other - the escape of children or, alternatively, just running out to the next roadway. Let's refer here the creation of passive access control points with the help of spatial design, which directs people along certain paths, thereby limiting their movement through the territory [14]. Easily perceived boundaries create a sense of security, "territoriality" [11,18], i.e. form mechanisms that make space safe in the minds of its inhabitants [13].

D. Jacobs [17] considers the clear demarcation of public and private spaces (in our case, this is the territory of the remote control and the adjacent zone), as well as the increase in pedestrian activity in the adjacent territory to be indispensable conditions for creating a safe environment. In this respect, the situation in this kindergarten is very favorable, as the kindergarten has a secure fence with access control system, is surrounded by high-rise residential buildings, and porches, and the pedestrian traffic is very significant.

Of course, such organization of the protected space system, which implements the concept of situational crime prevention [16], does not in any way exclude traditional methods of emergency prevention and response (physical protection, panic buttons, emergency call channels a.o.).

2. A huge amount of work is devoted to the organization of the territory, site planning, creating a comfortable gaming and learning environment. Thus, the review [20] presents a synthesis of 30 studies from 1985 to 2010 on the interaction of children with the "open environment". The findings suggest that the landscape features affect the physical activity of children. Providing children with the opportunity to learn natural and anthropogenic elements in their environment, despite the possibility of accidental injuries, contributes to the development of cognitive, physical and social skills.

The debate on the need for outdoor play has been largely driven by a range of phenomena that impede children's play experience in the external environment: rapid urbanization, increased traffic, poorly planned urban environments and pollution, and many other factors , as well as the pressure of educational and play technologies in the indoor environment and lack of awareness of the importance of outdoor play for the development and well-being of children, the formation of motor and cognitive skills, interpersonal attitudes and emotions.

Issues related to the activities of PI in the Russian Federation are regulated By the state educational standard of preschool education [19], the content of which affects, including the layout of the site. Design and comfortable conditions of stay of preschool children in kindergarten are closely connected with the correct organization of its territory. The authors [6] note the current trend (Fig.), the meaning of which is to replace the traditional (institutional) planning scheme on a fundamentally different, the location of the elements of which is subordinated to the idea of the educational landscape [1,6].

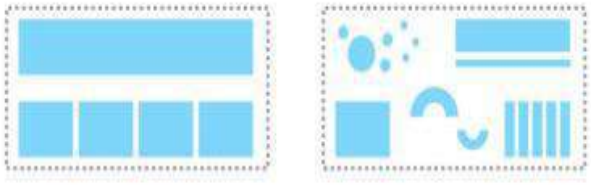

Fig. 1: The transition from institutional typology (left) to the typology of educational landscape (right) [6].

It should be noted that the landscape organization of the territory of the PI with a set of planning elements subordinated to the general idea, despite its obvious attractiveness, can meet serious obstacles in the form of the need for zoning the site for groups of children of different ages. The solution may be the laying of an "ecological pathway", which plays an important role in the system of accumulation of each child's personal experience of correct interaction with nature. The ecological trail is designed to use walks to communicate with children with their immediate environment, broaden their horizons and improve their health in the fresh air. It promotes environmental education of preschool children, causes a sense of closeness to nature, empathy for all living things, care and respect for the world. Walks along the ecological path develop children's observation and creative activity through games, research, observation, theatrical activities and other activities.

3. Proper planning of the PI territory is impossible without a competent solution of gardening issues. This is one of the most important moments in the whole complex of measures to create a comfortable environment.

The concept of preschool education in nature is not new. Since the first half of the 50-ies of XX century, when Ella Flatau founded the first forest kindergarten in Denmark, the idea begins to spread very quickly and today such institutions are quite common in England, Scotland, USA, Japan, Switzerland, Finland, Norway, Latvia et al. (Hafner, 2002; Robertson, 2008; Miklitz, 2011; Knight, 2013).

However, in the cities we have to be content with trivial landscaping of the territory of the DDU in compliance with certain standards, and if in the 70s of the twentieth century the share of the landscaped area of the PI had to be "as a rule, not less than 50% of the area of the site", the current decree allows "in the cities in the conditions of the current dense urban development ... reduction of landscaping to 20% of the area free from development". Thus, we observe a clear and very alarming trend towards a reduction in the area of green areas in the territories of the PI, when the green zone is reduced to 5-10%, and in this regard, it becomes clear concern about the general condition of landings, their quantitative and qualitative characteristics.

On the example of the selected PI, the taxation of plantations was carried out, which showed the good condition of most plants (healthy specimens predominate, having no external signs of damage to the crown and trunk, dead and dying branches). At the same time, it was noted that the trees on the territory grow randomly, there is no continuous system of landscaping, and a significant age of the object (more than 30 years) will require in the near future rejuvenating and recreational activities.

The biodiversity of landings in modern Russian PI is small, and in fact it is the main factor in improving natural habitats, serves to achieve environmental goals: improving the quality of the urban landscape and ensuring a more sustainable and comfortable environment. Plants should be varied in height, leaf color, flowering time, fruit and seed ripening. This selection of trees and shrubs ensures the formation of children's ideas about the diversity of the floral world, develops aesthetic perception. Poor landing sheet leads to the fact that in the game space is not fully implemented subject development environment for children, suffers from the aesthetic side of the created landscape compositions, the child does not receive information about all the richness of the surrounding nature. The meager range of plants not only steals the child emotionally, but also serves as a prerequisite for the possible simultaneous attack of green spaces by age, as well as the spread of diseases throughout the territory.

When selecting plants for landscaping, it is necessary to take into account not only their appearance, which determines the artistic value of the created compositions, but also those numerous inherent qualities that have a direct effect on the physiological processes of the human body and constitute the therapeutic value of the natural landscape. Sanitizing properties of plants are determined in the first place, phytoncidity, i.e. the ability to produce and secrete antimicrobial volatile substances, possessing bactericidal action. The plant environment creates a favorable microclimate, reduces dust, gas pollution and noise. The specific nature of the object imposes serious limitations the composition of the used plants, namely, a strict ban on the use of poisonous, prickly and fruiting plants, species that are able to cause allergy symptoms in the flowering period, plants and foliage which can be cut etc. Not to forget about the orientation of the windows of the group rooms and verandahs and to prevent excessive shading. The concept of landscaping was based on two main principles.

The first is the creation of compositions of Continuous decorative" using a bright palette of plants - from the early flowering forsythia europaea to the late autumn maples of the Tatar Acer tataricum and the riverine Acer ginnala.

The second, usually used in the creation of rock gardens and generally rocky gardens-the principle of minimum care, in which, if possible, reduced all agricultural activities: weeding, feeding, pruning, etc.
Taking into account the above – mentioned restrictions, the plant range was selected for the maximum implementation of all functions of properly organized landscaping-environmental, protective, decorative, and, finally, educational.

1. There is an indisputable interrelation between characteristics of the place and behavior of the child in landscape spaces.
2. The tendency to reduction of the area of the planted trees and shrubs sites in territories of preschool institutions when the green zone is reduced to 5-10% is revealed.
3. It is defined that the landscape organization of territories of preschool institutions can meet serious obstacles in the form of need of zoning of the site for groups of children of different age.
4. It is established that the biodiversity of landings in modern Russian preschool institutions is small, and it serves achievement of the ecological purposes.

CONCLUSIONS

The problems concerning the improvement of preschool institutions in the conditions of modern Russia are considered. The emphasis is placed on the need for an integrated approach, including the safety of kindergartens, their planning, landscape gardening, biodiversity conservation of green areas.

CONFLICT OF INTEREST
There is no conflict of interest.

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ARTICLE

ANALYSIS OF THE LEVEL OF DEVELOPMENT OF PRODUCTION AT THE SERVICE ENTERPRISES

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ABSTRACT

Car performance is affected by several factors including loads in structural elements, climatic and road conditions of operation, modes of vehicle operation. Because of these factors change in technical condition of a car and appearance of failures are random events. The questions of forecasting of development of a network of the auto service enterprises of various sizes at the regional level on the basis of population dynamics of a car park, opportunities of production capacity growth is difficult. In this paper we present an analysis of efficient operation of the car service companies.

KEY WORDS
development, the auto service enterprise, capacity, working post, efficiency, maintenance, repair.

INTRODUCTION

The organization of vehicles servicing and repairing is significantly influenced by such factors as: large annual runs, lack of strict periodicity and completeness of servicing, unevenness in the flow of vehicles to the company, random nature of distribution of quantities over time and species [7]. The process of predicting the development of service networks is a complex task that can be divided into several stages.

The placement of the fleet by region (districts) is characterized by large variations. The regional distribution of production capacity is also uneven. As a result there is a significant imbalance between the available fleet of vehicles and the need for its maintenance and repair by regions.

Calculation of needs in capacity growth of service businesses is based on the forecast of the number of fleet taking into account the differentiation by areas and using the predicted values of the system of economic standards adopted for service companies (throughput work of fasting, the coefficient of repeatability of addresses to the enterprise, the equipment utilization rate) [6].

Organization of work of the car service companies includes: selection and substantiation of optimum structure of production and technical base, the selection and justification of the technological scheme of work and organizational structure of the enterprise, the optimal distribution of material resources. However, whatever optimal organization options are at the design stage, they are unable to ensure the effective operation of the system in time. This is because external factors at any given point in time are random events. So you need constant regulation and control of the production process, which should ensure the most efficient operation of the enterprise [2].

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MATERIALS AND METHODS

In the calculations must be considered [4]:

- Possible increase of production capacities, which are determined by the number of work stations;
- Trends in the structure of the vehicle fleet;
- Social, environmental and urban planning limits for the saturation of service centers in the regions;
- Possible standards of service vehicles.

The calculation of the required number of work stations (X) for each region r can be carried out according to the following formula:

$$X_r = \frac{k_r N_r I_{Nr} k_{ob}}{t_n \cdot m},$$

where

k_r is the adjustment factor of the regional structure, taking into account the region saturation in production capacity;

N_r – the number of cars in the rth region;
I_{Nr} – projected index of the increase in the number of vehicles for the period;
k_{ob} is the coefficient of repeatability of addresses to the enterprise;
k_u – coefficient of capacity utilization;
P – performance of the post: the number of cars per one working post.

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Calculation of the necessary number of work stations is advisable to fulfill taking into account the range of possible variations of the individual characteristics of the enterprise. Various options with the change of regional structure of the fleet (I_{Nr}) can be considered, change in the performance of the post (P) due to the increase in the quality of services and reduction of works execution waiting time.

The increase of the required number of work stations is determined as the difference between the required and existing capacity:

$$\Delta X_r = X_r - X_f,$$

where X_f is the actual implementation of the r th district with working posts.
Investment needs for increasing service capacity in the region r can be calculated using the average capital coefficient spent on creation one working post (k_f) and data about the required increase in the number of posts (D_{Xr}):

$$I_r = k_f D_{Xr}.$$

Total required investment amount in several regions will be the following:

$$Iå = åIr.$$

The obtained value for the total size of the investment is compared with the available financial resources (F), then the minimum amount of investment necessary for the development of the service industry is determined:

$$Iopt = \min(Iå, F),$$

where F is the amount of available funds.

Then there is the alignment of goals and financial capabilities for the development of service enterprises, final clarification and correction, followed by a choice of increasing production capacity.

Allocated to the development of the service network investments can be divided into two groups [10]: for reconstruction, modernization and expansion of existing businesses and creation of new enterprises:

$$Ir = Ip + Ic,$$

where Ip and Ic are values of investment resources for reconstruction, modernization, expansion of existing enterprises and creation of new businesses, respectively, in region r.

After determining the values of investment for reconstruction and creation of new businesses, allocation of funds by regions is made in proportion to identified needs in capacity growth.

To determine the best patterns of production facilities the following information is required: the amounts of investments allocated to the development of the service network in general and by regions, the specific intensity and effectiveness of the work of the post with the differentiation of these indicators by types of enterprises (small, medium, large).

Solving the problem by using the criterion of efficiency (maximizing profits) under a constraint on the allocation of financial means, it is possible to obtain a structure of production capacity in three groups of enterprises.

Formally, this problem can be written as follows [1]:

$$\begin{cases} \sum_{r=1}^{R} (p_м X_{rм} + p_c X_{rc} + p_к X_{rк}) \to \max . \\ k_{фм} X_{rм} + k_{фc} X_{rc} + k_{фк} X_{rк} \le И_r, \quad r = \overline{1...R}, \\ X_{rм}, X_{rc}, X_{rк} \ge 0. \end{cases}$$

where

Xrm, Xrc, Xrk – the required number of working post created in the rth region in small, medium and large enterprises respectively;

kfm, kfc, kfk – specific capital ratio for creation of one working post on small, medium and large enterprise

pm, pc, pm – profitability of the operation of one working post on small, medium and large enterprise.

RESULTS AND DISCUSSION

The resulting structure of production capacity is distributed between the small, medium and large enterprises in accordance with the specified power range, characterizing the size of workshop.
The economic effect of the program of development of car networking (E) is the sum of the effect of expansion, reconstruction and upgrading of existing service businesses (Ep) and the effect of creation of new enterprises (Ec):

$$E = Ep + Ec.$$

To estimate the total economic effect from the development of service network is also possible on the basis of the methodology, which takes into account the contribution of the service enterprises in the development of the urban economy.

The approximate evaluation of the effect can be done on the basis of data on unit profitability of a single post and a number of newly commissioned work stations (including separate indices for groups of companies) [9]:

Where

Дm, Дc, Дk – profitability from one working post on small, medium and large service enterprises respectively;

Xrm, Xrc, Xrk – number of work stations created for small, medium and large enterprises respectively in the r th region.

An important indicator of effectiveness is the total amount of all contributions to the city budget:

$$Ob = Oн + Oa,$$

Where

Oн is tax deductions from profits of enterprises;

Oa is the amount of rent per occupied square.

Rent is paid only by those of car service enterprises, which are located on the autonomous territory and have a lease with the city government.

Dividing the total volume of investments allocated for the development of the service station network, on the obtained value of annually arriving in the city budget means from the point of view of municipal economy, approximate payback period of investment put into the service can be determined:

$$CO = \frac{IT}{n}.$$

The system of indicators of comprehensive evaluation of companies must be market-oriented and reflect the following [3, 5]:

- current conditions in which enterprises operate on the market (the initial data for development of strategy and tactics of development of the enterprises);
- production and economic condition of companies (the characteristics of the existing level of technical and economic development of production facilities and their interaction with each other);
- performance of companies during the period under review (changes of enterprises state and their market position).

The formal statement of the search problem of effective control action is the following: let X be a set of external factors that affect the air supply (daily mileage of cars, traffic, climatic conditions). Then the state vector X has the form:

$$X = \{X1, X2, ..., Xm\}.$$

Internal state of the system is characterized by the properties and processes that determine the change of the dynamic characteristics of the system (absence from work of maintenance workers, availability of spare parts and damaged equipment). Denote them by vector Y:

$$Y = \{Y1, Y2, ..., Yn\}.$$

The change of vectors X and Y in the operation of companies will be restricted. Suppose that all the available information about the state of the control object in time is described by the functions argument of which is the time t:

$$Xi(t); Yj(t); \quad i = 1, 2, ..., m; j = 1, 2, ..., n$$

The task is that at any given point in time t to choose a control action on the system, which would bring the value of the selected criterion of efficiency for extreme value.

The criterion of effectiveness must reflect the specific conditions of the production functioning and provide an objective solution of the problem under consideration. Therefore, we can say that this criterion is a measure of comparison for quantitative evaluation of different solutions. Selection and justification of performance criteria is one of the most important conditions for successful solution of various tasks and performing research.

To assess the effectiveness of the vehicle maintenance system the total adjusted cost for one service can be applied. In general, the aggregate adjusted cost is a function of the input (number of maintenance requirements) and controllable parameters (number of work positions, maintenance workers, the mode of the system). In general, the discounted total costs are a function of several variables [8]:

W = f (M, N, X, P),

where

M is the capacity of the company;

N – the number of requirements;
X – the number of posts;
R – the number of workers on duty.

The analytical criterion of selecting the best variant of the organization of the maintenance system is expressed by the formula:

WTO = $C_Д$ TO – $C_З$ TO,

where

$C_Д$ TO – the total revenues of the system;
$C_З$ TO – the total cost of the operation of the system.

Possible revenues from the vehicles service are determined according to the formula:

$C_Д$ TO = ☐Ci TO ti TO,

where

Ci TO – the cost of one hour of service for the ith vehicle;
ti TO – the complexity of maintenance of the ith vehicle.

The total cost of maintaining the service system is determined according to the formula:

Ce TO = CbPf + Esal + 3m + Ec,

Where

Cb is the specific carrying value of buildings and equipment;
Pf – the amount of payment for production assets;
Esal – the cost of salary for workers;
Em – the cost of materials and spare parts;
Ec – energy costs.

To assess the efficiency of the vehicles, repair system the total costs of maintaining the positions of the system and the costs of idle vehicles awaiting repair are used. In General, this criterion is expressed by the following formula:

Wp = to pCo p + tп pCп p,

where to

p – time a car spends in the queue;
Co p – downtime costs of the car in the queue;
tп p – time of downtime of maintenance workers or posts;
Cп p – costs of the idle worker or post.

Minimization of this objective function allows to determine the production capacity of the repair system based on the incoming flow requirements, repair time and cost. However, to solve the problem of selection of different kinds of repair strategies, the criterion is not sensitive enough.

Therefore, when choosing a management strategy for maintenance to evaluate the efficiency of the system the best criterion is that which is characterizing the possible value loss of profits, and also taking into account the level of security of the company's revolving fund [8]:

Wp = $\sum_{i=1}^{N} C_i T_i - \sum_{j=1}^{X} C_{jn} T_{jn} - \sum_{k=1}^{P} C_{kp} T_{kp} - \sum_{s=1}^{N_{szp}} C_{s\,xp} T_{s\,xp}$,

where N is the number of repaired cars over a certain period of time, Ci – profit that the ith vehicle brings to the company, Ti is the spent time of the ith vehicle in the service system, X is the number of posts or

jobs, Cjп – the cost of downtime of the jth post repair within the hour, Tjп – total idle time jth post, P – the number of maintenance workers in the system, Ckp – wages per hour of kth worker, Tkp – total time of the kth worker, Narp – number of working units, Cs xp – the cost of storing the sth unit, Ts xp – the total storage time of sth unit.

CONCLUSIONS

Thus, the first stage to predict the development of service networks at the regional level is a reasonable assessment of the prospects of development of the transport network associated with the problems of economic development of the region as a whole.

The next step is to identify the largest cities of the region and analyze their development prospects. These cities should be considered as the main link in a future service network throughout the region.

In the third stage of development of the program of perspective development of service enterprises of the region the required number of production facilities of vehicle service along major highways, depending on the tension of the movement, is calculated.

Basic requirements which should correspond to the criterion of effectiveness:

1) be the one that allows you to choose the simplest solution to the problem, especially with use of the computer;
2) be expressed in the quantitative measure to allow an objective assessment of the exact methods;
3) a quantitative measure of the efficiency criterion should objectively reflect the results of system operation;
4) a quantitative characterization of the criterion should be sensitive even to minor changes imposed on the system constraints;
5) have a precise mathematical expression to be calculated.

The most common criterion is the minimum reduced cost, which reflects costs of production. Given the unit costs consist of costs for maintenance and repair of motor vehicles.

CONFLICT OF INTEREST
There is no conflict of interest.

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ARTICLE

UNIFIED GENERALLY RECOGNIZED RUSSIAN CLASSIFIER OF CONSULTING SERVICES

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ABSTRACT

Globalization of the world economy and the accompanying processes of internationalization of economic activities of enterprises, active mutual international cooperation of the countries' leaders, changes associated with the consequences of the global financial and economic crisis and other factors have led to significant changes in the economic development of the Russian Federation. The priority objective of Russian companies is the problem of increasing business activity and competitiveness of economic activity; which business-consulting sphere is one of the sources of solution. Despite the increasing popularization of the activities of domestic companies providing consulting services in Russia, international consulting and information companies still have an impact on the mechanism of formation and development of the existing global consulting market. In many ways, this influence leads to the erosion of methodical and practical features inherent in the consulting industry, and determines the peculiarity of the Russian market of consulting services [1]. A deterrent in the development of the Russian consulting market is also the lack of regulation of classification groups of consulting services at the legislative level. Until now, there is insufficient certainty in the definition of consulting services, which makes it difficult to regulate the activities of this service's producers and control the quality of their provision. In this regard, the authors of the paper conduct a study on the existing typology of consulting services, examine the issues of legislative regulation of consulting activities as a separate business sphere, and prove the need of bringing the existing types to their general form. As a result, the authors propose a form of a single generally recognized classifier for the Russian market of consulting services.

KEY WORDS
business consulting, consulting services, classification, national legislation, scientific typology of consultants.

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INTRODUCTION

Traditionally, consulting is defined as a type of business activity in which professionally trained specialists analyze the current problems of the enterprise in order to find the most effective strategy and tactics of behavior of the business entity in the market. Besides, the practical recommendations on how to improve the results of its activities are being provided. Therefore, the consulting services should be defined as nothing more than a set of intellectual professional services provided by a specialized information and consulting company and aimed at solving the problems of the effective functioning of the customer organization [2].

To date, the domestic market provides a wide range of consulting and information services to address issues of strategic, tactical and operational levels. According to the official data of the leading company "Ros Business Consulting", there are more than 3 thousand companies providing consulting services in the Russian market [3].

However, due to the lack of proper state licensing and regulation of consulting activities, it is not possible to make and give an accurate assessment of the turnover and the number of such companies, so these values are not absolute. In this regard, among the leading companies there is a widespread trend of expansion of their activities. Moreover, more and more companies from related industries equate themselves with consulting companies and in terms of national legislation have the right to do so. This circumstance leads to a certain ambiguity and a decrease in the "transparency" of the definition of the consulting itself.

MATERIALS AND METHODS

In the course of the study, the authors used the following methods:

1. Critical analysis of specialized scientific-economic literature with a high citation index on the subject of the study. In particular, the survey among the Russian group of consulting companies was conducted as well as the experience of one of the authors in the Russian information and consulting company LLC "Audit TD" (Nab. Chelny, Republic of Tatarstan) was used.
2. Appropriate statistical techniques and methods were applied in order to create and propose a unified Russian classifier of consulting services as one of the ways of overcoming drawbacks in the sphere of consulting services.

RESULTS AND DISCUSSION

Based on the study conducted by the authors, the need to create a unified Russian classifier of consulting services was identified and proved. In conclusion, it was proposed to introduce a separate section dealing with consulting services as an independent sphere of business services in the current edition of RCEA, the author's classification of information and consulting services was also proposed. The designed classifier allows to achieve the following goals: self-identification, self-determination of the consultant as a specialist; understanding of the types of consulting services by the client; formation of a general meaning of existing

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consulting terms; institutionalization of consultants; the basis for structuring the market; flexibility, the possibility of expanding the services range.

The creation of a unified Russian classifier of consulting services will increase the awareness of consumers on the matter of the subject and, accordingly, assess the possibilities and direction of the use of these services more completely. The results obtained will also simplify the process of documenting the fact of providing consulting services from the producers' side and regulate the control over the results of the consultants.

The extensive use of information and consulting services by Russian companies to address current issues in various aspects of management and production activities served as the basis for their complication and the emergence of different approaches to their classification. In world practice, all types of existing classifications presented in the scientific-economic literature can be divided into two main types:

1. Subject classification, which is based on the principle of division of existing types of services into sections (elements) of management.
2. Methodological classification, which is focused mainly on the consultants themselves, as it qualifies them from the methods of work [4].

In practice, subject classification is the most widespread, as it is more understandable for consumers of consulting services. As for the methodological classification, expert, process and training types of consulting are distinguished according to this classification. Various authors apply an individual approach to the grouping of consulting services based on process, expert and training consulting. As a result, this leads to the formation of multivariate types of their classification in the scientific and economic literature [Table 1].

Table 1: Types of consulting services

Process consulting	Expert consulting	Training consulting
The consultant interacts with the client's staff and management. Communication is reduced to the development and implementation of solutions to optimize the company's economic processes in order to achieve their goals.	The consultant has an access to the necessary information but does not directly interact with the client. The main decisions and recommendations are given after the diagnostics at the enterprise.	The consultant interacts with the client in the form of the educational training, providing some useful information.

Since there is no unification of services in the sphere of consulting activity at the legislative level, many consulting and information companies classify their main types and orientations differently, overlooking the matter of the subject itself. In theory, consultants can alternate and apply any of the above types of consulting in the course of their work in accordance with the stage the consulting project is at. While in the Russian practice the combination of methods, including elements of expert and training consulting became the most popular, in the West the process-expert type of consulting services is used more often [5]. However, despite the unquestionable "maturity" of foreign consulting as a type of professional activity, there is no unified classification in foreign associations of consultants either. Taking into consideration the wide range of fields, which a professional consultant can work in, the number of independent experts whose influx made it difficult to give a definition to a «consultant» in general, has increased dramatically over the past few years [6].

Consulting solves a very diverse range of problems, and the specialization of consulting companies varies from a narrow, limited to one consulting field, to the widest, covering a full range of services [7]. In this regard, the question arises: "Is it realistic to bring consulting services to a single civilized system of classification and is there such an urgent need?"

When Russia joined the World Trade Organization (WTO) in 2012, one of the membership conditions was the liberalization of the Russian market of services and bringing Russian business to the existing international standards. As a result, the use of the classification recognized by the world community within the structure of the WTO has become relevant. However, despite the fact that the General Agreement on Trade in Services (GATS) approves the World Trade Organization classifier, this international treaty does not even contain a definition of such a term as "service" [8].

According to the results of comparative legal analysis of international legislation in the field of conceptual framework and approaches to the classification of information and consulting services, it can be concluded that nowadays many activities of Russian consulting companies go beyond the existing rules of international economic law. Their range is much wider in comparison with the "classic" foreign types of consulting, as the development of consulting services in the Russian Federation follows "its own path" and largely depends on the specific economic situation in the consulting environment [9].

A peculiarity of the Russian market of consulting services is the presence of signs of "The Market for Lemons", which give rise to the contradictions associated with the possibility of concealment and distortion by consultants of the part of the necessary information. In order to "mitigate" the negative impact of such actions of professional consultants, the state should lay down the legal foundations for the progressive development and effective control of consulting activities.

IIOAB JOURNAL
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Unified generally recognized Russian classifier of consulting services can be one of the ways of consulting services' control and regulation. In addition, the existence of such a classifier is necessary for both the consumer of consulting services and their producers [Fig. 1].

The presence of the classifier of consulting services is especially important for their identification. In Russian accounting standards, the services contract is the primary document where the accounting and tax records reflect the costs of information and consulting services.

In accordance with chapter 39 of the Civil code of the Russian Federation and the general provisions on contractual works (art. 702 - 729 of the CC of the RF) and the domestic contract (art. 730 - 739 of the CC), the contract for the provision of consulting services is a kind of a services contract. One of the most essential conditions of the consulting contract is its subject matter and all the conditions, which such agreement should be reached on at the request of one of the parties (para. 1 of art. 432 of the CC of the RF). The subject of the services contract in this case is the orientation of the contractor company that is the type of consulting services. In order for the condition on the subject matter of the contract to be agreed upon, it is necessary to indicate what issues the consultation is conducted on. Otherwise, the contract may be deemed imaginary. Then the client will not be able to record the expenses incurred on its basis, reducing the taxable base for income tax. The need for such a Classifier was also proved by the results of the rapid survey (based on the Russian group of companies LLC consulting and information company "Audit TD" in Nab. Chelny, Republic of Tatarstan), in which users of consulting services participated. The results of the survey are clearly presented in the [Table 2].

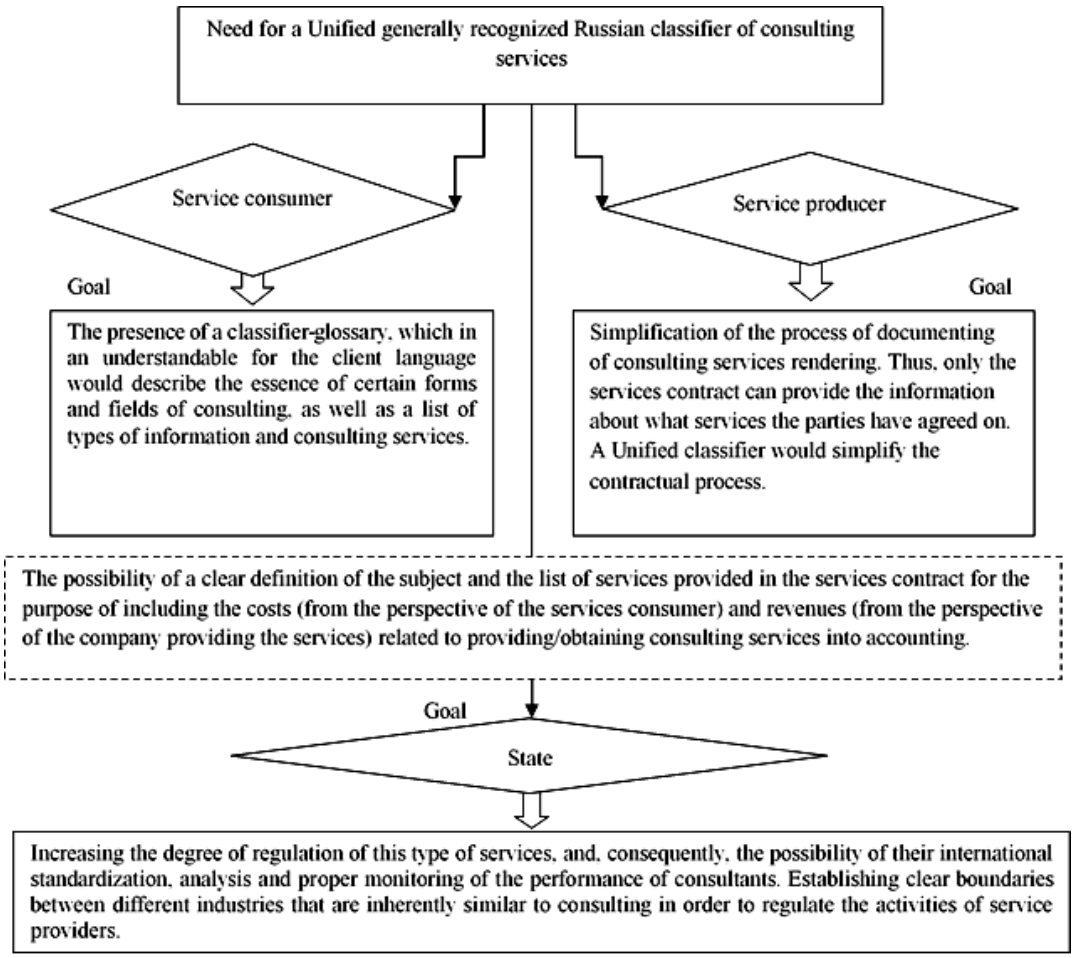

Fig. 1: Need for a Unified generally recognized Russian classifier of consulting services.

When analyzing the current version of the Russian Classification of Economic Activities, which entered into force in July 2016, it can be noted that the types of consulting services are not grouped and are given in the section under the alphabetic reference "M professional, scientific and technical activities". That is, consulting and information services are not singled out as a separate economic section, despite their increasing popularization as a separate type of business. In order to harmonize Russian legislation and improve legal acts and existing classification systems with market practice and scientific typology of consulting, the authors' classification of consulting services has been developed. The proposed classification is developed based on the Russian Classification of Economic Activities, as well as certain

articles of the Civil code of the Russian Federation, which regulate contractual transactions of a civil nature not only in terms of consulting services, but also in other legal relations.

Table 2: The results of the rapid survey

Question formulation	Answer	%
How often does your company have recourse to specialized consulting companies?	Often	71,4
	Not often	28,6
Do you have an understanding of the nature of consulting services?	Yes	87,5
	No	8,9
	Not sure	3,6
Do you have an idea of the range of services provided within the consulting activities (types of services and a list of works of these services)?	Yes	62,5
	No	28,6
	Not sure	8,9
Is it necessary to create a Unified generally recognized Russian classifier of consulting services?	Yes	98,2
	No	1,8
Do you consider it necessary to make additions and changes to the Russian Classification of Economic Activities in terms of consulting activities?	Yes	60,7
	No	30,4
	Not sure	8,9

However, since certain classification groups of RCEA do not always correspond, and sometimes make contradictions in the current realis of the Russian market, the designed classification is supplemented by the data of the annual analytical reports of the rating agency "Expert RA", the results of surveys and questionnaires conducted by the authors of the paper and other independent researchers. In general, the structure of the designed authors' classification and, accordingly, its information and methodological base is presented in [Fig. 2].

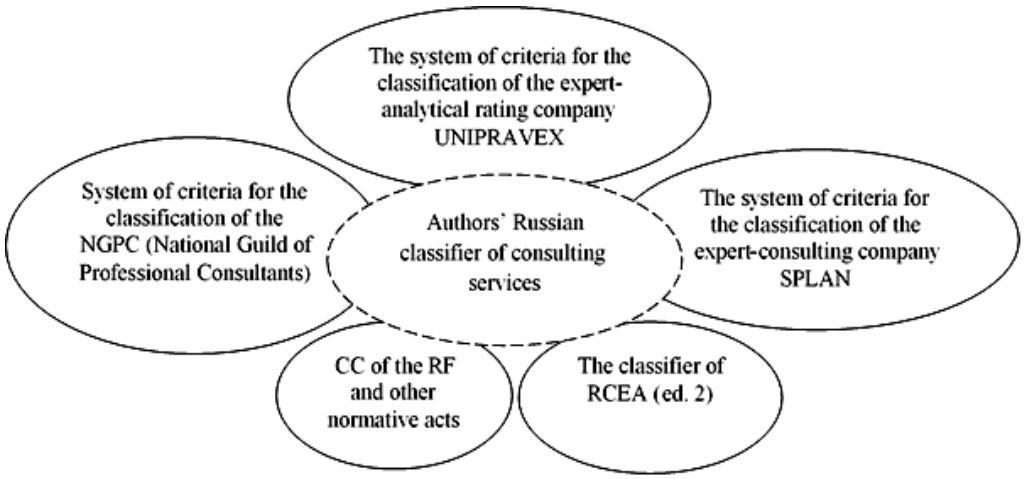

Fig. 2: General structure of the authors' classification of consulting services.

In order to systematize and regulate the existing types of consulting services, it is also proposed to introduce in the current version of RCEA an additional section in "Provision of consulting (consulting and information) services". This type of services is divided in accordance with the classification groups by the areas the consultant operations in. The proposed classifier makes it possible to identify the main types of consulting services and combines both subject and methodological approaches to their classification, thus satisfying both service consumers and producers with the emphasis on the first approach. The proposed classification is based on the following principles and requirements: clarity of terminology; ease of practical application; comparability with business practice; clarity to the client and consultant of the matter of the classifier; a clear typology of all consulting and information services.
Authors' classification is shown in [Fig. 3].

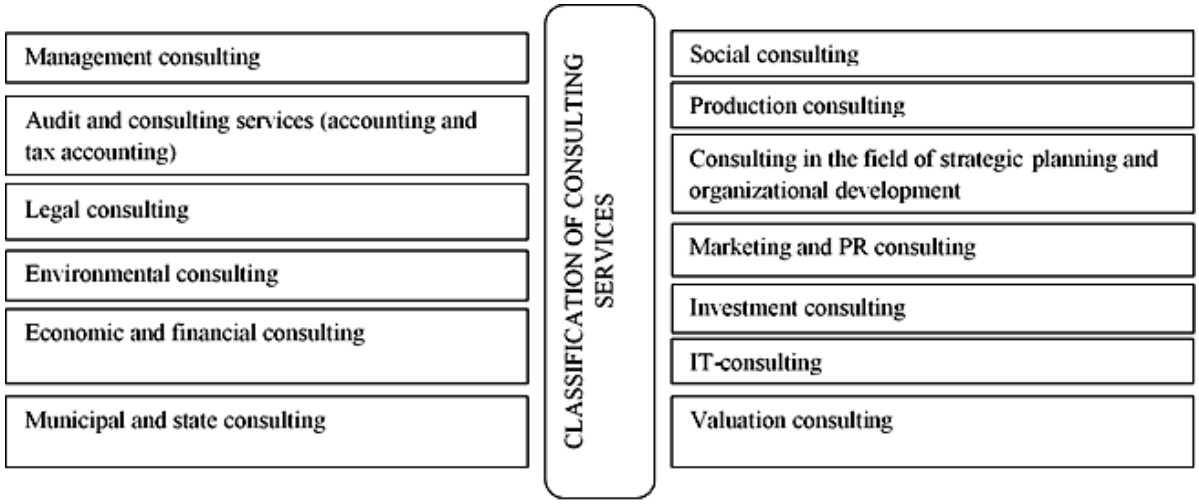

Fig. 3: Authors' classifier of consulting services.

Undoubtedly, the process of developing and bringing the existing variety of typologies of consulting services to a single system is time-consuming and long-term. In order to adapt the designed classifier, it is necessary to carry out a whole complex of works on optimization of all types of consulting services in accordance with the current norms of national legislation. However, despite the fact that the form of the proposed Unified generally recognized Russian classifier of consulting services is not the only reliable, the main ideas of it can be used in the development and harmonization of classification systems of consulting services inherent in the Russian market.

CONCLUSIONS

The analysis of the existing classifications of consulting services allows to draw a conclusion that the majority of scientists-practitioners examine this type of services from their professional point of view. Accordingly, each expert puts their own meaning determined by the orientation of activity of a particular company. This leads to blurring the boundaries between different industries, related to consulting [10]. This drawback in particular can be overcome with the help of the author's designed classifier, which combines different approaches to the services' classification taking into account the peculiarities and realis of the modern Russian market.

CONFLICT OF INTEREST

There is no conflict of interest.

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None.

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ARTICLE

ETHIC AND PSYCHOLOGICAL CHARACTERISTICS IN PREVENTION OF SUICIDE BEHAVIOUR OF TEENAGE AND YOUTHFUL AGE

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ABSTRACT

A number of factors can influence on the development of suicide behavior: sex, age, place of residence, marital status, profession, state of health. Influence of economic and social factors on the level of suicide activity of the population is noted [1]. The age of the suitsident is of particular importance when accounting risk factors. For example, in the USA and the countries of Europe there are certain peaks of frequency of suicides - in teenage (15-19 years) and advanced age (60-75) which are described in literature as "youth peak" and "involution peak" respectively [2]. Russia also allocates two "peak" periods: for parasuicide-teenage and youthful age, for complete suicides - elderly and senile. Also, a number of researchers notes increase in level of suicide activity among men of working-age. Among teenagers and seniors in Russia the share of suicides has also considerably increased [3] in recent years. The period of teenage age in psychology is characterized as the crisis period. They have a new growth - "feeling of maturity", and new meanings, values of adulthood, there are no interaction forms in the adult world yet. In this regard there is obvious a problem of development of effective methods of diagnostics of ethic and psychological qualities of the personality. At the same time the most relevant are the researches of development of ethic and psychological characteristics in the teenage and youthful environment as this age is sensitive in moral development of the personality.

KEY WORDS
ethic and psychological characteristics, suicide behavior, prevention, teenage age, youthful age, training, debate, dynamics, lie scale.

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INTRODUCTION

Teenage and youthful age is the most susceptible to all new, the most active and mobile, but also vulnerable to negative impact age category.

The leading activity at this age is communication with peers. It becomes much more significant and more important to be accepted in the environment by friends and schoolmates than at the adult. The difficult crisis period of teenage age is characterized not only by the internal conflicts of the child, but also emergence of a huge number of the conflicts with the world around. For a younger puberty the most dangerous are the intra family conflicts, for an average and the senior - the conflicts with peers and in school. In the immediate environment he can find or lose the support helping him in life.

Suggestibility and their aspiration to imitate others, including those who try to commit suicide, can create the reason for a suicide.

A number of Russian researchers note fundamental difference of the suicide of the teenager from the adult's suicide. According to Ambrumova's concept [11], the suicide is considered as result of social and psychological disadaptation of the personality in the conditions of the microsocial conflict endured by them. The situation of the conflict leads to suicide actions in the presence of three factors: sociocultural features of education; adverse social environment; sets of specific features of the personality, such as personal uneasiness, frustration, negative perception of surrounding, lack of conscious aspiration to life.

Thus, timely definition of harbingers of a suicide can help with its prevention.

MATERIALS AND METHODS

As it was noted earlier at individual diagnostics of the suicide risk, it is necessary to consider influence of group factors that each specific person is the carrier of a certain set of group signs, such as: sex, age, profession, marital status. However set of group risk factors, to whatever exact scaling they were exposed, doesn't cause suicide behavior and only creates the certain soil increasing probability of a similar outcome in a conflict situation.

The exact suicide forecast requires the careful analysis of individual factors. Backbone elements of suicide behavior are adaptation and this adaptation which are developed at the level of the personality and in the main spheres of social interaction therefore there are individual factors of the personality having suicide focus.

All specialized questionnaires intended for assessment of suicide risk can be divided conditionally into three big groups [4]:

1) The techniques including rather direct questions of existence of suicide thoughts and experiences. Such techniques as enter into this group: the test of suicide risk at children [12], diagnostics of

suicide behavior of teenagers (modification of the questionnaire of G. Ayzenk "Diagnostics of mental state"), the questionnaire of suicide risk (T.N. Razuvaeva's modification) [13], a technique of diagnostics of suicide behavior of M.V. Gorskaya [14], a technique "The card of risk of a suicide" (modification for teenagers L.B. Schneider) etc.

2) Questionnaires the revealing individual personal factors which are most closely connected with high probability of commitment of a suicide. Clinical questionnaires which, most often are used in medical psychology and psychotherapeutic practice belong to this block. Such techniques entering into this group: 16 factorial questionnaires of Kettell, characteristic diagnostic questionnaires (PDQ) [15].
3) Techniques of the block of unconscious are directed to diagnostics and fixation of the unconscious reactions caused by the shown stimuli material. This type of techniques allows to reveal a measure of influence of various factors which indicators aren't controlled by respondents consciously.

Prevention and correction of suicides is the whole science: replacement of pain, removal of stresses, changes of reference points, replacements of values, revival of spirituality and morality.

For this purpose, we have created and adapted a technique "Good-Evil"-2 (form B) as option of the modified technique "Good-Evil" (form A) for pupils of teenage and youthful age.

As a result of researches, realizing this approach, we have selected the leading ethic and psychological characteristics and their system which is universal base and the main psychological condition of the maximum realization of opportunities and abilities of the person in all spheres of his activity [5].

On function "Good" were diagnosed such ethic and psychological characteristics of quality as:

- "superficial" (humility, modesty, advantage, honor, honesty, accounting of opinion of others, the guarantee for somebody);
- "deep" (trust to people, responsibility, blames itself for everything, repentance, self-control, tactfulness, patience, self-restriction);
- "rod" (disinterestedness, ability to self-sacrifice, philanthropy, generosity, conscience, self-education, existence).
- Ethic and psychological characteristics on function "Evil" were estimated at identification of malicious lines:
- "superficial" (vanity, ambition, conviction in the correctness always, obstinacy, lack of self-criticism, lack of sense of humor, subservience, avarice);
- "deep" (envy, insidiousness, cynicism, sensitivity, jealousy, non-obligation, unscrupulousness, ability to offend another);
- "rod" (slander, perfidy, demagogy "becomes personal" in a dispute, rudeness, roughness).

RESULTS AND DISCUSSION

The diagnostic technique "Good-Evil" - 2 (form B) was validated and is checked for reliability [6].
By means of this questionnaire pupils of teenage and youthful age at an interval of 1.5 months have been examined.

About reliability of the measuring «Good-Evil» tool - 2 (form B) we judged by correlation coefficient between their results of the first and the second inspection. The coefficient of correlation was reliable and is in the range from 0.698 to 0.823.

At pupils of teenage and youthful age reliable distinctions of ethic and psychological characteristics on very high significance value in women's and men's selections are received. That and others have a «Good» level much over the level of the «Evil». Function "Evil" has the identical level of development both at girls and at young men.

Comparisons on sexual dimorphism have shown that there are essential distinctions in favor of girls in development of "Good" function.

The comparative analysis on age sign at pupils of teenage and youthful age has shown that there are essential distinctions in favor of girls (16-17) years in the development of "Good" function.

Further, we estimated validity of our technique "Good-Evil" - 2 (form B).

For calculation of coefficient of validity the results received at application of a diagnostic technique "Good-Evil" - 2 (form B), were compared with data of a diagnostic technique "Good-Evil" (form A) which reliability and validity is considered established.

The coefficient of validity of ethic and psychological characteristics on functions "Good", "Evil" and "Humanity" was reliable and was in the range from 0.763 to 0.983 [7].

As the reasons of suicides among teenagers, are as well violations of the interpersonal relations at school, we have also set the object - to develop and to experimentally check the developing program (training):

"Ethical psychology" which has been directed to achievement of positive dynamics of ethic and psychological characteristics of teenagers and youth.

The created program was carried out in the form of training with elements of debates and assumed the following practicing of group work: 1. Group unity exercises. 2. Studying of the ethical dictionary. Viewing and discussion of video records. 3. Diary entries on updating of ethic and psychological characteristics (Work with images, representative systems, speech strategy, management of time and establishing order in affairs). 4. A discussion as "dialogue of voices" as opinion on the studied ethical characteristics; "dialogue of images" as judgment of artistic, literary, historical images and contemporaries in their ethical context of the studied characteristics and success. 5. A debate "We will talk to "great". Exercises which give the chance to participants to discuss alternative judgments of thinkers with inclusion of aphorisms, various statements about ethic and psychological characteristics on functions of the good and evil; to compare with problems of modern life, with exarticulation and judgment identical in them. 6. "Himself a coach" - exercises which give the chance to participants to use technicians of successful people of the present.

On the basis of statistical comparison of average values of the studied indicators of independent selections (experimental and control groups) with the use of t-criterion of Student received in diagnostic cuts before and after holding a training and also F-Fischer's criterion and a difference which are in pairs interfaced option by criterion G signs it is possible to draw a conclusion on positive dynamics of ethic and psychological characteristics on function "Good" at pupils of teenage and youthful age in the conditions of a training with discussion elements.

So, the indicator "Good" in experimental groups was (by Fischer's criterion) at pupils of teenage age of 12-15 years of F=6.14; pupils of youthful age have 16-17 years of F=4.16. The indicator "Evil" – at pupils of teenage age is 12-15 years of F=4.16; pupils of youthful age have 16-17 years of F=3.14. In experimental groups statistically reliable distinctions of values of the ethic and psychological characteristics diagnosed before and after an experiment are revealed.

In control groups small age positive dynamics of integrated estimates of ethic and psychological characteristics, however in comparison with the data obtained in experimental groups has also been found, the happened changes are insignificant – in most cases they don't reach the level of reliability [8].

It is proved that the diagnostic technique "Good-Evil" - 2 can be considered as the diagnostic tool for measurement of ethic and psychological characteristics at pupils of teenage and youthful age as option of modification of a diagnostic technique "Good-Evil" (form A).

It has become clear that the ethic and psychological characteristics making an ethical layer of structure of the personality differ in a qualitative originality at pupils of teenage and youthful age. At that and others level on function "Good" at girls (girls) is much higher, than, at boys (young men), at the same time indicators "Evil" function have insignificant divergences. And here differences in ethic and psychological characteristics on function "Evil" not much. It is possible that it is connected with that, the good is estimated more precisely, than evil.

The author's technology (training with elements of debates) promoting dynamic change of ethic and psychological characteristics is offered and in general an integrated indicator "Humanity" at pupils of teenage and youthful age has received positive experimental confirmation.

CONCLUSIONS

The conducted pilot study with the use of a diagnostic technique "Good-Evil"-2, and approbation of the program developed on its basis: "The ethical psychology" directed to dynamic change of ethic and psychological characteristics at pupils of teenage and youthful age, allows to speak about a possibility of effective practical work with an ethical component at teenagers and young men and to use as prevention of suicide behavior at this age.

The theoretical and actual material received by us demands, obviously, further development and specification.

So, studying of the questions raised by us with attraction of the equipment of control questions ("a lie scale") is necessary further. At the following stage of studying of a problem it is supposed to use also possibilities of the forming experiment, as prevention of suicide behavior of teenage and youthful age when religious and legal consideration of this component is an object of research.

CONFLICT OF INTEREST

There is no conflict of interest.

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ARTICLE

FORMATION OF STUDENTS' SOCIAL COMPETENCE OF NON-LANGUAGE UNIVERSITIES IN THE PROCESS OF STUDYING THE ENGLISH LANGUAGE

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ABSTRACT

The article touches upon the problem of formation of social competence of future bachelors of education, defines this concept, considers the urgency of forming social competence among bachelors in the process of modernization of Russian education. It describes the experimental work on the study of the level of formation the social competence of students of non-linguistic universities in the process of learning English, consisting of ascertaining, formative, and control and evaluation stages. The authors emphasize that the social competence of the student is an integrative quality of the person, which enables him to successfully perform the social role of the student and carry out life activities in society, harmoniously and effectively combining their own positions and interests with the positions and interests of other members of society.

KEY WORDS
social competence, student, foreign language, experiment, learning activity.

INTRODUCTION

Currently, the need to improve the higher education system is dictated by life, the requirements of society and production. In this regard, the federal state educational standard of higher professional education provides for the formation of not only the professional competencies of the graduate, but also the formation of general cultural competences, many of which are social competences. Sharing the point of view of I.A. Zimnyaya [1], we define competence through the possession and manifestation of competence.

Many domestic and foreign researchers (E.N. Borisenko [2], N.V. Kozlova [3], S.N. Krasnokutskaya [4], S.V. Sergeeva [5], J. Raven [6], S. Kaldi, E. Xafakos [7], T. Malti, S. Perren [8], L.A Owens, S. Johnston-Rodriguez [9], A. Zwaans [10], and others) addressed the problem of the formation of social competence in their scientific and methodological work.

A.A. Demchuk considers the development of social competence in a higher education institution as an important direction for improving the training of a future specialist, and substantiates the place of social competence as a leader in the structure of key competences of the individual, which are necessary for the socially productive activities of any modern specialist [11].

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T.I. Samsonova believes that social competence is an integrative personal education, including knowledge, skills, abilities, and abilities, which is formed in the process of socialization and allows a person to adequately adapt to the social environment and effectively interact with the social environment. Social competence also implies knowledge of universal norms and values, customs, traditions, customs and laws in various spheres and areas of social life [12].

However, despite the fact that there is a fairly large number of publications on this topic, the problem of the formation of social competence is not completely resolved. Analysis of modern sociological, psychological and pedagogical literature (E.M. Avraamova, A.A. Shabunova, D.M. Loginov [13], Yu. B. Verpakhovskaya [14], S.S. Bahteeva [15], A.I. Gazizova [16]) indicates that students are not sufficiently prepared to interact with the changing social environment, about their lack of confidence in their own strengths and a low level of competence in solving the social problems they face.

Possessing social competence is the guarantor of successful adaptation of students to the dynamically changing conditions of society, ensures successful social, educational and future professional activities, which determines the relevance of the research topic.

The purpose of the study is to develop learning content aimed at the formation of social competence of students of non-linguistic universities in the process of learning English.

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MATERIALS AND METHODS

The main research methods are: analysis of the literature, questioning, methods of statistical processing of experimental data, description, synthesis and systematization of the data obtained.

The experiment was held in the Almetyevsk branch of the KNRTU named after A.N. Tupolev – KAI and Naberezhnye Chelny Institute of KFU and it involved 95 people. Stages of research:

The first stage (2017) included the study of the problem of the formation of social competence in the scientific literature, the selection of experimental and control groups, and the determination of the initial level of formation of social competencies among students.

The second stage (2017-2018) consisted in conducting experimental work, namely in the development of the content of the academic discipline and the implementation of direct educational activities on the formation of social competencies.

At the third stage (2019), re-diagnostics of the level of formation of social competencies, processing and generalization of the results were carried out.

RESULTS AND DISCUSSION

The developed content of educational material in a foreign language, contributing to the formation of social competence is presented in [Table 1].

Table 1: Subjects of study materials

The language material studied in 1 course	The language material studied in 2 course
• Greeting, acquaintance, farewell	• Reporting about the past events
• Biography, place of residence	• Advantages and disadvantages
• Apology, offer of assistance, thanks	• Conclusions, explanations
• Request, order	• News stories
• Journey	• Solving problem situations
• Leisure, holidays, sports, hobbies	• Problems of the modern world
• My country	• Environment
• English speaking countries and their culture	• Types of Energy
• Education in Russia and abroad	• Transport
• Qualities of a competent engineer	• Construction
• Engineering	• Challenges for engineering
• Famous inventors and inventions	• Computers. Internet Technologies.
	• Summary

The developed content of educational material is aimed at developing students' knowledge system about the history, traditions, culture of the state and society, as well as developing students skills to organize and maintain social and professional interaction, create a climate of trust, solve communicative tasks, anticipate and resolve conflict situations, show cooperation, tolerance, respect and acceptance of another. In the course of experimental work, students took part in the collective projects "My University – My Life", "The City I Love", "Great People of Russia", made reports at the scientific and practical conferences.

Considering the study of English and the formation of social competence in the learning process, it should be noted that role-playing and business games are the most appropriate technologies, as they help fill the lack of language environment and contribute to the formation of future engineers' skills and abilities of constructive interaction with people, information exchange, forecasting and conflict resolution.

One of the goals of experimental work was to teach students how to use international e-mail projects in teaching writing (as a language of communication in the computer network Internet). The results of the experiments showed that building a practical lesson using e-mail allows activating independent activities of students, taking into account their interests, life experience and individual characteristics, ensures the availability of language learning, and as a result – the quality of knowledge.
In addition, this stage of the study also indicates that when creating a positive emotional background in the course of networking, students learn to express their communicative intention in writing, send and receive large amounts of information, analyze and systematize it.

At the initial and final stages of the study, a self-assessment questionnaire of social competence level was used, consisting of diagnostic signs reflecting the content of social competence components, namely individual-personal, sociological, and life-futurological [3]. The coefficient of the level of formation of social competence was calculated by the formula:

$$K = \frac{a(+2) + b(+1) + c(0) + d(-1) + e(-2)}{H}$$

where

K is the coefficient of self-esteem

a – the number of answers with a solid positive assessment of "yes" (+2 points)
b – the number of answers with a positive rating of “rather yes than no” (+1 point)
c – the number of answers with a doubting, undefined estimate “I cannot say” (0 points)
d – the number of answers with an almost negative assessment of "rather no, than yes" (-1 point)
e – the number of responses with a firmly negative "no" (- 2 points)
H – the number of diagnostic features: knowledge and skills, properties and qualities of the individual.

Based on the specified criteria of self-esteem, in each questionnaire the degrees of formation of the whole set of skills, properties, and personality traits, reflecting the content of the components of the structure of social competence, were highlighted. Low level was considered if the coefficient was from (-0.7) to (-2), medium – from (-0.6) to (+0.7), high – from (+0.7) to (+2).

The diagnostics of students from the experimental and control groups before the experiment revealed approximately the same level of formation of their social competence (see [Table 2]).

Table 2: The level of social competence of students before and after the experiment

Levels of social competence	Experimental group 95 people		Control group 95 people	
	before	after	before	after
Tall	20%	67%	15%	13%
Average	27%	33%	45%	87%
Low	53%	–	40%	–

A comparative analysis showed that if at the beginning of the experiment in the experimental group of 95 people 20% of them had a relatively high level of social competence, 27% had an average level and 57% had a low level, then according to the results of the experiment from the same 95 people already 67 % of them had a high level, respectively, 33% – medium and 0% – low. In the control group of 95 people, 15% had high levels before the experiment, 45% had medium level and 40% had low, then at the end of the experiment high level had 13% of people, 87% – average and 0% – low.

The coefficient of formation of the level of social competence of students for each of the components is presented in [Table 3].

Table 3: The coefficient of formation of the level of social competence of students

Components of the structure of social competence	EG		CG	
	Coef. before	Coef. after	Coef. before	Coef. after
Individual Personality Component				
I am able to independently build a hierarchy of values	0,7	1,1	0,2	1,1
I can independently justify the choice of my opinion	0,1	1,7	0,1	1,2
I know how to think logically, consistently, independently	-0,9	1,7	-0,1	0,9
Know the technique of expression of thought, language literacy	-1,1	1,1	0,8	0,2
I own mental self-government and self-regulation of my emotional state	-0,1	0,9	-0,1	0,7
Possess psychosexual literacy and health technologies	0,4	1,3	0	0,2
Sociological component				
I understand the value basis of family, collective, labor, state, profession, specialty	-0,6	1,7	-0,2	0,9
I understand the objectivity of social reality	0,2	1,3	0,1	0,3
I understand the targeted purposes of the main spheres of society, social institutions, relations and norms	-1,1	1,1	-0,7	0,5
I am able to carry out communicative, economic, legal and other civil technologies.	-0,7	0,9	0,6	0,1
Vital futuristic component				
I am able to simulate optimal and dead-end scenarios based on knowledge of the technique of planning various options for professional and family life	-0,1	1,5	0,7	0,3

The obtained results indicate a significant increase in the level of formation of social competence among students of the experimental group. In this way we can conclude that these differences in the level of formation of the competence under study were achieved thanks to the special work organized in the experimental group on its formation.

Experimental work on the study of the level of formation of social competencies of students from 1 to 2 courses was carried out in stages (ascertaining, formative, and control and evaluative stages).

Before starting work, the students had no significant differences in the signs of the levels of formation of social competencies that we were interested in. Upon completion of the experimental period, changes in the level of formation of social competencies among students of the experimental group were revealed in a positive direction.

It was achieved thanks to the developed content of educational material and the special work organized in the experimental group on the formation of social competence.

The use of innovative technologies in the classroom in a foreign language, including business games, role-playing, international e-mail projects contributes to the awareness of students of the direct connection of social competence with the requirements of future professional activities.

CONCLUSIONS

The study showed that the development and implementation of a set of pedagogical conditions, including the content of subjects of educational material, forms of organizing classes in a foreign language contribute to improving the quality level of social and moral culture, professional intellectual thinking, increasing self-esteem, in general, the formation of individual personality, sociological and vital-futurological components of social competence. It is emphasized that language training has a positive effect on the formation of social competence of students of non-linguistic universities.

CONFLICT OF INTEREST
There is no conflict of interest.

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ARTICLE

JUSTIFICATION OF EXPEDIENCY OF RESTRUCTURING OF ENTERPRISE BY MEANS OF INDUSTRIAL OUTSOURCING

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ABSTRACT

One of the main criteria of successful application of restructuring outsourcing is competent definition of degree of expediency of use of this tool at the enterprise. Weighing possibilities of development of own production with opportunities of application of resources of outsourcers, the management of the company closely approaches the solution of a task "to make or buy". On decision-making to make, but not to buy, such factors as lack of dependence on the supplier of components, decrease in expenses of not used capacities, preservation of control over own resources and others can affect. On decision-making to buy, but not to make, such factors as desire to concentrate on primary activities, receiving quality components, decrease in expenses of the enterprise and others can affect. It should be noted that transition to outsourcing can be considered expedient if thus the enterprise gains certain competitive advantages and achieves goals. Reasonable combination of outsourcing and insourcing where management of them is constructed on in advance defined accurate principles, and identification of exact borders of outsourcing are pledge of effective application of this model of management at the enterprise. Therefore at the solution of a task "make or buy" the management of the company needs to weigh carefully all pros and cons, and also to consider experience of use of this or that tool by other enterprises, including competitors. The purpose of this article is development of a technique of justification of restructuring of the industrial enterprise by means of outsourcing application.

KEY WORDS
Out sourcing, insourcing, make or buy, advisability, economic effect.

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INTRODUCTION

One of the main criteria of successful application of restructuring outsourcing is competent definition of degree of expediency of use of this tool at the enterprise. Weighing possibilities of development of own production with opportunities of application of resources of outsourcers, the management of the company closely approaches the solution of a task "to make or buy". On decision-making to make, but not to buy, such factors as lack of dependence on the supplier of components, decrease in expenses of not used capacities, preservation of control over own resources, economy on transportation of components, preservation of technological secrets, absence in the market of the corresponding suppliers and others can affect. On decision-making to buy, but not to make, such factors as desire to concentrate on primary activities, receiving quality components, decrease in expenses of the enterprise due to existence at the supplier of effect from the scale of production, redistribution of expenses, decrease in risks due to collective investments, redistribution of risks and others can affect. It should be noted that transition to outsourcing can be considered expedient if thus the enterprise gains certain competitive advantages and achieves goals. Reasonable combination of outsourcing and insourcing where management of them is constructed on in advance defined accurate principles, and identification of exact borders of outsourcing are pledge of effective application of this model of management at the enterprise. Therefore at the solution of a task "make or buy" the management of the company needs to weigh carefully all pros and cons, and also to consider experience of use of this or that tool by other enterprises, including competitors.

Today in scientific and practical literature a large number of various techniques of making decision on application of outsourcing and insourcing is presented. For example, matrix approach is the most widespread method of an assessment of expediency of application of outsourcing [1]. It is possible to allocate the following matrixes of outsourcing applied by the consulting companies and the industrial enterprises:

1. Outsourcing matrix K. Vitasek and M. Ledyard [2]. This matrix is based on use of the following factors at decision-making on application of outsourcing and insourcing: potential value for the organization and organizational expert knowledge.
2. Matrix of outsourcing of Ronan McIvor, Paul K. Humphreys, Anthony Wall, Alan McKittrick [3]. This matrix is based on use of the following factors at decision-making on application of outsourcing and insourcing: relative possibility of realization and importance of process to competitive advantage.
3. Matrix of outsourcing of Mingu Kang, Xiaobo Wu and Paul Hong [4]. This matrix is based on use of the following factors at decision-making on application of outsourcing and insourcing: risk of outsourcing and influence on profit.
4. Kurbanov's model it is based on use of the following factors at decision-making on outsourcing use: level of system effectiveness and index of expediency of outsourcing/insourcing [5].
5. The PricewaterhouseCoopers model is based on use of the following factors at decision-making on outsourcing use: competitive and strategic importance of an asset.
6. The McKinsey model is based on use of the following factors at decision-making on outsourcing use: appeal of branch and competitive position [11].
7. Kuryanovich V. model is based on use of the following factors at decision-making on outsourcing use: strategic importance for the company of this element of business and a business element assessment in relation to a foreign market.

8. Also in the literature there are models of Moiseeva N.K., Malyutina O.N. and Moskvina I.A., Khlebnikova D., Ochneva V.V. and Nuzhdin R.V. and others.

It should be noted that all models given above are kinds of matrix approach as "outsourcing matrix" is the most widespread and demanded method. However an essential lack of "outsourcing matrix" is the two-factoriality.

Also for the solution of a task "make or buy" the following approaches are applied:

- comparison of costs of own performance of function or business process and purchase of service or a component at the supplier [5];
- card of agreements with suppliers [6];
- emergence of the new functions necessary for business in modern conditions on which performance at the enterprise are insufficient or there are no competences [7] and other approaches.

All listed ways are based are inapplicable for restructuring outsourcing as they, were generally developed for an assessment of expediency of application of other types of outsourcing.

MATERIALS AND METHODS

The Today allocate the following criteria defining efficiency of restructuring outsourcing: decrease in constant expenses of the enterprise, reduction of prices of purchased components of a product at increase in volumes of the order at the outsourcer [8], increase in capacities due to decrease in "narrow places" [9] and other criteria. Therefore we will offer the following technique of determination of expediency of outsourcing.

The main criteria of efficiency of outsourcing are:

1. Change of level of profitability of the enterprise:

Low level of profitability is one of key characteristics of effective and competitive activity of the enterprise. Optimization of floor spaces and decrease in a share of constant expenses in prime cost of a product is a consequence of application of restructuring outsourcing that positively effects on the provision of a point of profitability. However not any application of restructuring outsourcing conducts to decrease in level of profitability of the enterprise. Namely:

- lack of compensation of rise in price of product cost at outsourcing application by increase of its price can lead to increase of a point of profitability;
- application of multi sourcing's model of the relations can lead to emergence of new administrative expenses and increase of costs of research and development that can lead to increase in constant costs of production and, therefore, to increase of a point of profitability.

2. Change of capacity of the enterprise:

Fatigue of production – the main problem of the Russian industrial enterprises which means strong wear of the equipment and poor quality of products. Therefore some companies apply production outsourcing or to possibility of continuation of production in case of breakage of own equipment, or to increase of capacities by decrease in number of "narrow places" and use of capacities of the outsourcer.

3. Change of coefficient of reaction of variable expenses:

Application of restructuring outsourcing conducts to increase in a share of variable expenses in prime cost of a product. In this case the main part of variable expenses is made by costs of purchased components. Therefore for effective application of outsourcing it is necessary to achieve degressive behavior of cumulative variable expenses that is the relative gain of variable expenses has to be less, than relative increase in output. In other words, the increase in volumes of the order at the outsourcer has to be followed by reduction of prices of its production. Such it is possible as constants and investment costs of a unit of production decrease and, moreover, the outsourcer can reduce or clean a risk extra charge the price and apply various systems of discounts.

4. Change of a share of "single" expenses in constant expenses:

Today one of the main problems of the Russian industrial enterprises are high constant expenses. As a rule, production of non-basic products of a product generates losses for the enterprise as this production practically always remains not loaded. It is possible to give a situation with the Volgograd tractor plant when the new team of managers made the decision on a conclusion of production of a hardware in outsourcing as this production was loaded for only 10% [10] as an example. Therefore one of the main reasons for application of restructuring outsourcing, besides decrease in constant expenses, decrease in a share of "single" expenses in constant expenses is.

RESULTS AND DISCUSSION

The technique of an assessment of expediency of application of restructuring outsourcing is under construction on the listed above criteria. Values of each of these criteria define expediency of outsourcing at the enterprise. Therefore for an assessment of expediency of use of this tool the summary table of the main criteria in which value of an indicator and percent of its change at application of outsourcing [Table 1] are reflected is under construction.

Table 1: Summary table of the main criteria for the appropriateness of outsourcing

№	Indicator (criterion)	Value of an indicator	Change percent
1.	Change of level of profitability of the enterprise	y1	x1
2.	Change of capacity of the enterprise	y2	x2
3.	Change of coefficient of reaction of variable expenses	y3	x3
4.	Change of a share of "single" expenses in constant expenses	y4	x4

The maximum expediency of restructuring outsourcing is reached at positive changes of quantity of indicators and percent of change of each indicator at outsourcing application [Fig. 1].

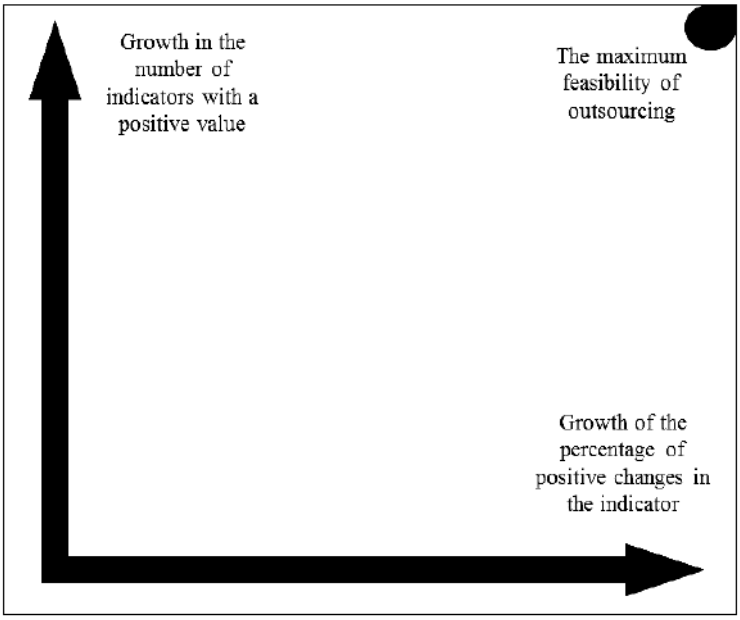

Fig. 1: Feasibility of restructuring outsourcing.

Some explanations to [Fig. 1]:

1. At application of restructuring outsourcing indicators of expediency can accept various values therefore there is a lot of options of various data sets of values. However for effective application of outsourcing it is necessary to achieve positive values of all indicators.
2. The percent of change of indicators is individual for each enterprise.

Advantage of the developed technique is possibility of application of restructuring outsourcing most effectively, considering all main positive changes, such as decrease in a point of profitability, "single" constant expenses, coefficient of reaction of variable expenses and increase in capacities of the enterprise. It is very important to consider these changes by optimization of the enterprise as further competitiveness of the company will depend directly on the criteria given above.

Also further the given technique can be improved by introduction of new criteria of expediency of outsourcing and expansion of the model presented in [Fig. 1].

CONCLUSIONS

The offered technique is of interest both to economists-theorists, and to practicians and heads of the large industrial enterprises as its application in practice allows to perform more effectively restructuring and optimization of business by means of outsourcing application.

From the point of view of the theory the offered technique allows to open possibilities of outsourcing and to add the ways of justification of expediency and efficiency of restructuring of business existing today in scientific literature.

CONFLICT OF INTEREST
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ARTICLE

POSSIBILITIES OF IMPORT SUBSTITUTION IN THE FOOD INDUSTRY ON THE EXAMPLE OF THE SUBJECT OF THE RUSSIAN FEDERATION

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ABSTRACT

In the context of economic and political sanctions, there is an urgent need for a practical solution to the problem of import substitution. The situation in the food market is highly dependent on imports of agricultural raw materials and food. This raises the issue of food security of the country as a top priority. At the same time, the food industry is central to ensuring food security. In particular, with the food embargo, the import into Russia of certain types of agricultural products, raw materials and foodstuffs is prohibited. Lactose-free cheeses also got into this list, their number on the market has noticeably decreased. Since 20% of the population of the Russian Federation has lactose intolerance, this makes lactose-free products necessary and in demand. In this regard, the release of lactose-free cheese was considered under the conditions of LLC «Agrosila-Moloko» in the Republic of Tatarstan. An analysis of the raw material base was carried out to increase production volumes. A marketing analysis of the Republic showed that the overwhelming number of respondents agrees to buy lactose free cheese in the price range from 100 to 150 rubles for 250 grams and LLC «Agrosila-Moloko» can count on a 24.3% market share. For the year of implementation of this project, LLC «Agrosila-Moloko» can receive a net profit of 3.6 million rubles. Costing, acquisition and depreciation of an installation for the production of lactose-free cheese were reflected in the Alt-Invest program.

KEY WORDS
information economy, import substitution, production, economic efficiency, food industry.

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INTRODUCTION

The sanctions against Russia imposed by the US and European countries, which limited investment and borrowed funds, slowed down the development of the agro-industrial complex of Russia [1]. Food self-sufficiency is becoming one of the fundamental factors in ensuring Russia's national security. Despite the sanctions, in recent years, the problem of food safety for consumers has become sharp in Russia, caused by the growing supply of dangerous and low-quality food products to the market. According to the National Consumer Rights Protection Foundation, more than 40% of imported food products are falsified [2].

Together with agriculture, in terms of the total volume of production, the processing and food industries occupy the second place in the country's economy [3]. In this situation, consistent import substitution of food products and the gradual reduction of their share in the Russian market is one of the ways to solve this problem [4, 5].

LLC «Agrosila-Moloko» is a major milk processor in the Republic of Tatarstan and the only large agricultural enterprise in the republic with a full production cycle: agrofirms, cows, dairies. The company was registered in 2013. The entire property complex of Vamin-Tatarstan OJSC, which was declared bankrupt, was transferred to the management company.

Due to the presence of 21 own agrofirms in the Republic of Tatarstan, LLC «Agrosila-Moloko»has and processes its own raw materials from 1,000 to 1,200 tons. Today, the company has nine dairy plants: Kazan, NaberezhnyeChelny, Nizhnekamsk, Bugulma and Mamadysh, etc. A limited liability company produces various types of cheeses, dairy products, milk, butter, sour cream, cream, yoghurts [6].

The data of the Ministry of Agriculture and Food of the Republic of Tatarstan in [Fig. 1] indicate that as early as 2010, 1932.9 thousand tons of milk were produced, then until 2011 there was a stabilization of the production rate, but in the following periods 2012-2013, there is a decline in production and in 2014 there was an increase in milk production, then a slight decrease to 1,700 thousand tons.

Thus, we can conclude that the company LLC «Agrosila-Moloko» has a significant raw material base for increasing production volumes. At the same time, the resource base is located in the zone of the best transport accessibility, which ensures:

- low level of costs for the logistics of raw materials;
- high quality raw materials.

MATERIALS AND METHODS

The material for the work was the data of the Accounts Chamber of the Russian Federation, the Ministry of Agriculture of the Republic of Tatarstan.

Market analysis of the market is the activity of assessing, defining, modeling and forecasting the processes and phenomena of the market, as well as the activity of the enterprise itself, using economic, statistical and other research methods [8]. An important aspect of the company's activity is to achieve its

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financial independence, which is ensured by the adoption of optimal investment and financial decisions, competent marketing policy, and increased competitiveness [9]. Its main element is the analysis of market capacity - the amount of product that can actually be sold on a well-defined market in a specific period of time. It is believed that retail research is one of the main areas of marketing [10]. On a temporary basis, the market capacity can be daily, monthly (quarterly), annual. On a territorial basis - local and niche. An important component of the marketing analysis of the market is the consumer experience already gained - this is the cognitive and emotional evaluation by customers of the purchase process [11]. Also, the market capacity may be potential (maximum possible here and now), actual (total sales volumes of all operators) and available (that part of the market that your company can conquer), shown in [Fig. 2].

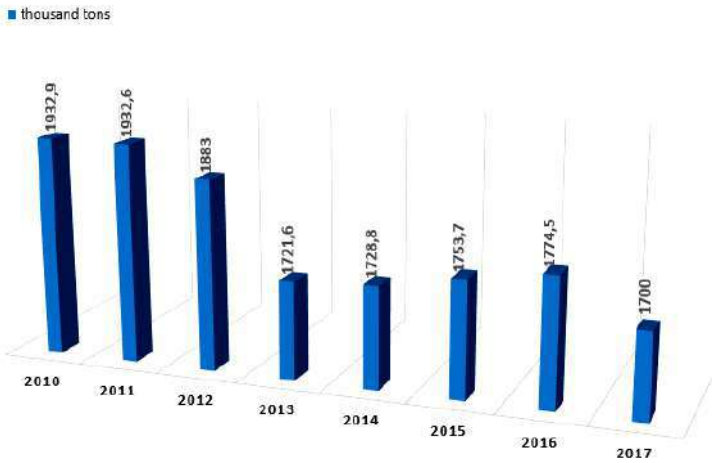

Fig. 1: Dynamics of milk production in the Republic of Tatarstan, thousand tons [7].

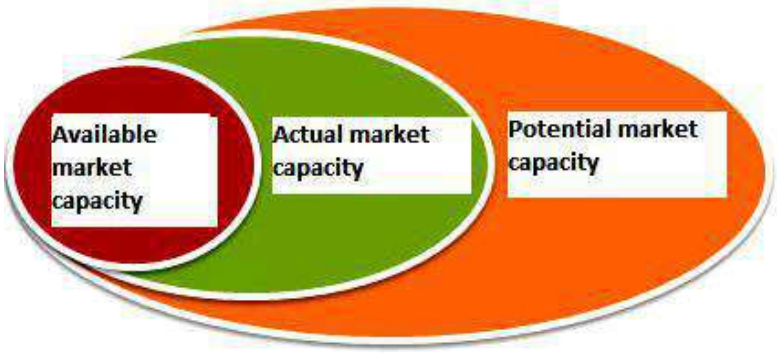

Fig. 2: Types of market capacity.

The technique of calculating the capacity of the market consists of the following steps:

- calculation of the maximum potential capacity by the formula 1;

Total potential market capacity:

SC * PE * SC, (1)

where

KA is the number of audience (households),
PE - the frequency of consumption of goods,
SC - the average price of the goods.

- identification of the audience using the product;
- determination of the period of purchase;
- calculation of the average purchase check;
- determining the share of competitors;
- calculation of market capacity.

Information processing was carried out in the Alt-Invest program. The Alt-Invest program is designed to prepare, analyze and optimize investment projects of various industries, scope and orientation. The program is a set of interrelated spreadsheets in the environment of Microsoft Excel [12]. This method of

implementation allows you to study all the calculation formulas, to follow the logic of the formation of results from the source data, to freely navigate in the methodology and calculation tables.

The program allows you to evaluate the project from three main points of view [13]:

- investment efficiency;
- financial soundness;
- project risk.

Baseline information required to perform the calculations:

- project revenues (sales revenue);
- current expenses;
- investment costs;
- sources of financing;
- description of the economic environment.

The program corresponds to the UNIDO methodology, is adapted to the Russian economic conditions (in particular, taxation, accounting, reporting, inflation) and is open [14].
The openness of the program means that the user has the ability to:

- select and set the necessary structure for the description of the source data for the calculations;
- view the algorithm for performing calculations;
- to adjust the algorithm of calculations based on the specifics of a particular project (enterprise);
- supplement the program with new tabular forms and indicators.

Using the openness of the program, the user can independently form non-standard tables, build new charts, calculate any additional indicators.

The tables and indicators added by the user become equal elements of the model, all the service capabilities of the program are applied to them. If necessary, the protection mode of the calculated formulas against changes can be set. The program provides ample opportunities for modeling.

Consider the release of lactose-free cheese in the conditions of LLC «Agrosila-Moloko». We will conduct a marketing analysis of the market.

Calculate the total potential capacity of the market using the formula 1.

Considered time interval: quarter. Considered territorial market: the Republic of Tatarstan with a population of 3855037 people, the number of audience is 1285012 households, the frequency of consumption 1 time per month, 3 purchases per quarter. The next step is to calculate the average market value (only 1 competitor) in [Table 1]:

Table 1: Calculation of average market value

Valio, Ltd	The price	The price for 1 g
Altermoney cheese 17%, 250 g.	270 RUR/pcs.	1,08
Cheese 17%, 250 g.	380 RUR/pcs.	1,52
Average	325	1,3

Thus, the average market value of lactose free cheese is 250 g. - 325 rubles The average volume and type of product - lactose free cheese, packaging, 250 grams. Total potential market capacity = 1285012 * 3 * 325 = 1252886700 rubles. However, it is necessary to bring these figures closer to commercial realities, and it is necessary to understand that lactose-free cheeses are intended for people with lactose deficiency.

According to a study [15], 10-20% of the Russian population has lactose intolerance, which makes lactose-free products necessary and in demand, so the second step is to determine the audience using the product: 1285012 * 15% = 192751.8 households - an indicator of the market in which competitors operate.

The next step is to calculate the available market capacity. Since the delivery of cheese to final consumers of Valio LLC is carried out through large retail chains, we conditionally consider a market share of 75.7% - the percentage of residents of the Republic of Tatarstan living in cities. LLC «Agrosila-Moloko» can count on a market share of 24.3%, that is, 46838 households or 7025804 rubles / month. [Fig. 3] shows the market capacity chart.

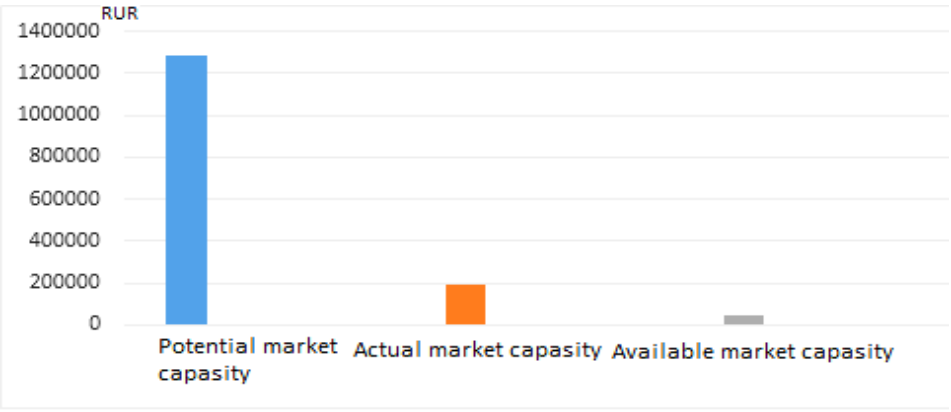

Fig. 3: Market Capacity Analysis.

However, it is necessary to understand that not every household can afford cheese costing 325 rubles for 250 grams. In this regard, we conducted a sociological survey of the local population of the Republic of Tatarstan and a survey on the social network. The results show that the vast majority of respondents agree to buy lactose free cheese in the price range from 100 to 150 rubles for 250 grams.

Consider the organization of the production of lactose-free cheese in the Naberezhnye Chelny dairy plant LLC «Agrosila-Moloko».

The production of lactose free cheese can be divided into the following technological processes [16]:

1. Preparation of raw materials.
2. To obtain lactose-free milk, lactose is removed from the feedstock by dialysis using as a dialysing liquid whey with a pH of 6.75-6.8, from which lactose is removed by fermenting it to lactic acid.
3. Getting cheese in its primary form.
4. Mechanical processing.
5. Maturation.
6. Product design.

To organize a new production, it is planned to purchase an installation of the P8-OLK.000 “Universal” worth 2,970 thousand rubles. The installation is easy to maintain, easily disassembled and washed [17]. Further, the calculation of costs, acquisition and depreciation of an installation for the production of lactose-free cheese will be reflected in the Alt-Invest program.

Taking into account general production, plant-wide and commercial expenses, the total cost of 1 kg of lactose-free cheese, according to the calculations of the program, will be equal to 355 rubles, 250 gr. - 89 rubles. To ensure guaranteed sales of planned products, LLC «Agrosila-Moloko», having a large margin of safety for production costs, is able to set the selling price for cheese in the amount of 500 rubles. per kg., 125 rub / 250 gr., which fits into the price framework obtained in the framework of a sociological study. Construct the break-even point of the investment project in [Fig. 4].

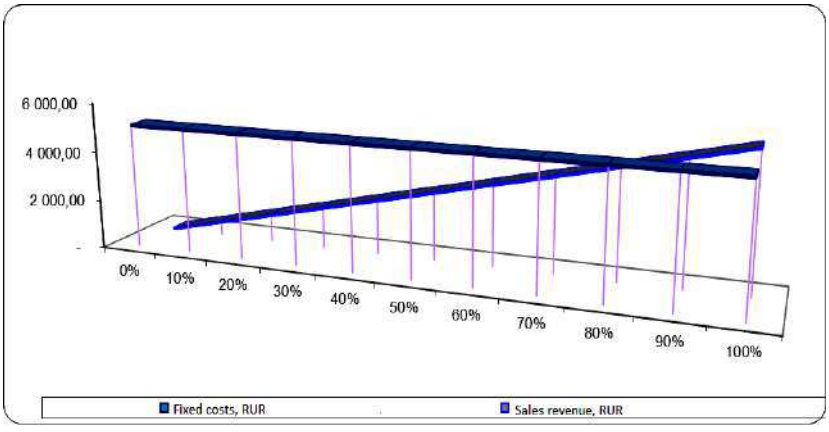

Fig. 4: Construction of the break-even schedule of the investment project.

Thus, the profit is ensured by the production of 10094 kg of cheese in physical terms at a cost of 5047 thousand rubles. The ratio of revenue to total cost can be seen in the following diagram in [Fig. 5].

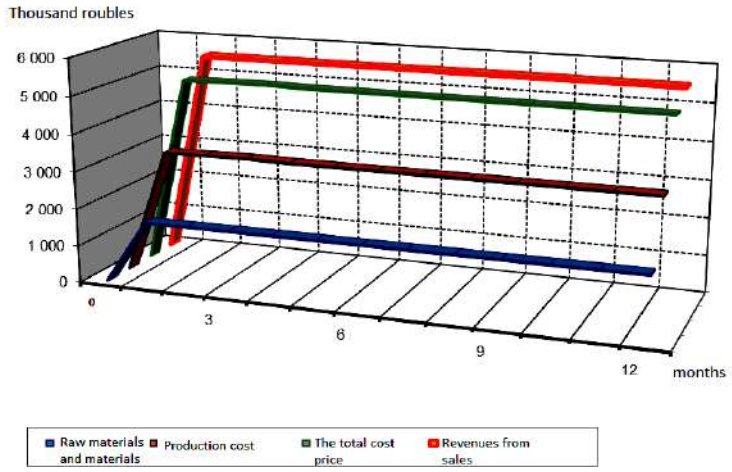

Fig. 5: Revenue total cost ratio.

And the amount of net profit can be seen in the following diagram, shown in [Fig. 6].

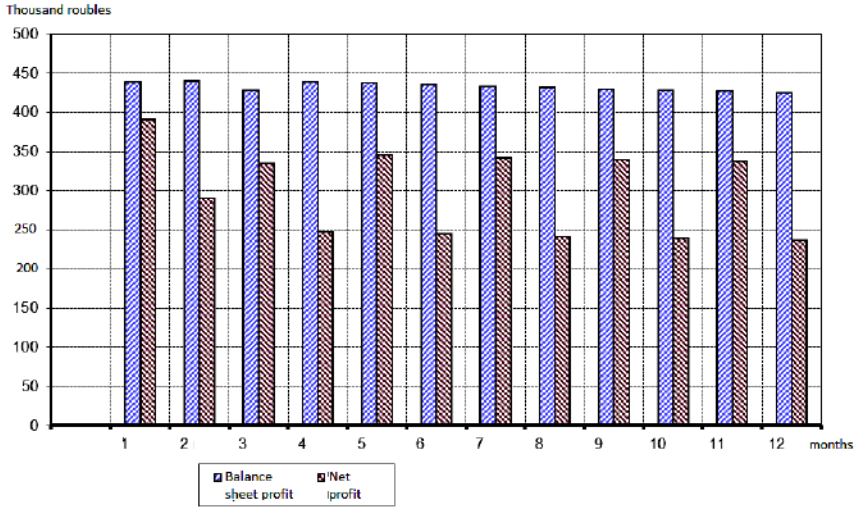

Fig. 6: Net profit amount.

The payback period of the project is 11 months. Attracting borrowed funds will ensure the implementation of the investment stage of the project, purchase equipment, debug the technology, go to a given production program. According to the calculations of the program, the project for the production of a new type of dairy products will require an investment of 4,281 thousand rubles. The solution of the problem can be a loan issued for 4 years at a rate of 20% per annum.

CONCLUSIONS

For the year of implementation of this project, LLC «Agrosila-Moloko»will receive a net profit of 3.6 million rubles. In addition, the increase in production and income of the enterprise will increase the taxable base, which will make this project socially significant, aimed not only at increasing employment within the enterprise, but also at increasing payments to budgets of all levels. During the period under review, more than 3.72 million rubles will be transferred to the budget.

The financial calculations made show the attractiveness of this project, which allows the company to receive additional profits. A small number of competitors, taken the course of import substitution, the attention of the state contributes to the opening of new industries and allow you to efficiently load the existing production capacity. Thus, LLC «Agrosila-Moloko»is recommended to introduce lactose free cheese into production.

CONFLICT OF INTEREST
There is no conflict of interest.

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None.

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ARTICLE

METHODICAL AND TECHNOLOGICAL PECULIARITIES (FEATURES) OF 1C SOFTWARE PRODUCTS USING IN THE PREPARATION OF IT PROFESSIONALS AT THE UNIVERSITY

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ABSTRACT

An evident successful experience of training professionals with knowledge of software products "1C" has been accumulated as a result of long work in the vocational education system and at the Department of Informatics and Mathematical Methods in Economics of Naberezhnye Chelny Institute KFU Economics Division. We cannot formalize, determine and propose it as a universal model yet, but some main ideas are quite interesting and can be applied in other educational institutions.

KEY WORDS
1C software products, educational-methodological complex, information technologies, cloud technologies, educational practice, internship.

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INTRODUCTION

With the development of information society, information technologies (IT), reaching a high level of development, more and more penetrate in all spheres of public life, including education. The problem is not only in the rapid development of IT, but also in IT training [1]. The basic organizational stages of such staff preparation can be divided into four groups:

1. the "1C" company's software product line study in the framework of training programs for bachelors and masters, built in naturally mathematical disciplines and professional unit block courses and electives;
2. students' participation in contests and competitions held by the company "1C";
3. organization and subsequent employment practices in organizations of the company "1C" partner network;
4. The students and professional practitioners informal thematic communication, the organization of workshops, discussions, business games and discussions (the profile shift group "The economic Olympus" in Dubravushka student camp, Grushin Festival arbuzniki (informal meetings) etc.

The main aim of training IT professionals in the training direction 03.09.03 (new code for GEF 3+) "Applied Informatics in Economics" and 38.03.05 "Business Informatics" is competences forming of the in the field of IT, methods and tools for the development and maintenance of information systems for different disciplines on the modern scientific and technical level.

Hardware, software and information resources make IT essentials. The effectiveness of training is largely determined by the sequence of connection and studied theoretical disciplines, supported and added by the courses with a practical orientation. For example junior students get acquainted with the history of IT development, architecture and computer devices and communication systems, they study the theoretical foundations of economic information systems. On the basis of theoretical knowledge and with the economics disciplines study the students are involved in the development of methods and IT tools and aids [2]. Graduate works of students have a practical focus and are often used by some organizations in their work.

The graduation works of IT-direction students are performed and commissioned by the city-forming enterprise "KAMAZ", finance, education, information and communication committees, banks and financial institutions of Naberezhnye Chelny and the Kama region, and many others [3]. The experience of using IT in teaching process can be described by such components, as the technical, software, methodical, personnel and information provision, and students' achievements can illustrate its effectiveness.

MATERIALS AND METHODS

The initial acquaintance of students with software products "1C" takes place in the first year in the "Computer science and programming" study. Students master the platform interface, programming elements in the "1C". "Education 1C" medium (environment) is actively used here [4].

Studying "Information systems and technologies" in the third year it is considered information, technical, technological and ergonomic provision and support of information systems. The typical configuration of the program "1C: Accounting 8.3." is used at the studies. Classes are held in computer labs using the network

version of the program. The focus on this stage of training is given to the study of the composition and content of directories, originally presented in the program; to the study of details template forms composition of primary documents; the content of the various chronological logs (postings, and other operations) is analyzed.

At the workshops the students learn the entire technological process chain, realized in the user's workplace. The students gain skills performing operations (from the data input to the report output) based on the test case materials. Thus, the practical work of the students is an illustration to the subject "Information technologies of an end-user."

Also in the third year the curriculum provides the discipline "Project Workshop". The students study the program "1C: Accounting 8.3" once again, but the work with the program is held in a different aspect. The educational-methodological complex of the discipline is focused on the program "1C: Accounting 8.3" as the base of technological capabilities and economic programs development. One section is dedicated to working with the program "1C: Accounting 8.3" as the platform "1C: Enterprise 8.2 (3)", which includes the program "1C: Accounting 8.3" is a powerful tool in dealing with the huge number tasks of any organization organizational and economic management [5].

The students learn programming elements in the "1C" acquire configuration skills, gain experience building applications based on the platform "1C: Enterprise 8.3", study the approaches to the implementation of programs "1C" at enterprises of various branches of economy. Another section is devoted to the development of software features "1C: Managing a small firm", which is the propaedeutic of corporate information systems use. At this stage cloud technologies are used actively.

It is a modern concept of IT, which is a distributed set of computing services, applications, access to information and data storage, without requiring the user knowledge of the systems physical location and configuration that provide these services. Training during service https://edu.1cfresh.com/ is of great help in organizing and conducting classes with students.

In addition, in the third year studying the discipline "Information systems design" a future IT professional in the field of economics, a specialist in finance and management to gains the knowledge about corporate information systems practice, tries his hand in the supervisor position directly during the training, making decisions on which depends the success of an enterprise. This opportunity provides the use of software "1C" - "1C: Manufacturing Enterprise Management" in the educational process.

"1C: Manufacturing Enterprise Management" is a complete solution for business management, developed in accordance with the concept of ERP (Enterprise Resource Planning - Management and Enterprise Resources Planning).

The use of "1C: Manufacturing Enterprise Management" ensures the timely receipt of data required for analysis and decision-making. It focuses on the key business processes; which automation enables the largest financial results.

- financial management;
- production and warehouse logistics;
- Products supply and distribution;
- the enterprise human resources management;
- customer relationship management.

Software product "1C: Manufacturing Enterprise Management" study is aimed at the students' system of interrelated knowledge about the practical application of ERP-solutions development, at the willingness and ability to use them in their work. The widespread use of "1C: Manufacturing Enterprise Management" in Russian, Ukrainian and Kazakh companies is a guarantee of obtained knowledge demand on the part of employers [6].

In the fourth year according to the curriculum the discipline "Information Management" is provided. In the course of its development, the students have the opportunity to work with "1C" company materials. The materials posted on the website of the company "1C" on the Internet, as well as presented in the press. Information of the company "1C" is useful for the students in the preparation of reports, essays and reports on such policy issues as forms and methods of implementation of standard software products; assessment of the advantages and disadvantages of the purchase ready-made standard software products; approaches to the implementation of programs of the family "1C"; the implementation and operation of programs monitoring and many others [7].

RESULTS AND DISCUSSION

Thus, the students specializing in "Applied Informatics (in the economy)," and "Business Informatics" are provided with the conditions of continuity in the study of specialized "1C" programs in various aspects, taking into account the content of basic education programs
The main direction of the department is to improve the quality of educational services, standardization of teaching and methodological support of all readable disciplines, closer relationship of economic and technological disciplines, developing creativity and initiative of students and postgraduate students, the organization of regular seminars and schools (electives) together with external companies and firms in the following areas:

- IT systems design methods and aids;
- modeling of business processes;
- IT line of IBM products, Microsoft, 1C;
- corporate information systems and technologies (large-scale databases, data warehouses, corporate portals).

The key factors to support modern IT is the preservation and strengthening of material-technical base of computer labs and classes, the further growth of the teaching staff qualification, the creation of teaching aids and materials in the format of websites and e-learning resources of training modules, the work on certification of experts from the number of students, postgraduate students and undergraduates [8].

One of the most effective events on the organization of students practices followed by employment on the base of partner "1C" company network organizations, as shown, was the "The Day of 1C: Career," which is traditionally held in November in many cities of Russia, Ukraine, Kazakhstan, Moldova. In Naberezhnye Chelny the event is held on the basis of a number of universities, including Naberezhnye Chelny Institute KFU since 2007, it's official organizer is the company "Firm LIST" unlimited ("1C" company's official partner in Naberezhnye Chelny).

Leading companies-partners "1C", well known in the Tatarstan information services market: 1C-Rarus, Intelkom, innovation center STEVE etc, participate in the " The Day of 1C: Career». The directors and leading specialists of partner companies are reporting at the plenary. The reports are focused on the franchising business in Tatarstan, on the production and pre-diploma practice and employment in companies-partners "1C". Also the students and graduates of NCHI KFU in the framework of this event have the opportunity to undergo preferential testing "1C: Professional". For seven years, " The Day 1C: Career" event in NCHI KFU was attended by over 3000 students and graduates.

Of great importance in the preparation of professionals with knowledge of software products "1C" is the participation of students in the Olympiad competition on programming of registration and analytical problems on the platform "1C: Enterprise" and the contest of graduation projects using the software "1C", conducted for several years by "1C" with the participation of regional distributors "1C". We believe that a real help to gain experience for the future professionals of the domestic IT industry and their leaders within the framework of these activities undoubtedly stimulates interest in the study of software products "1C" both by the students and by the teachers and contributes to the further successful employment of graduates.

Several years of informal dialogue practice shows that in creative collaboration with students the behavior of teachers is extremely diverse and determined by their individuality [9].

An organized profile shift group of students "The economic Olympus" in the student camp Dubravushka NCHI KFU, as well as the visits to Grushin Festival, Arbuznikovs meetings demonstrated well that the pupil-student is able to see for himself the personal meaning in learning professional skills. Students have the opportunity not only to express their attitude to current events, but also to justify and defend their own opinions. The teacher, professionals, and students are absolutely equal as speech partners, IT professionals, possessing an extensive range of modern IT, engineering skills, which is conducive to the creation of comfortable psychological climate for communication.

We present statistics on participation of students who participated in the events organized with the support of 1C since 2007 [Table-1, Fig 1] [10].

Table 1: Statistics of student participation in the activities of 1C (for the period from 2007)

Timing	Events	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
September	The open day organizational meeting			70	98	203	112	34	42	37	27
October	The graduation projects competition		8	18	14	12	20	8	7 (8)	2	
November	The day 1C:Career		43	74	156	87	132	93	184	52	
January	Scientific-practical conference	1	3	3	9	11	13	23	37	19	21
January-April	Graduate design		3	12	9	7	8	11	15	7	3
February	Olympiad on programming	7	26	37	42	36	31	21	25	28	20
	Prof. the competition for accounting		54	38	63	41	28	16	82	59	8
	Competition ITC									21	49
	Olympiad in web programming								17	27	21
March	Week "1C:the Applicant"			321	427	598	783	816	974	872	972
April	The final 1C (Moscow)		4	8	8	7	15	16	20	19	13
June	"1C:Trainee" ("Youth Day")			41	27	43	37	9	5	7	8
July	Grushinsky festival (Samara, Russia)				7	19	23	24	52	48	46
during the year	Student electives 1C		18	125	284	163	137	113	97	36	32
	industrial practice	3	18	9	11	8	9	7	9	5	6
second semester	predegree practice		5	12	9	7	8	5	7	5	5
in July	Internship (and employment)		4	7	9	7	6	4	5	3	3

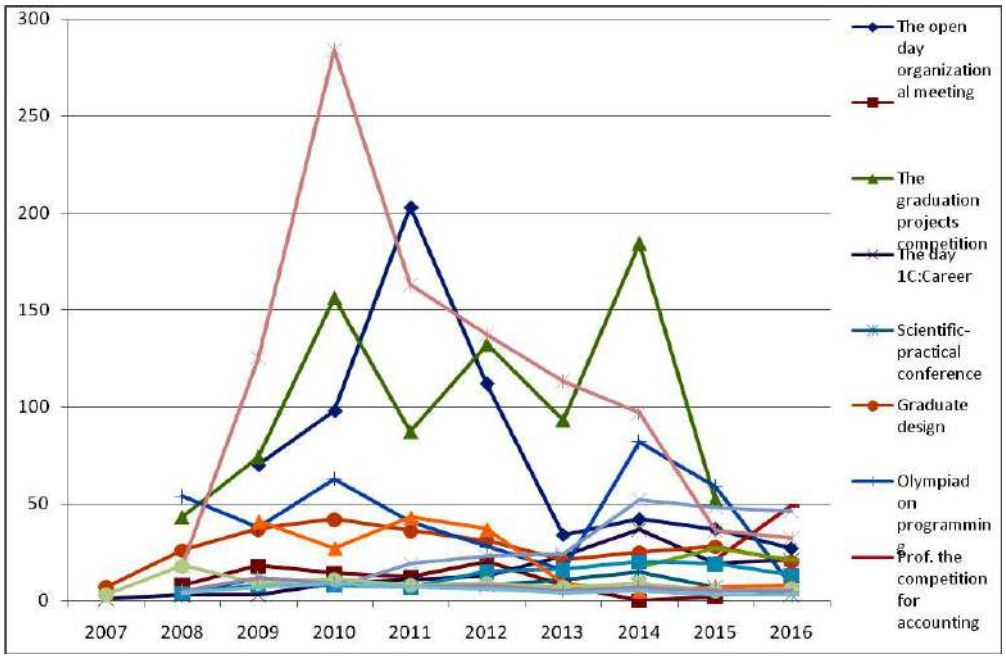

Fig. 1: Statistics of student participation in the activities of 1C (for the period from 2007)

With all this diversity the logical center which determines, educates and develops the effects of such cooperation is always the respect for the student personality – that is the sense of equality which distinguishes the subject-subject relationship of the student with a potential employer.

Thus, the future IT professional, a teacher and his specialists- teachers are involved in human culture context, different languages, arts, ways of life in all their originality, which contributes to the completeness and the depth of the compliance with profession, that is, the level of a specialist with significant experience.

CONCLUSIONS

The demand for IT professionals with skills of business analysts and economic analysis in an environment of modern information systems (IS) is very high. IT equip and reproduce almost all the techniques of financial management, marketing and logistics, rules and regulations of accounting and tax accounting, accounting policy and MSFO and managerial accounting standards. Therefore, the target oriented disciplines disclosing the use of information systems in business management and economic activity in large enterprises are more often included in the bachelor's education curricula nowadays.

Thus, for the education of bachelors in NCHI KFU, specializing in "Applied Computer Science" and "Business Informatics" practical orientation of training is provided with maintaining the necessary theoretical basis. To do this, the main content of training is focused on the best practices of higher education institutions and the requirements of potential employers to the competencies of graduates. The ability to work with the software "1C" expands the range of graduate employment, allows to obtain production skills, which brings confidence and, consequently, increases the professionalism of the future IT specialist and his competitiveness in the labor market.

CONFLICT OF INTEREST
There is no conflict of interest.

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ARTICLE

BRAND REPUTATION AND BEHAVIORAL INTENTION OF ENROLLING PROFESSIONAL COURSES

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ABSTRACT

This research aims to examine the relationship between brand reputation and behavioral intention of enrolling professional courses. Survey data was collected from 208 students studying at Ho Chi Minh City, Vietnam. The research model was proposed from the study of brand reputation and behavioral intention. The reliability and validity of the scale were tested by the confirmatory factor analysis (CFA). The analysis results of the structural equation model (PLS-SEM) showed that brand reputation and behavioral intention having the relationships with each other. A new point in this research is the quantitative tool and applied in higher education.

KEYWORDS
Vietnam, Brand reputation, Pc, Pvc, PLS-SEM

INTRODUCTION

The Higher Education plays an important role in the society: It is essential partners of the knowledge creation and knowledge exchange networks, catalysts of innovation, suppliers of tangible outputs of research results, and institutions providing consulting and advisory services. Universities are supposed to foster progress, build social capital, prepare students for outside realities, provide access to knowledge, extend the bounds of justice and, therefore, contribute to the creation of a democratic and sustainable society. However, the increasingly competitive and dynamic educational environments bring up many challenges, such as declining enrolments and growing competition [1].

As in other developing nations, economic reforms in Vietnam started in 1986 are strongly linked to the higher education sector. After 33 years of the economic reform policy, the higher education in Vietnam has grown remarkable rapidly, which only began 1976 [2] now reaching 105.000 students in 180 domestic universities [3] and 212 programs with different joint training forms (bachelor's and master's degrees), in partnership with many reputable global universities and educational institutions [4].

There are some researches with the first research result indicated corporate reputation influenced customer behavioral intentions. This article proposed a model of customer trust, customer identification and customer commitment as the key intervening factors between corporate reputation and customer purchase intention and willingness to pay a price premium. The authors tested the model by using data from 351 customers of three Chinese B2B service firms. Results indicated that corporate reputation had a positive influence on both customer trust and customer identification. Customer commitment mediated the relationships between the two relational constructs (customer trust and customer identification) and behavioral intentions [5].

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The study of Rather developed and empirically tested an integrative model that reflects a comprehensive view of the relationships among customer brand identification, satisfaction, trust, commitment and their influence on hotel brand loyalty. Results demonstrated that customer brand identification has a positive influence on loyalty, commitment, satisfaction, and trust. Commitment mediates the relationships among customer identification, trust, satisfaction and brand loyalty. Further, customer identification and commitment were closely related, but they were different constructs in hospitality contexts [6].

The research of Liu et al. proposed a new model based on organizational identity. The hypotheses for this research were deduced from the literature in order to identify and extract the factors for adaptability and partnership. Liu et al. confirmed that commitment and trust had a significant positive effect on the identity of an organization [7].

In Vietnam, the study of Nguyen HN and Pham LX proposed and tested the impact of Country-of-origin image on corporate reputation and corporate reputation on perceived corporate social responsibility, in which customer trust played the mediating role and purchase intention is considered as the final result. Data was collected through a customer survey targeting car customers in the 2 largest cities in Vietnam. Cronbach's alpha, factor analysis, and structural equation modeling were used to analyze the data collected. By using a sample of 1,027 customers, who owned and used passenger cars in Vietnam, the results showed that country-of-brand image and country-of-manufacture images have a positive impact on the corporate reputation and purchase intention of customers, in which the country-of-brand image had a stronger impact than the later. Also, corporate reputation had a positive, direct influence on perceived corporate social responsibility. It created and nurtures customer trust. Under that manipulation, the customer would perceive corporate social responsibility positively. And the effect was found to be partially mediated by customer trust. In addition, both customer trust and perceived corporate social responsibility presented their influence on purchase intention [8].

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Nuraryo et al. explained the influence of corporate identity through corporate reputation and student satisfaction on student retention in one business school. The authors indicated that corporate identity had

a very significant influence on corporate reputation. The corporate reputation also had a small influence on student retention. This study contributed to university to increase student retention which regarded as sustainability in the higher education sector [9].

The research of Harahap et al. [10] aimed to analyze the influence of university reputation on student decided to study at the faculty of economics in Indonesia. Results showed that university reputation partially had a positive and significant effect on students' decisions to study. This showed that prospective students considered the university's reputation in choosing a place to study. University should do more professionally in fulfilling facilities and infrastructure and improving the quality of lecturers. The tight competition requires universities to always build a good reputation through breakthroughs that can be a mainstay and have a high selling value.

In summary, the paper aims to investigate the relationship between brand university reputation and student behavioral intention of enrolling professional courses. A new point in this research is the quantitative tool and applied in the context of Vietnam higher education.

So, we gave the proposed research hypotheses:

"Hypothesis 1 (H1). There is a positive impact of Brand Reputation (DT) on Student Trust (NT)"
"Hypothesis 2 (H2). There is a positive impact of Brand Reputation (DT) on Student Identity (NB)"
"Hypothesis 3 (H3). There is a positive impact of Student Trust (NT) on Behavioral Intention (YD)"
"Hypothesis 4 (H4). There is a positive impact of Student Commitment (CK) on Behavioral Intention (YD)"
"Hypothesis 5 (H5). There is a positive impact of Student Trust (NT) on Student Identity (NB)"
"Hypothesis 6 (H6). There is a positive impact of Student Identity (NB) on Behavioral Intention (YD)"
"Hypothesis 7 (H7). There is a positive impact of Student Identity (NB) on Student Commitment (CK)"
"Hypothesis 8 (H8). There is a positive impact of Student Trust (NT) on Student Commitment (CK)"

All hypotheses and items are modified as [Fig. 1].

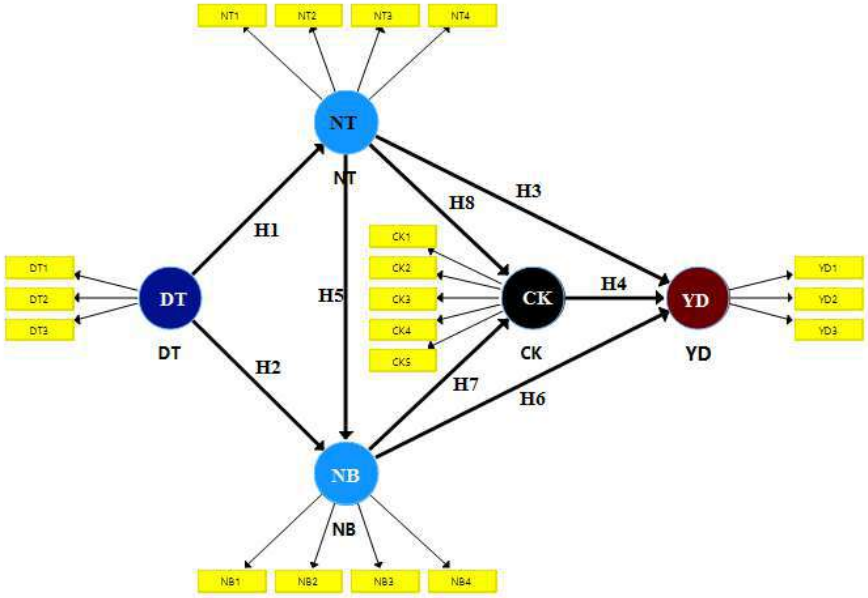

Fig 1: Research model [**Code**: Brand Reputation (DT), Student Trust (NT), Student identity (NB), Student commitment (CK), Behavioral Intention (YD)]

METHOD

The research methodology was implemented through two steps: qualitative research and quantitative research. Qualitative research was conducted with a sample of 30 students studying at Ho Chi Minh City, Vietnam. Quantitative research was carried out as soon as the question was edited from the test results with a sample of 208 students studying at Ho Chi Minh City, Vietnam. According to Hair et al. [12], the sample size must be at least ≥ m x 5, in which m is the number of observed variables. So, with 18 variables observed in this study, the sample size should be at least ≥ 90. Therefore, 208 students are surveyed by the face-to-face method at Ho Chi Minh City. Respondents were selected by convenient methods with a sample size of students studying at Ho Chi Minh City in Vietnam in [Table 1]. There were 117 (56.3%) males and 91 (43.8%) females in this survey in [Table 1]. The questionnaire answered by respondents is the main tool to collect data.

Table 1: Sample demographic characteristics

Sample		Amount	Percent (%)
SEX	Male	117	56.3
	Female	91	43.8
	Total	**208**	**100.0**
QUALIFICATION	Freshman	4	1.9
	Sophomore	106	51.0
	Junior	88	42.3
	Senior	10	4.8
	Total	**208**	**100.0**

The survey was conducted in May 2019 in Hochiminh City, Vietnam. Data processing and statistical analysis software are used by Smartpls 3.0 developed by SmartPLS GmbH Company in Germany. The reliability and validity of the scale were tested by Cronbach's Alpha, Average Variance Extracted (Pvc) and Composite Reliability (Pc). Cronbach's alpha coefficient greater than 0.6 would ensure scale reliability [11].

Composite Reliability (Pc) is better than 0.6 and Average Variance Extracted must be greater than 0.5 [11]. Followed by a structural model PLS-SEM was used to test the research hypotheses [11].

Datasets

We validate our model on three standard datasets for Behavioral Intention (YD) in Vietnam: SPSS. sav, Excel.csv, and Smartpls. splsm. The dataset has five variables: one independent variable, three intermediate variables, and one dependent variable. There are 208 observations and 19 items in the dataset. SPSS. sav and Excel.csv were used for descriptive statistics and Smartpls. splsm for advanced analysis.

Data Availability can receive from author by email.

RESULTS

Structural Equation Modeling (SEM) is used in the theoretical framework. Partial Least Square method can handle many independent variables, even when multicollinearity exists. PLS can be implemented as a regression model, predicting one or more dependent variables from a set of one or more independent variables or it can be implemented as a path model. Partial Least Square (PLS) method can associate with the set of independent variables to multiple dependent variables [11].

Consistency and reliability

Test results in Table 2 show that factors CK2 and CK4 are not statistically significant because P-value is greater than 0.05 [11].

Table 2: Outer loadings

ITEM	BETA	SE	T VALUE	P VALUE	FINDINGS
CK1 <- CK	-0.364	0.178	2.039	0.042	Supported
CK2 <- CK	0.344	0.188	1.826	0.068	Unsupported
CK3 <- CK	0.894	0.133	6.733	0.000	Supported
CK4 <- CK	-0.004	0.199	0.019	0.985	Unsupported
CK5 <- CK	0.391	0.186	2.098	0.036	Supported
DT1 <- DT	0.776	0.053	14.672	0.000	Supported
DT2 <- DT	0.764	0.056	13.583	0.000	Supported
DT3 <- DT	0.867	0.030	29.156	0.000	Supported

NB1 <- NB	0.697	0.065	10.730	0.000	Supported
NB2 <- NB	0.746	0.050	14.903	0.000	Supported
NB3 <- NB	0.531	0.109	4.864	0.000	Supported
NB4 <- NB	0.782	0.039	20.187	0.000	Supported
NT1 <- NT	0.672	0.061	10.939	0.000	Supported
NT2 <- NT	0.707	0.047	14.888	0.000	Supported
NT3 <- NT	0.720	0.052	13.937	0.000	Supported
NT4 <- NT	0.677	0.061	11.060	0.000	Supported
YD1 <- YD	0.769	0.049	15.549	0.000	Supported
YD2 <- YD	0.808	0.037	21.867	0.000	Supported
YD3 <- YD	0.763	0.050	15.351	0.000	Supported

In this reflective model, convergent validity is tested through composite reliability or Cronbach's alpha. Composite reliability is the measure of reliability since Cronbach's alpha sometimes underestimates the scale reliability [11]. [Table 3] shows that composite reliability varies from 0.786 to 0.845 which is above the preferred value of 0.5. This proves that the model is internally consistent. To check whether the indicators for variables display convergent validity.

Cronbach's alpha is used. From [Table 3], it can be observed that all the factors are reliable (Cronbach's alpha > 0.60 and Pvc > 0.5). CK has Cronbach's alpha < 0.60 and Pvc and Pc < 0.5, NB and NT have Pvc < 0.5 however they will be supported and analyzed next steps.

Table 3: Cronbach's alpha, composite reliability (Pc) and AVE values (Pvc)

Factor	Cronbach's Alpha	Average Variance Extracted (Pvc)	Composite Reliability (Pc)	P VALUE	FINDINGS
CK	0.209	0.240	0.295	0.000	Supported
DT	0.743	0.646	0.845	0.000	Supported
NB	0.651	0.484	0.786	0.000	Supported
NT	0.646	0.482	0.788	0.000	Supported
YD	0.679	0.608	0.823	0.000	Supported

$$P_{VC} = \frac{\sum_{i=1}^{p} \gamma_i^2}{\sum_{i=1}^{p} \gamma_i^2 + \sum_{i=1}^{p} (1-\gamma_i^2)}; P_C = \frac{(\sum_{i=1}^{p} \gamma_i)^2}{(\sum_{i=1}^{p} \gamma_i)^2 + \sum_{i=1}^{p} (1-\gamma_i^2)} \quad \alpha = \frac{k}{k-1}\left[1 - \frac{\sum \sigma^2(x_i)}{\sigma_x^2}\right]$$

Structural equation modeling (PLS-SEM)

PLS-SEM results in [Fig. 2] showed that the model is compatible with data research. The Behavioral Intention (YD) is affected by some factors about 33.7%. The seven hypotheses are supported because their p-value is lower than 0.05 as [Table 4].

Table 4: Structural Equation Modeling (SEM)

Hypothesis	Beta	SE	T Value	*p* Value	Findings
CK -> YD	0.218	0.086	2.523	0.012	Supported
DT -> NB	-0.056	0.073	0.769	0.442	Unsupported
DT -> NT	0.375	0.067	5.628	0.000	Supported
NB -> CK	0.246	0.098	2.515	0.012	Supported
NB -> YD	0.166	0.081	2.059	0.040	Supported
NT -> CK	0.274	0.098	2.806	0.005	Supported
NT -> NB	0.520	0.072	7.243	0.000	Supported
NT -> YD	0.344	0.085	4.045	0.000	Supported

Beta (r): SE = SQRT (1-r2)/ (n-2); CR= (1-r)/SE; P-value =TDIST (CR, n-2, 2).

The results in [Table 4] indicated H2 unsupported because of p-value > 0.05. Hypotheses H1, H3, H4, H5, H6, H7, and H8 were supported because of p-value < 0.05.

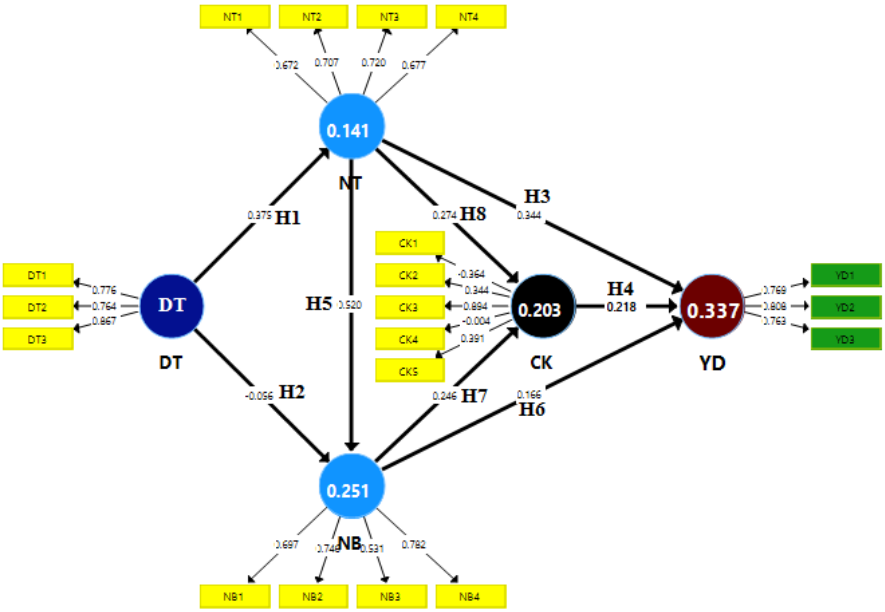

Fig. 2: Structural Equation Modeling(PLS-SEM)

PLS-SEM results showed that the model is compatible with data research: SRMR has p-value ≤ 0.001 (<0.05) [11]. In bootstrapping, re-sampling methods are used to compute the significance of PLS coefficients. The output of significance levels can be retrieved from the bootstrapping option. PLS-SEM shows the results of hypotheses testing; all the t values above 1.96 are significant at the 0.05 level [11].

CONCLUSION

Research results show that this is a series of links from Brand Reputation (DT) to Student Trust (NT), Student Identity (NB), Student Commitment and ending at the Behavioral Intention (YD) of students for enrolling courses. Specifically, the university should promote the following factors:

Brand Reputation (DT) is positively associated with student trust (H1). The components that make up the brand reputation factor are (1) the university 's brand is highly appreciated, (2) the university's brand is well established and (3) the university's brand is trusted.

Student Trust (NT) is influenced by Brand Reputation (H1) and affects on three factors: Student Identity (NB), Student Commitment (CK), Behavioral Intention (YD: H3, H5, and H8). The components that make up a student's belief factor are (1) trusting that the university has a good reputation, (2) feeling that the university has a good, trustworthy reputation, (3) feeling that the university has a good and transparent reputation, and (4) a good school reputation positively responds to students.

Student Identity (NB) is influenced by Student Trust (NT, H5) and positively correlated with Student Commitment (CK) and Behavioral intention (H6, H7). The components that make up the Student identity (NB) are (1) feeling the success of a university brand is their own success, (2) taking care of what others think of the university's brand, (3) feeling ashamed to hear a story criticizing its brand in the media, (4) if someone praised the brand, the student felt it was a compliment to himself.

Student Commitment (CK) is influenced by Student Identity (NB, H7), Student Trust (NT, H8) and impact on Behavioral Intention (YD, H4). The components that make up the student commitment factor are (1) feeling confident sticking to a university with a good reputation, (2) it will be very difficult for students to leave a university with a good reputation, even if the student wants (this factor has been eliminated due to inadequate reliability), (3) a university with a good reputation deserves student loyalty, (4) it will be a pity for the student if leave a university with a good reputation (this factor has been removed due to insufficient reliability) and (5) students continue their journey with a university with a good reputation because students are responsible for the university.

Finally, Behavioral Intention (YD) is influenced by Student Trust (H3), Student Commitment (H4) and Student Identity (H6), factors that influence Behavioral Intention of student is (1) gaining the majority of

university brand-related products/services, (2) prioritizing the option to use the product/service, (3) will be cooperate with the university for several years next.

The limitation of the research is H2 unaccepted hypothesis. We will complete it in next research. Future research could explore factors associated with educational quality in this model.

CONFLICT OF INTEREST

The author declares that there are no conflicts of interest regarding the publication of this paper.

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FINANCIAL DISCLOSURE

None

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ARTICLE

CONTRADICTIONS OF THE USE OF ELECTRONIC EDUCATIONAL RESOURCES IN HIGHER EDUCATION

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ABSTRACT

The article presents the main implementation aspects of electronic educational resources in higher education. Are the main advantages of e-learning courses which include: interactivity, a variety of formats for information, self-study activation, learning in real time, ease of access the resource and, finally, the ability to build individual educational trajectory. It is emphasized that an independent analysis of the information, search engines and software skills, remote execution of tasks make learning adequate to the modern requirements. The article notes that, ideally, the most important achievement of e-learning might be the formation of a new paradigm of education based on independent creative research; might be fostering a new generation of purposeful and persevering professionals adapted to the modern information community. However, the study revealed a contradiction between the real results and the ideal conception. E-learning experience in higher education has shown that the electronic designs are not a panacea. The problem of enhancing the own creative search and development of new competencies and professional growth remains open. Some students perceive an electronic course as the extra aggravating element in the educational process. But new technologies offer opportunities for misappropriation of information products, of plagiarism and cheating. As a result, e-learning becomes a brake on student development. It is concluded that e-learning, despite its advantages, currently has a number of shortcomings and still cannot talk about quality education. The output at this stage of development is seen in the combination of digital technologies with traditional learning, personal contact between teacher and student, real communication and help in the formation and development of the student.

KEY WORDS
electronic educational resources, e-learning resources, e-course, open electronic resources, OER, e-education, e-learning.

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INTRODUCTION

The relevance of research: Modern development of education is impossible without wide use of Internet networking. Electronic educational resource is a new technology and learning method in modern conditions. This is one tool that significantly increases the interest and motivation of students and quality of education. It is proved that using the e-course improves academic performance and satisfaction of students [1].

Electronic Educational Resource (EER) is an educational resource presented in digital form on the website of the educational institution. It gives the opportunity of distance learning, provides communication and exchange of information, reduces methodical work, and, ultimately, contributes to better learning. Online resource generates new competences necessary for a specialist in the modern information space.

E-learning resources sometimes identified with open educational resources (OER) – educational contents used in the public domain. In order to avoid confusion, in this article EER is an author's development of the teacher (or teachers) created specifically for auditorium, distance (or combined) training in higher educational.

The degree of knowledge of the problem: Various aspects of the use of electronic digital learning tools and readiness of students and teachers for their use were considered in the works of Russian scientists and teachers. These professionals made a great contribution to the study of e-learning implementation problems in Universities. However, it is still soon to talk about the need for a universal transition to e-learning. Teaching experience using e-learning resources has reflected a number of negative consequences of such training. The subject of research includes problems of introduction and implementation of e-learning in higher education.

The purpose of research: based on the generalization of pedagogical experience of using electronic educational resources in higher education, to reveal the contradictory nature of e-learning and to identify ways to minimize its negative impacts.

MATERIALS AND METHODS

The research methods used are: analysis, synthesis, comparison, observation, survey. Theoretical, methodological and practical basis of the study was the work of leading Russian and foreign scientists in the field of e-learning and extensive practical teaching experience in Universities, including by means of electronic educational resources. The paper used materials of specialized publications, scientific and statistical studies, regulations for the creation and implementation of electronic educational resources.

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RESULTS AND DISCUSSION

The role of the EER in the modern educational process

At this time, the education system is going through a real revolution. With the advent of banks of ready essays, term papers and examinations, the need to do something on their own eliminated. In most cases the "job" of a student is to search for finished course of the project, and, at best, to edit it a little. Testing preparation also was transformed from a conscientious study and analysis of sources in persistent search the answers online.

As a result, the current quality of specialists training does not meet modern requirements; graduates do not have professional competences based on creative, multi-level analysis and design. The level of motivation for independent professional activity is present only in a small number of students.

One of the solutions to urgent problems can become widespread introduction of electronic educational resources, which should affect the learning quality and necessary skills developing. This conclusion was influenced by the following circumstances.

The formation of a mature personality is dependent on the conditions in which it exists. It is necessary to immerse a person in an environment in which knowledge must be obtained independently [2]. The conditions of modern educational space and the development of electronic educational resources highly contribute to these motives. New opportunities made life and learning more interesting and exciting. Innovations and acceleration the pace of life increase the desire of students to develop and educate themselves and, in General, contribute to the growth of vocational training.

Federal state standard of higher professional education pays great attention to e-learning. A modern informational environment implies a high level of information culture graduates. Information culture is a complex of knowledge, skills and reflective attitudes in interaction with the information environment. Some authors consider the formation of information culture the main advantage of electronic educational resources [3].

However, the introduction of the EER still does not change the fundamental principle of our education system. The key value of education must be improvement and personal development based on self-learning, communication skills and information literacy [3]. The implementation of this goal is one of the main functions of modern education.

Problems of implementation and using of e-learning resources in higher education

The electronic educational resource is only a learning tool; its use should not become an end in itself. The widespread and system-less use of the EER entails: information overload; a decrease in the perception and assimilation; the additional cognitive load [4, 5].

The other sides of the problem are: technical aspects; access problems; copyright problems; information competence of teachers, etc. [6-9].

Next, a new product must necessarily correspond with the educational standards of the University, to be integrated into the overall concept, enhance his prestige. E-course should focus on a specific professional activity based on the needs of the labour market and the scientific community.

Generally, training and evaluation with machines usually are focused on the transmission and control of learning, although the primary purpose of education should be qualification. Inherent in the process of learning the ways of development and information management should ensure that future specialist support in solving any production, economic and social problems. Consequently, the e-learning should be part of the common system of achieving personal goals of the individual.

The change in the positions of teacher and student in the process of using the e-learning course

The most important achievement of EER is the changing roles of the teacher and the learner. The emphasis here is on the organization of active cognitive activity of the learners.

So, the teacher becomes not only a source of knowledge. He allows to use the opportunities that would be unavailable in a conventional classroom. Specificity of activity of the teacher in the new environment acquires two important characteristics: 1) the teacher is no longer the only source of information [10]; 2) the teacher only helps to organize the search and selection, analysis and interpretation of information in accordance with specified criteria; he becomes a mediator between the student and the source of information.

In General, the use of EER in the educational process involves rethinking the role of the teacher, who becomes more a facilitator of learning than a direct source of knowledge.

The role of the student in the process of e-course implementation is also changed: 1) the student is no longer a passive participant of the learning process; 2) he determines the purpose and learning objectives, procedure, learning, pace and time of assignments, required material, etc. [10].

Eventually the student becomes an active participant in designing his individual trajectory of development of educational material [11] and, as a consequence, his individual educational route.

Comparing the benefits and problems of using e-learning resources in the modern educational process, as well as defining the new role of the teacher and the students, we can draw the following conclusions.

Ideally, the final product of the new learning platform should be a new generation of professionals, purposeful and persistent, adapted to the modern information society. Having additional innovative qualities, unlike traditional learning, electronic format greatly increases the creative and independent components of the educational activity of the student. Electronic resources favor the development of information competencies, and, ultimately, contribute to improving the information culture and the professional competitiveness of graduates in the labor market.

However, the practice shows divergence of actual results with the ideal conception. Thus, the problem of enhancing the own creative search and development of new competences and professional growth of students whose desire to learn was low in a traditional course, remains open [12, 13]. Some students refer to the EER as a redundant burdening in training process, the part of them still does not have technical possibility to use the electronic resource; some say too much complexity and congestion of the information.

Another negative manifestation of the modern education system is the persistent belief that any job can be downloaded and/or bought with money. It seems that the electronic resource is pushing students to these illegal activities. Most of tasks can be done by copy-paste. And the falsification on the commercial specialties, directions and profiles of education has become the norm now. Such graduates are weak specialists, despite the high assessments in the diplomas. Often they are not able to solve the basic production and economic tasks, while having the diploma with honors. Also plagiarism is firmly entrenched in the education system and became a natural part of the learning process. There are virtually no serious disciplinary actions for plagiarism and fraudulent attempts to circumvent it.

As a result, the Internet technology instead of developing new educational paradigm becomes the factor braking development of the student.

CONCLUSIONS

1. Thus, in conditions of global information society e-learning resources become an integral part of the learning process. E-learning has intrinsic advantages over traditional training. It saves time, reduces methodical work, facilitates interactive training, enhances the importance of independent work. E-course increases motivation, without which the development is not possible. It forms a new generation of specialists, has an active influence on the information space. Electronic educational resource is a modern and accessible way of learning and communication. This is an indicator of progressiveness and prestige of the University, the need for the formation and development of information society.
2. The implementation of electronic educational resource in the educational activities of the University fraught with difficulties: technical conditions; psychological overload; lack of qualified teaching personnel; copyright; coordination of resource with educational standards of the University, etc.
3. Using the e-resource changes the role of the teacher and students. It shifts the focus from presenting material to the interaction. In addition, the teacher becomes more a facilitator of independent student learning than the source of knowledge; the student ceases to be a passive participant of the learning process, he forms one's own educational trajectory.
4. However, despite the many advantages of EER over traditional learning, the main problem of modern education is not removed: the development of own creative potential of students with weak motivation to study. The use of the EER (for these students) only created opportunities for cheating and forgery. The exams, coursework, tests in electronic form leave a wide scope for fraud. The result of such training – the destruction of personality, improper formation of moral and values, low quality of graduates' knowledge.
5. To reduce the negative impact of e-learning to the quality of education it should combine remote technologies with personal contact of the teacher and the student. The electronic educational resource should be used as an additional form of combined training. Then the goal of the teacher will become a harmonious combination of material supplied in electronic and traditional form. If combination is impossible, the regular material update and constant feedback will help. Consequently, the effectiveness of the e-learning and the improvement of graduates' preparation quality depend on the teacher's competence in the field of information technology.
6. Thus, e-learning, despite its advantages, currently has a number of shortcomings and still does not allow talk about quality education. The output at this stage is seen in the combination of digital technologies with traditional learning and the personal contact of the teacher and the

student. Real communication can help in the formation and development of the student. A combination of traditional and e-learning is the path to the formation of a holistic educational trajectory of student development.

CONFLICT OF INTEREST

There is no conflict of interest.

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ARTICLE

DIALOGUE TECHNOLOGY AS A WAY TO DEVELOP SCHOOL STUDENTS' DIALOGICAL THINKING AND BEHAVIOR DEVELOPMENT

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ABSTRACT

The relevance of the problem raised in the article is caused by the need for complex study of Dialogue theory and practice, and for the development of effective tools of literature training in the aspect of dialogue technology based on communicative-activity approaches. The article is aimed at a deeper comprehension of the issues, Dialogue's activity-integrative nature in a broad educational context, elaborating the technological resources of Dialogue, displaying the developing potential of different dialogue technology aspects and means of their realization during school students' literary education. The main method of the research is modeling, enabling a comprehensive display of dialogue technology at the levels of education content, literature classes' organization, methods, strategies and training techniques, and analysis and interpretation of literary texts. The authors feel that there is evidence to suggest that the dialogue-based training model can be interpreted as the process of the focused development of a modern school student's dialogical thinking and dialogical behavior. The article proves that the system of dialogue technology used in the course of literature training develops school students' contemporary, relevant ability to hear, understand and accept other points of view, opinions, and positions. The practical significance of the article is the development of system-integrated tools of dialogue technology based on concrete methodical recommendations for language and literature teachers, and undergraduate and graduate students in philological and pedagogical majors.

KEY WORDS
dialogue technology, dialogue lesson, dialogical situation, dialogical approach, strategy, analysis, interpretation.

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INTRODUCTION

The width and deep complexity of a concept like dialogue set numerous vectors of research identification. Dialogue today is a subject of various academic fields' consideration – philosophy, cultural studies, linguistics, literary criticisms, literature teaching methods, psychology and pedagogics [1-5].

According to M.M. Bakhtin, "to be means to communicate dialogically. When dialogue comes to an end, everything comes to an end. ... Two voices are a minimum for life minimum, a minimum for existence" [6]. The dialogical relations of people are not just one manifestation in their lives, but a phenomenon penetrating all of human speech, thinking, consciousness, all relations and manifestations of human life. According to Bakhtin, dialogue is life's essence. It is impossible to ignore Bakhtin's statement that dialogue is the active semantic interaction of different speech subjects. A sense is updated only in encounter with another sense, a sense exists only as a relation, and any idea is born and formed in the course of dialogue with other ideas.

In accordance with the concept of the philosopher V.S. Bibler, the problem of dialogue is primarily the problem of intercultural dialogue: "... culture is a form of simultaneous existence and communication of people of different - past, present and future cultures, it is a form of dialogue and the mutual generation of cultures..." [7]. "In this dialogue each participant can not only understand their interlocutor as another culture representative, but also can better see oneself as a native culture representative" [8].

Considering that modern-day literary education aims at the formation of the dialogical identity of a school student - a reader, able to hear and understand other voices, ready to participate in a dialogue of times, epochs and cultures, to accept other points of view and positions. It is possible to formulate the issues of dialogical literary education: the development of literature comprehension as a special way of absorbing reality and reflecting the "dialogical" existence of a person; the formation of value-conceptual relations to life and art, dialogical behavior that helps raise questions and search for adequate answers to them; the consideration of the existence of multiple opinions, views and judgments.

The system-activity oriented approach in contemporary education develops its technological components and demands the application of different educational technologies. As dialogue is a universal way of communication and training both in the substantial and procedural aspects, and organically responds to the targets, objectives and values of literary education, "dialogue technology," based on the communicative-activity approach, from our point of view, corresponds most naturally to the subject of "Literature". The methodological ideas, which constitute the theoretical framework of the technology, are the justification for this statement: M. Bakhtin's ideas of "culture as dialogue"; V. Bibler's suggested "philosophical logic of culture" [7]; M. Kagan's ideas of social communication; Yu. Borev's ideas of esthetic communication; Yu. Lotman's and D. Likhachev's ideas of the dialogue of cultures. A considerable share of the conceptual solutions to dialogue issues, which require the most versatile and complex uses, has emerged in literature teaching's methodology [7].

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MATERIALS AND METHODS

The following methods were used in the course of the research: theoretical (analysis, synthesis, specification, generalization); empirical (studying of methodological experience); experimental (modeling of technology).

RESULTS

At the level of designing educational content, dialogue can be realized through the modeling of literary education content. Instead of the existing chronological models we offer an issue-based dialogical model, according to which the entire literary material is structured in a communicative space of a dialogue of values and concepts: Good and Evil; True and False, etc.

The reported concepts are included in a conversation, collision, conflict, dialogue. In this case the content of the literature course is built on a dialogue of meanings, valuable concepts, aesthetic and cultural phenomena.

The dialogical and problem principle of content modeling dictates the realization of dialogical forms of education at the level of lesson planning. There are different types of dialogue-based lessons which have their specific technique of delivery, their specific structure. The dialogical space of a lesson is understood as an environment appropriately organized, in terms of pedagogy, by a set of dialogical situations, dialogical methods, strategies and training techniques.

What is important in such lessons is creating communicative educational situations, generating dialogue: round table, brainstorming, problematization, search, competition, consent and disagreement, empathy, difficulty, discussion, forecasting, exchange of views, identification, reflexive bridge, etc. The choice of this or that situation is caused by the dialogue-based lesson type.

The most traditional is the educational dialogue, which is based on the educational and informative, cogitative activity of a teacher, a pupil, an author of the work, and the text, and it includes hermeneutical situations connected with understanding and comprehending the text.

There are experiences of delivering a polylogue-based lesson or a functional, role-based dialogue, in which round-table situations, a dialogue of arts, a discussion and debate of problems, or game-related situations are arranged. Empathic dialogue is appealing in terms of its form [10], its methodic core is spiritual communication, and its material is the comprehension of the key universal and national conceptual values and dominant cultural symbols in the material of a literary work, which is important for the formation of students' outlooks and the enrichment of their moral worlds. In the course of such lessons, the first skills of ethical reflection are formed and ethical knowledge is accumulated. Situations, which motivate ethical reflection, the setting of moral tasks, reflections on moral concepts and values, empathic understanding, the stimulation of school students' empathetic reactions, support, etc., are applicable to this kind of lesson. These lessons enable co-understanding, co-contact, co-empathy, co-sympathy in the empathic dialogue's participants. Existential dialogue is more complex in its form and structure. The purpose of existential dialogue is the development of the ability to look inward, to understand oneself, the outside world, and one's place in the world by means of a literary text. Existential dialogue is focused on assisting a senior student with the comprehension of an inner world and their responsibility to the world. The objective of such a dialogue is to bring a reader's personality to those positions where it can independently define its targets and can find a clear, unique idea of life. The implementation technique of existential dialogue in a lesson consists of the consecutive creation of the following situations: concept comprehension; distancing from a concept; reference to authorities; experience and understanding in another context; transfer to the author; exteriorization (transfer to the world); interiorization (transfer to oneself). The arrangement of dialogue situations in a lesson forms school students' dialogue behavioral skill, based on the principles of mutual understanding, adequate interaction and tolerance.

The technology of creating communicative situations is provided by the implementation of dialogue strategies and training techniques, which can be applied at different stages of a lesson.
Thus, for instance, the initial stage of a dialogue-based lesson is provided by the strategies and methods of brainstorming, questioning, raising issues-offering solutions, title portraiture, an installation on the creation of a problem situation, the staging of an informative task, etc. Possible collective strategies and methods include paused reading, working in groups and pairs, solving problem situations, imaginary dialogues, dialogues involving other art types, imitative dialogues (critics, readers, writers), etc.

The efficiency of the organization of dialogue-based lessons serves as a justification for implementing dialogue technology during both the analysis and interpretation of a literary text. The naturalness of the dialogical approach to studying a literary work is caused by the connection between dialogical thinking and textual comprehension.

M.M. Bakhtin allocates three stages to a dialogical movement of comprehension. At the first stage, the starting point is the text. The content of the second stage makes a movement backwards, that is, studying this work in reference to past contexts. The third stage is characterized by forward movement, aspiring to "future context anticipation" [9].

Updating the different types of dialogue existing in the literary text itself we fill the analysis with dialogical contents:

- a dialogue of cross-cutting areas, issues, motives, images, topoi;
- a dialogue of cultural meanings, cultural and artistic phenomena;
- a dialogue of personalities;
- a situational dialogue of voices and heroes' lines, existing in a specific speech situation;
- the inner dialogue of a hero – a dialogue with the inner self - a reflection.

Presented in this way, a process of organizing comprehension enables a language and literature teacher to define a strategy for school students' analytical and interpretative dialogical activity, directed to comprehend the artistic conception of the work as if in dialogue with a text. In fact, the basis for this process is the logic of developing dialogical thinking in a literature lesson and the logic of dialogue expansion, the allocated phases of which fix hermeneutical points of its course and are stages of a reader's self-actualization.

DISCUSSION

Based on the ideas of the developed dialogue technology, it is possible to track its embodiment in particular examples. For instance, it is possible to use empathic dialogue technique in middle school and existential dialogue in high school literature lessons. An analysis of the story "Yushka" by A. Platonov can be regarded as a model of empathic dialogue [11].

We begin work by selecting spiritual and moral concepts that are necessary to discuss in connection to the text. We isolate three key spiritual and moral concepts dominant in the text: gentleness, love, mercy. The word "gentle" is intentionally italicized by the author and is also supported by a number of words: "blissful", "silence", "silence". "Gentle" is one of the central concepts of Russian culture, having an extensive semantic field. By building an associative series we induce school students to ethical reflection, we find out what other concepts school students connect it with. Reference should be made to Dahl's dictionary which provides eight definitions for the word, and we choose only those definitions matching the main character: patient, humble, loving.

The sense of these words will be gradually revealed in situations of "falling into the hero's feelings", "falling into the image". The key image of the story is the image of the "blind heart". By means of the "metaphorization" technique we come to understand that the "blind heart" is a heart without love. This obviously involves an antithesis: Yushka's physical blindness and the moral blindness of people. Yushka is optically challenged, but has moral vision: thus, he is spiritually strong. That is where the motifs of the blissful, holy fools, Christ, and sacrificial love stem from. By means of emotional-figurative and culturological commentary, we actualize school students' empathic reactions, we bring them into a situation of empathic reflection, pupils learn that the Russian blissful saw the world in a different light. Suffering physically, they discovered the highest meanings of life. This motif is supported by literary details: stones, blood. The title of the story "Yushka" also means "blood" (to bleed / to make one bleed). The inner thought of Platonov – the connection with Christ's story - echoes in the title: Christ appeared to the world to redeem human anger.

It is the voluntary service of love. We update the empathic reactions of school students by paying attention to a touching image in the story - the image of "endless tears", Yushka's tear-stained eyes. Tears are pain, suffering and compassion for people, for the world. By means of problematization we will isolate the opposition "alive-dead". Yushka is alive, and a dead world surrounds him. The meaning of life for Yushka consists of mercy and love. He loved, which is the most necessary work from the author's point of view.

Existential dialogue in high school is an interface of different cultures, consciousness's, and worlds in their interference and interaction, hidden at a superficial glance. It is the students' appeal to themselves organized by the teacher in the course of reading a literary work, to the acquisition of the human essence through analysis of a dialogical semantic text. For the task set by the teacher to be able to generate existential dialogue, it should appear as his point of view, a mature personal position which explodes the habitual image of a student's reflection, encouraging children to reflect.

We show how existential dialogue is arranged within the lesson space by the example of studying the story "The End of the Century" by Oleg Pavlov, which is penetrated by the writer's existential attitude. Drawing the readers' attention to "chasms of the coming century and a human soul", Pavlov raises the main existential issue of the human soul's death through "the world's dehydration".

Dialogue at a lesson will begin with an appeal to school students' personal life experience (Have you ever experienced the desire to do something extraordinary, memorable for someone? Do you often have to assist relatives and acquaintances? Have you ever assisted strangers?); it will be updated on the basis of arranged binary oppositions in the story (holiday - funeral, holiday – desolate calm, time stopped forever – suffocating, stinking emptiness, boy – old man, life – death); it will be developed around a discussion of existential concepts (the meaning of life, purpose, the tragic element of existence, soul); it will be supported by a discussion of famous philosophers' ideas of life, death and immortality. Raising

philosophical questions (What am I? and What should I do?), which have no definite correct answer, contributes to the development of the dialogical thinking of senior students, inducing their cognitive activity to activation and strengthening their personal reflection [11].

The theoretical analysis and methodical experience indicate that dialogue can be considered the dominant education form, corresponding communicative essence of a literary work, and the semantic analysis and interpretation technique, and the main hermeneutical condition of a reader's understanding development, and means of dialogical thinking and behavior formation.

In fact, dialogue technology in integrated application can develop all key competences of students. This conclusion is proved by numerous functions implemented by dialogue.

CONCLUSIONS

The review of the literature and educational practice enable to draw the conclusion that dialogue technology aims at dialogical thinking formation exempted from stereotypes and explicit estimates, and dialogical behavior focused on mutual understanding and interaction can be achieved only in system complex technology application in educational process. The possibility of implementation of dialogue technology at all levels of training makes it truly universal in the course of teaching literature and in education in general.

CONFLICT OF INTEREST

There is no conflict of interest.

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ARTICLE

UNIVERSITY STUDENTS' PERCEPTIONS AND AWARENESS OF TAX

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ABSTRACT

Background: *Governments have a duty to work for the public interest and to increase the welfare of citizens by providing governmental services as well as executive, legislative and judicial services. Therefore, to generate capital for these services, collections of tax from individual citizens and businesses is a necessity. Taxpayers' compliance to a tax system depends on their tax awareness and tax perceptions. This study aims to evaluate the tax awareness and perceptions of university students who are potential future taxpayers.* ***Methods:*** *Questionnaire method is adopted to gather data from students. The data have been analyzed using descriptive statistics, and regression analysis.* ***Results:*** *Findings indicate that students 'level of perception and awareness of tax is only at a moderate level. Further, there is a strong association between tax awareness and perceptions.* ***Conclusions:*** *Tax awareness should be raised in order to develop strong tax perceptions amongst the students.*

KEY WORDS
Tax, Tax Awareness, Tax Perceptions, Tax Compliance, Students

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INTRODUCTION

The world is shrinking more than ever due to new scientific and technological developments that have expanded the boundaries of human knowledge, leading to economic developments, transportation, communication and space research [17] However, it can also use new technologies in taxation systems. Taxation is a major source of government revenue. The principal objective of taxation is to raise revenue towards the financing of public goods and services, and funding of governments [1,2]. The government can advance legal and ethical policy and procedures. Achieving high levels of voluntary tax compliance and/or maintaining current compliance rates are issues of concern to fiscal policymakers in all countries. Increased tax compliance among individual taxpayers helps to reduce the budget deficit without raising taxes [3]. Taxpayers' attitudes towards tax payment are seen as a major precondition for effective revenue mobilization in all countries [4]. It is possible to increase voluntary compliance by creating a tax conscious society. Tax knowledge is an essential element in a voluntary compliance tax system [5]. In turn, an individual's tax compliance depends on their tax perceptions and awareness [6]. If a taxpayer's education level is high, it can be said that the taxpayer may have better tax awareness [7]. Therefore, an important factor in the creation of tax awareness is through taxation related educational activities and practices. However, it is important to acquire tax awareness at a young age [7]. It is mentioned that tax consciousness should be engrained in children at the primary school level [8]. Therefore, it seems inevitable to investigate tax awareness and perceptions amongst individuals at a younger age.

This study aims to analyze the tax perceptions and tax awareness levels of the students of the Faculty of Economics and Administrative Sciences at a private university in North Cyprus. The study will enrich the existing literature on tax perceptions and tax awareness amongst university students.

Taxes and fiscal balance affect a country's economic stability and contribute to a more equal, more transparent and better-adapted system [4, 18]. Improvement in taxation is inevitable in countries which achieve this level of culture. Tax is the primary source of finance for countries to meet the needs of the public. Tax is a type of payment that that is made under legal constraint, therefore economical, societal, psychological and cultural factors affect individuals' perceptions of it [6]. Empirical support has been provided which is related to the possession of tax knowledge leading to higher compliance rates [5]. The lack of tax knowledge leads to unintentional non-compliance behaviors [9]. Tax perception refers to the attitudes of individuals about the jurisdiction and tax rising from insider and outsider factors affecting the individuals' conscious minds [6]. The factors which affect the tax perceptions, tax awareness and any attitude towards tax can be classified as: level of income, tax rates, social and demographic factors, penalties, inspections, moral and ethical factors, complexity of tax systems, effect of tax consultants and tax exemptions [6,10].

It is crucial to obtain an understanding of the importance of tax for a community to develop tax awareness [11, 19]. In societies where tax awareness is high; a higher knowledge and transparency on the usage of tax revenue collected from the citizens would maintain sufficient conditions for taxpayers to fulfill their obligations [12].

MATERIALS AND METHODS

The aim of this study is to evaluate the students' tax awareness and perceptions. Therefore, the variables in this study consist of tax awareness and tax perceptions. In light of the literature review, the following research questions are developed for this study:

- What is the level of tax awareness of students?
- What is the level of tax perceptions of students?

- Is there a relationship between tax awareness and tax perceptions?

Cumhur and Tezer (2019) applied a similar approach in their research [16]. The data has been collected by administering questionnaires. The questionnaire aims to evaluate the perceptions and consciousness of individuals about tax [6]. The questionnaire consists of three sections. The first section involves the demographic information about the students. The second section involves Likert-scale questions where the choices consist of (1) strongly disagree, (2) disagree, (3) neither, (4) agree, (5) strongly agree. This section aims to measure tax awareness of students with 18 questions. The third section involves 11 likert-scale questions to measure tax perceptions of students. The awareness statements include statements such as 'As education level increases tax awareness increases' and 'As governments provide quality services tax awareness increases". Tax perception statements include statements such as 'Paying taxes maintain public welfare' and 'Tax rates are high in our country'.

This study is conducted amongst the Near East University undergraduate students studying at the Faculty of Economics and Administrative Sciences. The sample consists of both Turkish and international students who have studied tax accounting at the university. 82 candidates who attend accounting classes responded to the questionnaire. To gather statistical data about students' perceptions, quantitative methods should be employed [13]. Quantitative analysis is employed by the ease of a questionnaire. Thus, questionnaires have been distributed to the undergraduate students following approval from the ethics committee of the Near East University.

The collected data has been analyzed by the use of statistical software called IBM SPSS 20. Data analysis was carried out following a three-step procedure. First, the reliability test was conducted by measuring the Cronbach's Alpha coefficient. Second, descriptive statistics were used to identify the demographics of respondents and to test their overall perceptions. Third, regression analysis was used to find the relationship between tax awareness and tax perceptions.

RESULTS

The reliability of the gathered data was be tested by Cronbach's Alpha test [14]. The suggested level of Cronbach's alpha is 0.7 and the data set need to achieve at least this level of reliability to be an acceptable study [15]. The 29-item questionnaire has a Cronbach's Alpha coefficient of 0.860 which is higher than the level suggested by Hair et al. (2006). The Cronach's Alpha for tax awareness scale is 0.831 and the tax perceptions scale is 0.703. The scales also yield acceptable results when the reliability analysis is conducted separately.

Approximately 52.8% of the students were males and 47.2% were females. It is observed that a majority of the students were aged between 21-23 (51.9%) and 24-26 (21.7%). Moreover, majority of the students were aged between 21-23 (51.9%) and 24-26 (21.7%). Approximately 67.9% of the students were Turkish and 31.1% were international students.

Descriptive statistics of the responses given to the statements about tax awareness are presented in [Table 1]. All of the statements about tax awareness have a mean score above 3. The highest mean score is observed with the statement 14 (3.98) (which is 'invoices should be collected when doing shopping'; statement 15 (4.01) which is 'invoices should be requested when doing shopping'; and statement 9 (3.91) which is 'announcing tax expenditures will raise tax awareness'. The lowest mean score is observed with statement 12 which is 'tax exemptions will reduce tax awareness'.

Table 1: Descriptive statistics for tax awareness

Item	Minimum	Maximum	Mean	Std. Deviation
Awareness1	1	5	3.54	1.11
Awareness2	1	5	3.46	1.10
Awareness3	1	5	3.63	1.16
Awareness4	1	5	3.51	1.13
Awareness5	1	5	3.23	1.19
Awareness6	1	5	3.23	1.15
Awareness7	1	5	3.41	1.05
Awareness8	1	5	3.67	1.19
Awareness9	1	5	3.91	1.07
Awareness10	1	5	3.75	1.08
Awareness11	1	5	3.35	1.20
Awareness12	1	5	3.11	1.13
Awareness13	1	5	3.53	1.03
Awareness14	1	5	3.98	1.10
Awareness15	1	5	4.01	0.96
Awareness16	1	5	3.60	1.18
Awareness17	1	5	3.44	1.20
Awareness18	1	5	3.65	1.15

Descriptive statistics for tax perceptions are shown in [Table 2]. The highest mean value is observed with statements 6 (3.91) 'Tax evasion is unethical' and 7 (3.98) 'Tax payments are high in your country'. The lowest mean scores are observed with statements 2 (3.17) 'Tax is an ethical issue' and 4 (3.02) 'If tax is paid by all citizens, poverty will be reduced'.

Table 2: Descriptive statistics for tax perceptions

Item	Minimum	Maximum	Mean	Std. Deviation
Perception1	1	5	3.82	1.15
Perception2	1	5	3.17	1.16
Perception3	1	5	3.56	1.20
Perception4	1	5	3.02	1.28
Perception5	1	5	3.64	0.96
Perception6	1	5	3.91	0.91
Perception7	1	5	3.99	1.06
Perception8	1	5	3.91	1.07
Perception9	1	5	3.70	1.14
Perception10	1	5	3.45	1.14
Perception11	1	5	3.30	1.06

[Table 3] below presents the overall mean scores for tax awareness and tax perceptions. Overall, it can be said that mean scores were relatively low and students showed similar scores for awareness and perceptions.

Table 3: Descriptive statistics for overall awareness and perceptions

Item	Minimum	Maximum	Mean	Std. Deviation
Awareness	1	5	3.55	0.57
Perceptions	1	5	3.59	0.55

Regression analysis was conducted to test the relationship between tax awareness and tax perceptions. As shown in [Table 4] below, there is a significant association between tax awareness and tax perceptions of students. Furthermore, tax awareness explained 33% of variance in tax perceptions.

Table 4: Regression analysis results for tax awareness and perceptions

Item	Tax Perceptions
Constant	1.61
Tax Awareness	0.55
Significance	0.00(significant)
F-statistic	39.99
Significance	0.00(significant)
R	0.577
R^2	33%

DISCUSSION

The objective of this study was to identify university students' perceptions and awareness of taxation. The results of the study indicate that perceptions and awareness levels of students are only moderate even though they have studied accounting. This was surprising and indicates to the researchers that it is necessary to instill tax perception and awareness through other courses, such as a separate tax-related course, which should be compulsory for all students studying at the Faculty of Economics and Administrative Sciences.

Also, strengthening tax knowledge at an earlier age, maybe at the high school level, can be considered by local authorities and education ministry authorities in order to increase tax perception and awareness. It is important to acquire tax awareness at a young age [7]. Tax consciousness should be engrained in children at the primary school level [8]. Results also indicate that there is a strong relationship between tax awareness and tax perceptions. Therefore, it is inevitable for education institutions to help develop tax awareness among the students to create positive tax perceptions.

This study contributes to the literature by evaluating the tax perceptions and tax awareness in a sample with a diverse cultural and geographical background. This can help to generate an understanding of students' tax perceptions and tax awareness. In addition, the findings can help to raise the awareness of tax which can help the governments in many ways such as to increase the tax compliance of their citizens.

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CONCLUSION

In conclusion, this study contributes to the tax accounting and accounting education literature by providing unique insights about students who are potential taxpayers of the future. Students who are receiving education about tax show low levels of tax awareness and perceptions. Therefore, this study emphasizes the importance of tax education at an earlier level of education. Moreover, there is a strong association between tax awareness and perceptions. Therefore, it is critical to develop tax awareness. Practically, students should get higher levels of education about taxation to help them develop tax awareness and positive tax perceptions. The findings of the study are expected to provide a road-map for countries which are willing to develop tax awareness amongst their citizens. Therefore, favorable tax perceptions among the citizens are proven to be way of raising taw awareness. As a future research suggestion, this study can be conducted in a different country with different cultural background and geographical area. In addition, a higher sample size would help to generalize the findings for a wider community.

CONFLICT OF INTEREST
There is no conflict of interest.

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ARTICLE

ECONOMIC CONSEQUENCES OF CORRUPTION IN TRANSITION ECONOMIES

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ABSTRACT

Background: *Corruption is one of the perturbing issues that has manifested itself in almost every part of the globe. Its impact through direct and indirect means does not only affect a person but the entire population which can further extend to generations. Many scholars in light of its undesirable effect have undertaken studies to create awareness of the degree of the impact corruption is causing or can cause, both socially and economically. However, countries with transition economies have been vulnerable to corruption due to factors like privatization and restitution during the transition process. As such, Czech Republic, Hungary, Slovakia and Poland which are European countries with transition economies were studied with regards to the economic consequence of corruption.* ***Methods:*** *The goal of this paper is to assess whether the level of corruption differs significantly among the four countries and to ascertain the effect of corruption on economic growth of the selected countries. A quantitative research method was employed in the research design and the analyses of this paper. To achieve the first specific objective, that is, to assess whether the level of corruption differs significantly among the four countries, the Kruskal Wallis test was used. Also, to achieve the second specific objective, the data for the socio-economic variables were visualized using descriptive graphs and then correlation and multiple linear regression were used.* ***Results:*** *The analyses revealed that the level of corruption was significantly different among the countries for the selected period of years 2008-2017. The economic consequences were evident in the level of Foreign Direct Investment, Gross National Expenditure and GDP growth.* ***Conclusions:*** *As clearly highlighted in the analysis, corruption has a tremendous devastating effect on socio-economic fortunes of a countries. Arguably, it can reasonably be concluded that the level of developments of certain countries could have been much better if corruption was reduced.*

KEY WORDS
Corruption, transition economies, public officials, transmission channels, economic impact, private gain.

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INTRODUCTION

Corruption has become an ancient canker that continues to manifest in generations. According to Wells and Hymes, corruption is not a new phenomenon to human life as primary evolutions and civilizations show records of corrupt activities [26]. For example, Egwemi describes corruption in general context to have no regard for a particular race, ethnicity, creed or even geographical settings [10]. Corruption assessment and ratings have found all countries guilty, with under-developed and developing countries dominating. It does not suffice to consider corruption as a canker of only underdeveloped or developing countries. Corruption has become an uncompromised subject of nations and institutions since every country is prone to it. Globally, countries are in unanimous position that corruption to some extent is, and has been a constraint to their political, economic and social development for which optimum urgent attention is required. As such, there is almost no single country in the world where corruption is not discussed [34].

Economic transition has paved the way for several cases of corruption in countries and institutions. Instances of corruption were reported during the economic transition of China with consequences on their social and economic growth [31]. According to Hellman et al., the Soviet Union and its economic system collapsed with the revolutionary changes. This paved the way for new level of economic management [11]. The policy shift resulting from the economic transitions translated into a huge boost within many sectors and facets [13]. Nonetheless, the emergence of new dimensions of economic management also came with its problems due to improper channeling of resources [8]. Ideologies to describe the changes and further fix the challenges faced by the Soviet Union and Eastern European countries were lacking, as scientists were unprepared for the windfall and corruption was an inevitable problem. Transition economies are more vulnerable to corruption due to privatization, where state officials demand bribes and kickbacks from interested private agents for state-owned business [12]. Hence, the main aim of this paper is to analyze the economic consequences of corruption in selected transition economies in period 2008-2017.

Although, corruption as a term has negative connotation and implications yet some authors consider it as a necessary component under certain circumstances to yield significant positive economic effect. Lui argues that corruption can reduce the amount of time spent in queues during economic processes [17]. Leff also believes that corruption is able to enhance growth by allowing individuals to pay bribes in order to evade inefficient rules and bureaucratic delays that retards productivity [16]. This ensures resources are available at the appropriate place and time for smooth production processes. Leff further believes that governments generally become reluctant to actively support economic activity when focus on economic pursuits or innovation is missing [16]. Huntington also points out that if corruption is reduced without corresponding changes to eliminate inefficient rules, business activities and economic growth may slow down [14]. Moreover, corruption positively impacts economic growth where the existence of insufficient and ineffectiveness of institutions facilitate and nourishes the process. Efficiency in allocating resources is maintained as corrupt officials give contracts to the highest bidder in bribes [4]. Because payment of highest bribe is one of the major criteria for contract or resource allocation, the urge to collect revenue

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becomes prior under corruption. The above is empirical support of the positive impact corruption has on an economy.

However, more negative impacts have been highlighted by other authors. Shleifer and Vishny argue that empowering individuals with veto power over approval for projects will certainly increase corruption and slow economic growth [22]. To enlighten this point, Myrdal reports that irrelevant barriers will be created by corrupt officials to take more bribes when offered arbitrary powers which would rather cause additional service delays and economic harm [19]. Also, corruption introduces uncertainties into the economic environment that can affect private firms [20]. The onus of most corruption usually falls on the poor in society since they cannot afford to recompense the necessary bribes for their ward's education, quality healthcare or other public services such as proper sanitation, potable water supply, electricity etc. The most common negative economic impacts are outlined and discussed below [29].

Bureaucratic Inefficiency is pronounced in countries with high level of corruption. Empirical evidences describe the relationship between the extent of bribery and the increasing time entrepreneurs or business people spend with public officials for favors. Dimant and Tosato posit from a game theory perspective that, corruption and bureaucratic inefficiency to be viscous cycle where beneficials of the inefficient due to corruption system, have no incentive to streamline it [9].

Low Foreign Direct Investment is another effect of corruption. Arguments on the effect of corruption on a country's economic growth through investment prevails. Dimant and Tosato report that such situation can result from inefficient public investment where although investment levels may increase in absolute terms inefficient allocation of funds may reduce absolute productivity [9]. They again report that corruption can also lead to lower levels of infrastructure, thus deteriorating the investment climate of a nation. These claims had support from early empirical evidence found in a paper that uses data from 69 countries in the period 1980–1983 [24].

High government spending leading to high fiscal deficit results. Theoretically, it has been argued that as corruption reduces public income (lower levels of growth, higher levels of inequality) and increases public expenditure (more inefficient spending), it thus follows that it will also increase fiscal deficits. Jain opines that corruption leads to resource misallocations when investment of public funds or approval of private investments are based on decisions that generates higher personal returns to public officials rather than general economic or social value [15], [28].

There is **low Gross Domestic Product growth rate** in countries with high corruption. Murphy et al. suggest that corruption can make people shift from productive to unproductive rent-seeking activity [18]. This shift in attitude creates gaps in productive environment that reduces economic development. The frequency and magnitude of corruption leads to lower levels of investment, higher levels of indirect taxation, misallocation of resources due to distorted incentives, low consumption of local products due to approval of inferior products and high government spending affects the Gross Domestic Product (GDP) of a country [29]. There is low economic growth rate as this depends on the GDP growth rate [32]. There is a significant relationship between the allocation of unproductive activities and corruption, as well as higher levels of indirect taxation and corruption, thereby reducing growth rates [24]. Also, Aidt reports that evidence for the "grease the wheel hypothesis" is very weak, and that there is a very strong negative correlation between wealth per capita and corruption, and that the effect of corruption on GDP per capita will lead to unsustainable development [1].

MATERIALS AND METHODS

The main aim of this article is to analyze the economic consequences of corruption in Czech Republic, Slovakia, Hungary and Poland who exhibit transition economies. Based on the main aim and the theoretical review, this research is structured to achieve the following specific objectives:

1. To assess whether the level of corruption differs significantly among the four countries.
2. To ascertain the effect of corruption on economic growth of the selected countries.

Tasar [2018)] applied a similar approach in their research [30]. To achieve the first specific objective will require the test of hypothesis. The statement of the null and alternative hypothesis respectively is:

H_0: the level of corruption is the same among the four country

H_1: the level of corruption is different for at least any two different countries.

The Corruption Perception Index (CPI) was chosen for analyzing the country's rate of corruption. In 2012, the CPI's rating scale was revised (it was previously from 0 to 10, now it is from 0 to 100). Due to the need for longer-term comparisons, the actual rating on the previous scale of 0 to 10 – where 0 represented a

very corrupt country and 10 indicated a country without corruption – has been converted for data analysis using the post-2012 corruption rating.

The economic impact of corruption was explored using three variables which were Gross Domestic Product measured through real GDP growth (GDP growth), Net Foreign Direct Investment (NFDI) and Government spending also measured through the Gross National Expenditure (GNE). These variables were chosen based on the literature search conducted above [30].

The data was analyzed using Statistical Package for Social Science (SPSS). Assessment of the normality of data is a prerequisite for many statistical tests especially for parametric statistical tests where normality of the data is an underlying assumption. The Shapiro-Wilk test was used to check for normal distribution of the data. It has high power to produce good results even with small observation size. Since the sample size was less than 50 for each variable under study, it was used to check for the normality of the data especially for all the economic variables and that of CPI. The economic variables were all quantitative with parametric methods applicable and that, to check for the normality of their data were necessary, unlike those for the social variables which are perception based or categorical.

To achieve the first specific objective, which is to assess whether the level of corruption differs significantly among the four countries, the Kruskal-Wallis test was used to test for the hypothesis highlighted in previous text of this chapter. The Kruskal-Wallis test which is the non-parametric version of Analysis of Variance (ANOVA) tests whether the median CPI scores are significantly the same across the countries over the selected periods or not. The Kruskal-Wallis test is appropriate to test for equal means of several populations of a variable under study when assumptions underlying ANOVA, like the populations from which the samples are drawn are normally distributed with equal variances are unmet, or when the data for analysis consist only of ranks.

Also, to achieve the second specific objective, the data for the socio-economic variables were visualized using descriptive graphs and then correlation and multiple linear regression were used. Correlation analyses were also used to assess the strength and direction of linear association CPI and the socio-economic variables. Test for association between sample pair of data was done using the Spearman Rank correlation coefficient. Generally, correlation coefficients fall within -1 and +1 inclusively. A negative value indicates a reverse relationship and vice versa. A correlation coefficient closer to +1 or -1 indicates strong positive or negative linear association respectively and it is considered moderate when it falls at or around -0.5 or +0.5 [2].

Finally, to check for how much effect can be explained in a variable by other variables the regression analysis is required. A multiple linear regression was used to model the variables included. A multiple linear regression establishes a linear equation or relation between one variable called the response or dependent variable and two or more variables called predictor or independent variables, where the independent variables explain the variation in the response variable. A multiple linear regression model involves coefficients called regression parameters and the variables in the form of an equation.

The general form of a multiple linear regression model is: [3] $\hat{Y} = B_0 + B_1x_1 + B_2x_2 + B_3x_3 + \cdots + B_nx_n + \varepsilon_i$ for $i = 1, 2, 3, \ldots, n$ where

$\hat{Y}$ is the dependent variable,

B_i for $i = 0, 1, 2, 3, \ldots, n$ is the regression parameters

x_i for $i = 1, 2, 3, \ldots, n$ is the independent variables and

ε_i for $i = 1, 2, 3, \ldots, n$ being the error term

RESULTS

The corruption ratings countries are explored first. Table-1 shows that Poland rated on average as the least corrupt country over the selected period with a value of 56.8. Apart from 2008 and 2009, Poland performed better each year in CPI scores. It is again apparent from table 5 that Poland's minimum CPI score since 2012 to 2017 which is 58, is the highest CPI score of the remaining countries from 2008 to 2017. Moreover, Poland recorded the highest rank of 29 both in 2015 and 2016. This tells a probable effort by Poland to consistently improve or maintain their ratings along the years. From 2009 to 2014, Hungary rated better than both Czech Republic and Slovakia. However, Czech Republic whose ratings fell behind Hungary from the period 2009 to 2014 showed improvement from 2015 to overturn the trend between it and Hungary. Comparing the average CPI score over the study period shows that Czech Republic has performed better than Hungary with a value of 57.0 and 55.0 respectively. It can be seen that whilst countries have shown improvement from 2012 to 2017, Hungary on the other hand declined in ratings. Hungary failed to

attain the global average of 50 in both 2017 and 2016. This signifies a current widespread of corruption in Hungary than the other selected countries.

Table-1: CPI scores of the countries from 2008 to 2017

Country	Poland		Czech Republic		Hungary		Slovakia	
Year	*CPI score*	*Rank*	*CPI score*	*Rank*	*CPI score*	*Rank*	*CPI score*	*Rank*
2008	46	58	52	45	51	47	50	52
2009	50	49	49	52	51	66	45	56
2010	53	41	46	53	47	50	43	59
2011	55	41	44	57	47	54	40	66
2012	58	41	49	54	55	56	46	62
2013	60	38	48	57	54	47	47	61
2014	61	36	51	53	54	48	50	54
2015	63	29	56	38	51	50	51	50
2016	62	29	55	47	48	57	51	54
2017	60	36	57	42	45	66	50	54

Due to the periodic changes in CPI ratings among the countries, there was the need to check if the average CPI scores were significantly different among the four countries for the selected period. The result for the check for normality of the CPI scores at 0.05 significance test is found in Table-2. The result showed that, all CPI scores for all the countries were normally distributed as their p-values which were all more than 0.05. The CPI scores as measured through perceptions will at most be at the ordinal measurement scale. As such, the Kruskal Wallis test which is the non-parametric version for ANOVA was used to test the median scores of the countries at 0.05 significance level. With ties adjusted for in the ranks, the Kruskal Wallis test with 3 degrees of freedom produced a test statistic of 12.95. The test statistic had a p-value of 0.005 which was statistically significant at 0.05 significance level. There was enough evidence at 0.05 significance level to conclude that the median CPI scores were different for at least any two different countries for the chosen period under consideration.

Table-2: Descriptive statistics of CPI scores of the countries

	N	Minimum	Maximum	Mean	Std. Deviation
Poland	10	46.00	63.00	56.8000	5.63323
Czech Republic	10	44.00	57.00	50.7000	4.32178
Hungary	10	45.00	55.00	50.3000	3.43350
Slovakia	10	40.00	51.00	47.3000	3.77271

The linear relationship among the economic variables and their CPI scores over the chosen period were investigated within each country to see what level corruption associates with each other. For example, Rose-Ackerman reports that studies on investment show highly negative association with corruption and hence reduces the rate of economic growth [21]. The direction, strength and significance of these associations are explored in this section. Spearman rank correlation coefficients were computed since the level of measurement of the CPI data was at most at the ordinal measurement scale. These correlations were then evaluated at 0.05 and 0.01 significance levels to check for any statistically significant correlation among the included variables. The result of the correlation analysis is shown in Table-3.

For **Hungary**, there was a very weak positive linear relationship between CPI and GNE. This indicates a direct linear relationship where an increase in CPI increases GNE weakly and vice versa. Also, there was very weak negative correlation between CPI and both NFDI and GDP growth. This implies a very weak inverse linear relationship where both NFDI and GDP growth decrease with increase in CPI and vice versa. These

correlations were not statistically significant at both 0.01 and 0.05 significance levels. There was insufficient evidence at both 0.01 and 0.05 significance levels to conclude that there is mutual independence between CPI and the economic variables.

For **Poland**, there was a strong negative correlation between CPI and GNE where an increase or decrease in CPI respectively decreases or increases GNE. This situation looks contradictory at first thought, but it is likely that, higher corruption leaves less revenue to the country to make more expenses. Also, there was a very weak positive correlation between CPI and NFDI where high corruption tends to increase investments. CPI had a weak negative linear association with GDP growth for which GPD growth decreases with increasing level of rated corruption and vice versa. However, only the correlation between CPI and GNE showed statistical significance at 0.01 significance level.

For **Slovakia**, there was a weak negative linear relationship between CPI and both GNE and NFDI. That is, higher corruption reduces government spending and vice versa whilst NFDI also decreases with increasing CPI and vice versa. GDP growth tends to increase weakly with increasing CPI and vice versa. This could mean more as investment and consumption activities increase, the chances to undertake corruption become high and more. These correlations were, however, statistically insignificant both at 0.01 and 0.05 significance levels.

Correlation results for **Czech Republic** show a moderate negative linear association between CPI and GNE, weak positive correlation between CPI and NFDI and strong positive correlation between CPI and GDP growth. Increase in investments and GDP growth increases corruption in Czech Republic and vice versa. Also, GNE decreases as CPI increases and vice versa. However, there was enough evidence at 0.05 significance level to conclude only that the mutual dependence between GDP growth and CPI were significant.

Multiple linear regression was employed to determine the extent at which selected independent variables affect and explain the changes in the selected dependent variable due to their interaction through the linear model. Since GDP growth is an indicator to measure economic growth, it was selected as the dependent variable. As such, CPI scores, NFDI and GNE were the independent variables. A fixed model which assumes that the independent variables are known and fixed was adopted for the multiple linear regression. The range of values for NFDI and GDP growth was negative for some countries. Since negative data cannot be used in the multiple linear regression, a linear transformation was done to these variables. Since these values are in percentages, 2% was added to the NFDI data for all countries whilst 7% was added to the GDP growth data which transformed all values into positive. Linear transformations only affect the values of the constant in the model. This was not problematic since the focus of this thesis was on how much corruption affects economic growth amid other economic variables. The transformed values as used for the multiple regression is presented in the appendix. However, the result of the multiple regression is shown in Table-4.

Table 4 indicates no multicollinearity among the variables as the Variance Inflation Factor (VIF) were all less than 10. There is insignificant correlation among the predictor variables in the regression models.

With emphasis on the effect of CPI on the GDP growth, the result shows that CPI have negative effect on GDP growth in Poland and Hungary whilst it has positive effect on GDP growth in Slovakia and Czech Republic. For Poland, GDP growth changes by 0.096 (9.6%) on average for a unit change in CPI when GNE and NFDI are held constant. Also, for Hungary, GDP growth changes on average by 0.101 (10.1%) for a unit change in CPI when GNE and NFDI are held constant. Czech Republic had an average change of 0.341 (34.1%) in GDP growth for a unit change in CPI when GNE and NFDI are held constant. Finally, there is an average change of 0.283 (28.3%) in GDP for Slovakia for a unit change in CPI when GNE and NFDI are held constant. However, all these effects proved statistically insignificant at 0.05 significance level since the p-values of the parameters were all more than 0.05.

Table-3: Result of the correlation analysis of CPI and economic variables

	CZECH REPUBLIC				
		CPI score	GNE	NFDI	GDP growth
CPI Scores	Correlation Coefficient	1.000			
	Sig. (2-tailed)	.			
GNE	Correlation Coefficient	-0.620	1.000		
	Sig. (2-tailed)	0.056	.		
NFDI	Correlation Coefficient	0.152	-0.333	1.000	
	Sig. (2-tailed)	0.675	0.347	.	
GDP growth	Correlation Coefficient	0.717*	-0.406	-0.030	1.000
	Sig. (2-tailed)	0.020	0.244	0.934	.

	SLOVAKIA				
		CPI score	GNE	NFDI	GDP growth
CPI Scores	Correlation Coefficient	1.000			
	Sig. (2-tailed)	.			
GNE	Correlation Coefficient	-0.258	1.000		
	Sig. (2-tailed)	0.471	.		
NFDI	Correlation Coefficient	-0.178	0.176	1.000	
	Sig. (2-tailed)	0.622	0.627	.	
GDP growth	Correlation Coefficient	0.314	0.467	0.515	1.000
	Sig. (2-tailed)	0.377	0.174	0.128	.
	POLAND				
		CPI score	**GNE**	**NFDI**	**GDP growth**
CPI Scores	Correlation Coefficient	1.000			
	Sig. (2-tailed)	.			
GNE	Correlation Coefficient	-0.869**	1.000		
	Sig. (2-tailed)	0.001	.		
NFDI	Correlation Coefficient	0.280	0.139	1.000	
	Sig. (2-tailed)	0.434	0.701*	.	
GDP growth	Correlation Coefficient	-0.116	0.200	-0.030	1.000
	Sig. (2-tailed)	0.751	0.580	0.934	.
	HUNGARY				
		CPI score	**GNE**	**NFDI**	**GDP growth**
CPI Scores	Correlation Coefficient	1.000			
	Sig. (2-tailed)	.			
GNE	Correlation Coefficient	0.037	1.000		
	Sig. (2-tailed)	0.919	.		
NFDI	Correlation Coefficient	-0.167	-0.261	1.000	
	Sig. (2-tailed)	0.645	0.467	.	
GDP growth	Correlation Coefficient	-0.142	-0.612	0.321	1.000
	Sig. (2-tailed)	0.696	0.060	0.365	.

**. Correlation is significant at the 0.01 level (2-tailed).
*. Correlation is significant at the 0.05 level (2-tailed).

Table-4: Result of multiple regression analysis of CPI and the economic variables

POLAND	Dependent variable: GDP growth R-Sq = 7.0% N=10				
Model	**GDP growth = 23.4 - 0.096 CPI - 0.085 GNE + 0.233 NFDI**				
Predictor	**Coef**	**Predictor**	**Coef**	**Predictor**	**Coef**
Constant	23.44	52.86	0.44	0.673	
CPI	-0.0961	0.2274	-0.42	0.687	7.489
GNE	-0.0847	0.4222	-0.2	0.848	7.246
NFDI	0.2326	0.7999	0.29	0.781	1.428
CZECH REPUBLIC	Dependent variable: GDP growth R-Sq = 28.1% N=10				
Model	**GDP growth = - 6.0 + 0.341 CPI - 0.021 GNE - 0.201 NFDI**				
Predictor	**Coef**	**Predictor**	**Coef**	**Predictor**	**Coef**
Constant	-6.01	79.85	-0.08	0.942	
CPI	0.3412	0.3006	1.14	0.3	1.669
GNE	-0.0207	0.7262	-0.03	0.978	1.672
NFDI	-0.2005	0.6877	-0.29	0.78	1.018
HUNGARY	Dependent variable: GDP growth R-Sq = 24.3% N=10				
Model	**GDP growth = 46.6 - 0.101 CPI - 0.387 GNE + 0.75 NFDI**				

Predictor	Coef	Predictor	Coef	Predictor	Coef
Constant	46.61	48.56	0.96	0.374	
CPI	-0.1006	0.3409	-0.3	0.778	1.052
GNE	-0.3867	0.4683	-0.83	0.441	1.217
NFDI	0.75	1.368	0.55	0.603	1.247
SLOVAKIA	Dependent variable: GDP growth R-Sq = 35.6% N=10				
Model	**GDP growth = - 1.6 + 0.283 CPI - 0.053 GNE + 0.932 NFDI**				
Predictor	**Coef**	**Predictor**	**Coef**	**Predictor**	**Coef**
Constant	-1.55	49.27	-0.03	0.976	
CPI	0.2828	0.2964	0.95	0.377	1.245
GNE	-0.0529	0.4287	-0.12	0.906	1.33

Also, the variation in GDP growth as explained by the independent variables (R-square) for Poland, Czech Republic, Hungary and Slovakia were respectively 7.0%, 28.1%, 24.3% and 35.6%. Corruption though affects GDP growth in the countries but statistically considered as insignificant at the chosen test level.

DISCUSSION

The analyses of this paper proved that low corruption resulted in high GDP in Hungary and Poland. This situation differs for Slovakia and Czech Republic where high corruption result into high GDP growth. Monies accrued from the activities of corruption and other underhand means cannot be accorded legitimacy with respect to the source. It illegally exempts itself from the tax net, investing such monies is also rare and most often does not happen in the host country since its source is dubitable and suspicious. Simply, in the words of Yousaf et al. : *"such tainted monies do not add value to the GDP, and it is utilized in non-economical transactions such as; purchasing precious items that are easily transferable with a high possibility of being kept in personal possession"* [27]. Yousaf et al. further posited that the situation is even sadly dire in developing countries where there exist laxities in the taxation system coupled with weak law enforcement bodies, the money is easily transferred to other countries [27]. The impacts of such unpalatable circumstances have a direct bearing on the growth of the GDP, since it reduces the amount of money circulating in the economy, lowers investment levels drastically, by threatening contemplating investors, has negative fallout on the welfare of the county, rises poverty and upsurges the rate of unemployment. All these factors possess in them the propensities to shrink or stifle the growth of GDP. When the monetary dividends of goods and services produced in the country does not reach the treasury of the government but diverted into individual hands, considering the importance of GDP as a reliable reserve for creating more goods and services, the government can hardly live up to its mandate of creating jobs and services for the betterment of the social and economic being of the country. To put into simple terms, the higher the GDP the higher the tendency for goods and services to be created, with the dividend raked back onto the GDP, and so if the estimated monies do not reach the government's reserve, then evidently, more goods and services cannot be created and if more goods and services are not created the GDP, either stagnates, stunts or plummets and it goes on in such a cyclical orbit.

Šumah et. al report from a study that, corruption affects public finances and increases public expenditure [23]. Corruption redirects the composition of public expenditure from the expenditure necessary for basic functioning and maintenance to expenditure on new equipment. An empirical study showed that corruption leads to deviations from the optimal public expenditure structure, reducing growth and thus public income [6]. More evidence provided in a later study which uses data from Italian public works during the period 2000–2005, shows that public contracts execution is more inefficient in areas with higher corruption, thus increasing government expenditure [5].

The analyses found that corruption goes hand in hand with government expenditure in Hungary and Czech Republic. It was however a contrasting result in Poland and Slovakia where high corruption goes with low government expenditure and vice versa. The latter can be explained that, as corruption becomes high, the government likely reduces spending to reduce the possible execution of corruption among the countries. However, the correlations of CPI and GNE was statistically significant for only Poland.

This analysis also found both results depending on the countries. Corruption tends to increase NFDI in Czech Republic and Poland but reduces NFDI in Slovakia and Hungary. Investment can also be described as a transmission channel through which corruption negatively affects economic growth. A negative

relationship between corruption and investment exists because of the uncertainty and heightened risk of failure because corruption agreements are unenforceable. It is possible however to find positive effects of corruption on [9]. This situation could simply be established under the fact that, since monies that are illegally diverted from the public kitty to private pockets in the form of kickbacks and unofficial gratuities from prospective foreign direct investors are unaccounted for and could not possibly be factored in the calculation of the GDP of the country. Given the magnitude of monies unaccounted for by government, lead to the slow pace of the economic and social development and therefore the markets of the country directly, impact hugely on wealth accumulation [7]. Also, the analyses show irregular investment patterns across the study periods. Though, corruption as a notorious phenomenon deters foreign direct investment, however, foreign investors are often motivated by the galore of natural resources which make them take risk to maximize returns. As such, the statistical relation between corruption and direct investment based on the analysis is unclear.

The analysis is consistent with the conclusions of a number of authors on the impact of corruption on economic variables (e.g. 5-8, 11, 12, 14, 27 and others). The conclusions on whether corruption affects the economic performance of countries positively or negatively are not entirely uniform even in the analyzed countries of the Visegrad Four. Also, with the focus on low R-square of the carried out regression analysis, it should be noted that a number of factors affect the economic performance of countries. Thus, the fight against corruption is not a panacea and a clear "recipe" for the countries' higher economic performance. Given the proven impact of corruption on many (not only) economic variables, it is, however, more than an appropriate instrument of economic policy.

CONCLUSION

It was ascertained that the CPI scores were significantly different for at least any two selected countries for any given period. This indicated that the level of corruption within the countries are different which manifest itself in various secretive ways.

It was also observed that high corruption resulted in low GDP growth in Hungary and Poland. This situation was otherwise for Slovakia and Czech Republic where high corruption led to high GDP growth. The impact of the level of corruption on GDP growth was higher in Czech Republic (34.1%), followed by Slovakia (28.3%), Hungary (10.1%) and lastly by Poland (9.6%). Corruption was found to go hand in hand with expenditure in Hungary and Czech Republic but inversely related to expenditure in Poland and Slovakia. Over the study period, Poland spent the highest value on average and this was followed by Slovakia. The least expenditure on average was recorded by Hungary. However, the spending amount was more varied for Poland and least varied for Slovakia. It was also found that investment patterns among the countries were irregular. The impact of corruption took different directions and magnitude depending on the time and the country. Corruption related directly with NFDI in Czech Republic and Poland but inversely in Slovakia and Hungary.

As clearly highlighted in the findings in corroboration with the popular view of the numerous literatures reviewed, corruption has a tremendous devastating effect on socio-economic fortunes of a countries. Arguably, it can reasonably be concluded that the level of developments of certain countries could have been much better if corruption was reduced. For effective and efficient economic growth in these countries to be achieved, citizens interest in the political process was vital, strict adherence to the provisions in their constitution regarding identifying and combating corruption is crucial in that direction. Governments' commitment to fortifying and strengthening states' institutions will go a long way to check the growth and development of corruption, drastically.

The article shows that corruption can still be a problem in some countries of the Visegrad Group, even though it has been a long time since the collapse of the Communist regime. A common feature of the V4 countries is the frequent conflict of interest of public officials and problems in public procurement. Another problem is influencing independent institutions, which is more pronounced especially in Poland and Hungary. There is also an effort to influence the independence of the media, which is very important for maintaining democracy in the state. All countries are facing this problem, but the area is most at risk in Hungary.

CONFLICT OF INTEREST
There is no conflict of interest.

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ARTICLE

FEATURES OF ASSESSMENT OF REGIONAL BUSINESS CYCLES IN INTERRELATION WITH MACROCYCLES: RESEARCH METHODOLOGY

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ABSTRACT

From the point of view of scientific and practical significance, the issues revealing the interaction features of different-scale economic cycles are extremely relevant, especially in the context of studying the issues of cyclical development of regional socio-economic systems and their integration into generated macrocycles. This methodological issue is the subject of this article. The research object is the macro- and mesoeconomic cycles. The research subject is the methodology of formalized assessment of the identification of relationship between multiscale cyclic fluctuations of economic systems. As a result of the proposed and scientifically based approaches, it is revealed the role and significance of assessing the expectations of economic agents in the process of constructing phase shifts of the cyclical development of economy. Relying on this research paradigm, we formed the methodological approaches that allow quantifying the level of interconnection between cycles of various orders and scales. The implementation of this approach is based on measuring cyclic fluctuations on the basis of determining an integral index that estimates the expectations of business entities regarding future transformations in the system of socio-economic transformations and forming phase shifts in the cyclical development of economic systems of the meso- and macro levels.

KEY WORDS
economic cycles, research methodology, expectations of economic agents, relationship of economic cycles, regional economic cycles.

INTRODUCTION

The use of traditional mechanisms and tools for diagnosing cyclical fluctuations in the economy does not fully contribute to the objective modeling of economic processes. This makes it necessary to develop new (adapted to new realities) methods for assessing the economic cycles and key parameters that trigger their development paths. Moreover, these methods shall be based on a wide array of factors involved in the processes of generating cyclic transformations in the economy. At the same time, in accordance with the basic principles of economic and mathematical modeling, "the use of a large number of predictors in models leads to a series of known problems" [1, 2]. In this regard, it seems appropriate to use a limited number of exogenous factors in the developed models of economic cycles, without reducing the impact potential of the indicated wide group of explanatory factors at the same time. In our opinion, the use of predictor that characterizes the expectations of economic agents organically fits into this concept, which reflects the transformation of many factors of an institutional and conjunctural nature in a concentrated form.

It should be noted that the solution of such a problem, focused on the development and justification of methods for identifying the relationships between different-scale economic cycles, is a very difficult process thus far. First of all, this is due to the factors of different scale and content that generate various kinds of cyclical fluctuations in the economy. For example, the theory of cycles proposed by Kondratiev is based on the empirically proven assumption that the phase change is a consequence of the mechanisms of "capital saving, accumulation and dispersal" [3], required for updating fixed assets (launching mechanisms of scientific and technological progress). The theory of medium-term cycles is based on fluctuations in the investment volume in fixed assets. The theory of short-term cycles is based on fluctuations in the level of interest rates on the financial capital market, etc. Thus, all the theories considered have a different set of features and factors affecting cyclic fluctuations, which significantly complicates the process of solving the problem of correlation and comparison of economic cycles of various orders.

At the same time, the issue revealing the interconnection of cycles of different scale and amplitude is the most acute and debatable in the economic literature at the present time. An understanding of the mechanisms that determine this type of relationship lies in the plane of definition of a unified (for all studied cycles) indicator evaluation system (and the corresponding unified measurement scale) characterizing phase shifts. However, given the varying scale levels of cycles, and consequently, the factors that drive the cyclical development of economy, the solution to this problem is very difficult, requiring consideration and correlation of short-term market drivers of phase shifts and long-term factors of demographic, social, scientific, technological, economic, environmental and other developments.

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MATERIALS AND METHODS

Generalization of existing approaches that determine the relationship between cycles of different time scales and territorial projections suggests the development of a unified methodological framework, in which the authors propose using a concept based on modeling the expectations of economic agents. The latter, in a concentrated form, are a reflection of the system of short-, medium- and long-term indicators of the socio-economic development of the territory, characterizing and determining the turning points of the cyclical development of economy in the future. Moreover, taking into account the fact that the expectations of economic agents are a reflection of promising macro generations in the future, a quantitative determination of the values of their parameters allows determining the future phase shifts within the economic cycles that are classified as short-, medium-, and long-term depending on the assessment of factors generating the corresponding short-, medium- and long-term expectations. Thus, using a single indicator for all cycles that generates the trajectory of their development in the future - the expectations of economic agents, - we can solve the problem of comparability of factors determining the phase shifts of the cyclical development of economy. Thus, the main idea is that any transformations occurring in the economic development, including in the field of phase shifts of economic cycles, are driven by the system of expected estimates concerning changes in the key parameters of factors generating conditions for these phase shifts. By identifying the expected estimates of economic agents regarding future changes in the system, it is possible to determine phase shifts within the economic cycles with a high degree of certainty. Moreover, depending on the expectations assessed (short-, medium- or long-term), the corresponding turning points of cyclical development are programmed. In addition, the relevance of using an indicator that estimates the expectations of economic agents is also increasing in the framework of solving the problem of identification and formalized assessment of the relationship between different economic cycles. The construction of cyclic development paths on the basis of this indicator forms the basis for conducting economic analysis in a single measurement system, which determines new possibilities for comparing various economic cycles with each other.

It is important to note that the use of this approach allows getting closer to the solution of such a significant problem in the economic theory as the search and justification of methodological approaches that ensure the process of constructing meso-level economic cycles and, accordingly, the search for formalized assessments of the relationship between regional, national and global economic cycles.

RESULTS

The search for answers to these issues is undoubtedly not trivial. The solution to some of them is reflected in the works of Russian scientists, such as Zhikharevich B.S. [4], Brukhanova V.B., Antokhonova I.V. [5], Zageeva L.A. [6], Smirnova S.V., Frenkel A.A., Kondrashova N.V. [7], Kovaleva A.V., Mesoedova S.F. [8] et al. A significant contribution to the development of this issues in the theory of economic cycles was made by several foreign researchers like Viber R. [9], Schilman M [10], Chase C, Villard A [11], Thomson W [12], Russell C [13], Modigliani and Brumberg [14], Nelson and Plosser [15], Perez C [16], Samuelson P [17], Lucas R [18], and Marchetta C [19].

At the same time, despite the considerable interest on the part of the scientific community in the study of the interconnections between economies of various scales, it should be noted that the vast majority of them rely on qualitative analysis methods, which, in our opinion, introduces elements of subjectivity in solving the problems posed. This necessitates the development of formalized methods that allow a new approach to the search for solutions revealing the laws of such interaction based on a systematic study and understanding of internal logic, determining the directions of this form of interaction.

In connection with the foregoing, the main goal of this study is to strengthen understanding and develop a methodological apparatus that allows, on the basis of systematization of existing developments and studies, forming a model of interaction and mutual influence of national and regional cycles on the basis of modeling the expectations of economic agents formed at the macro- and mesolevel.

I our opinion, the search for the answer to this issue shall lie in the mainstream of empirical analysis. However, the complexity of carrying out this type of works, the results of which would contribute to the determination of such relationships, contributes to the uncertainty and lack of a generally accepted point of view. Indeed, a methodologically challenging task is the search and determination of the time series characterizing the economic cycle. An even more difficult task is the economic and mathematical modeling of the relationship between cycles of different macroeconomic levels. Our position on this issue is as follows: since the economic cycles are a reflection of discrete rational expectations of economic agents according to our earlier statement, the process of modeling interdependencies and relationships shall be implemented through the prism of assessing and analyzing the expectations of economic agents. At the same time, it should be borne in mind that the expectations of economic agents are sufficiently differentiated, which creates the basis for asynchronous formation of the cyclical development of regional economic systems of a relative national macrocycle.

Adhering to the proposed approach on the feasibility of determining the relationship between macro- and mesocycles of the same order through an assessment of the corresponding expectations of economic agents, it is necessary to give a number of additional methodological explanations.

IIOAB JOURNAL
ISSN: 0976-3104

Firstly, given that expectations are a reflection of the process of evolution and transformation of the system of institutional and market factors that form the phase shifts of cycles, their assessment allows looking into the origins of the cyclical development of economy, and, therefore, determining the nature of the incipient phase shifts both on macro and mesolevel.

Secondly, it should be emphasized that in the context of studying the synchronicity of the development of meso - and macrocycles of the same order, it is necessary to take into account the scale of economic cycles. This is due to the fact that as the cycle scale level (long-, medium- and short-term) increases, the expectations of the meso- and macrolevel economic agents undergo a smoothing effect. In other words, following the logic put forward, the long-term cycles, the phase shifts of which are generated under the pressure of expectations, based mainly on the institutional transformations of the system, are less sensitive to the transformation of market parameters based on short- and medium-term expectations. However, the latter are decisive in the imbalance of regional and macroeconomic cycles. Therefore, as institutional factors dominate in the process of generating incipient phase shifts of the economic cycle, the macro- and meso-level expectations begin to smooth, as a result, the regional economic systems begin to form synchronous trajectories of cyclical development relative to the macroeconomic (national) cycle. At the same time, with the growth of expectations, the horizons of which are medium- and short-term in nature, the economic agents begin to rely on more localized information, including at the regional level, as a result of which the formation processes of asynchronous development of cyclic oscillations of the meso- and macro levels begin to take place.

Thirdly, since the expectations (short-, medium- and long-term) of economic agents are in a single coordinate system and can be measured in a single system of indicators, their correlation among themselves in terms of differentiating their level by macro- and mesolevels allows determining the statistical relationships. This, in turn, allows answering the main question posed in this work, as well as having a high level of methodological significance - what is the relationship between macroeconomic and meso economic cycles, as well as to what extent do the regions react to the phase shifts of macrocycles, as a result of which the resynchronization of regional and national cycles occurs. Based on the presented axioms and assumptions, the algorithm for modeling regional economic cycles in conjunction with macrocycles can be represented as a sequence of interconnected iterations [Fig. 1, 2].

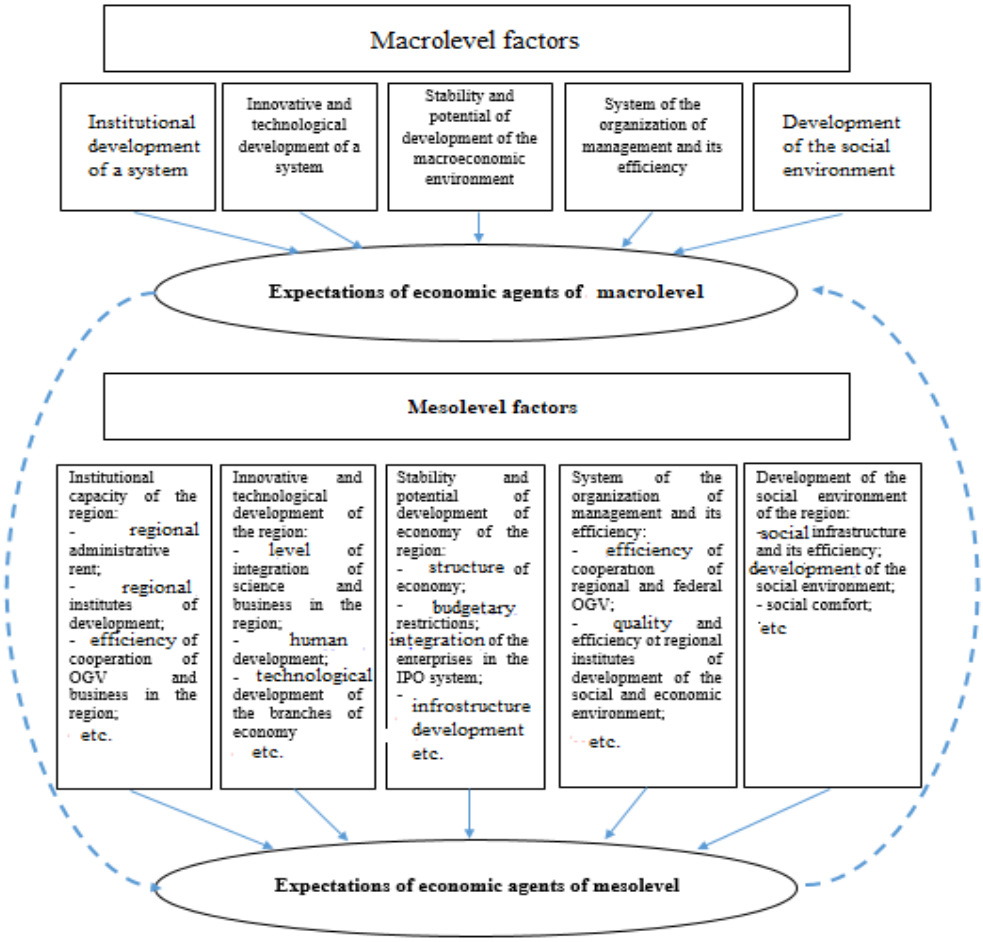

Fig. 1: Graphic interpretation of the mechanisms of asynchronous formation of the cyclic development of regional and macroeconomic systems based on a system of interrelated expectations of various orders.

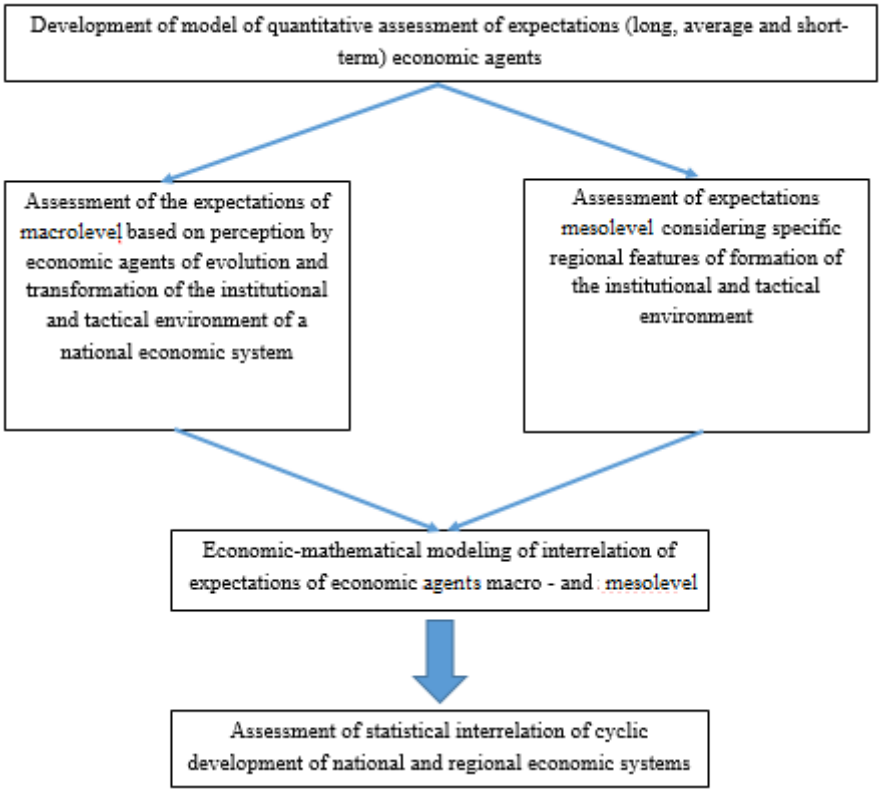

Fig. 2: Algorithm for modeling the regional economic cycles of the Russian Federation in conjunction with macrocycles.

SUMMARY

The developed algorithm for modeling the regional economic cycles in conjunction with macrocycles significantly expands the horizons of analysis and methodological substantiation of the relationship between regional and national (macroeconomic) cycles. In other words, this algorithm allows tracking the relationships, both on horizontal and vertical cyclic projections on a specific economic cycle of the region, which largely brings us closer to an objective understanding of the cycles of regional economies, which are formed under pressure of the totality of endogenous (internal) parameters, and exogenous ones.

CONCLUSION

Undoubtedly, the approach developed by us is not barred, like many other methodological approaches existing in theory, for the debatability elements. In essence, this work is an invitation for the scientific community to concentrate efforts in this direction. This work is not only an attempt to justify the hypotheses and assumptions put forward above, but also an invitation to a discussion in this direction, revealing the relationship between the expectations of economic agents and phase shifts in the economic cycles. It is able to form a breakthrough in the study of cyclical development of economy not only in the part of identifying cyclic shifts, but in the field of comparing cycles of different scales with each other as well. It seems to us that the insufficient level of elaboration of the issue posed can be overcome on the basis of a new paradigm in the economic theory, based on the study and comparison of the integral indicators characterizing the dynamics of expectations of economic agents forming the phase shifts in the cyclical development of economic systems of meso- and macro level.

CONFLICT OF INTEREST

There is no conflict of interest.

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ARTICLE

ANALYSIS OF INFLUENCE OF BASIC EXTERNAL AND INTERNAL FACTORS ON THE PROSPECTS OF DEVELOPMENT OF OIL INDUSTRY OF RUSSIA

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ABSTRACT

The authors of the study analyzed the relationship between the selling price of oil and the US dollar exchange rate, as well as their impact on the main indicators of the oil field development project. An approach is proposed for analyzing the sensitivity of project indicators to changes in the considered interrelated factors. The results of the implementation of the proposed approach are presented both in the current legislation and in conditions of the completion of the tax maneuver with an increase in the tax on mining. The results can be used in the practical activities of design organizations working in the field of oil production, as well as in the educational and teaching activities of specialized departments (taxation, general management, etc.). The study used such methods as the collection and statistical analysis of information on oil selling prices and exchange rates, comparisons and analogies, as well as econometric methods such as correlation and regression analysis, time series analysis, which allows to determine the relationship between economic indicators. The novelty of the research lies in the developed approach for analyzing the sensitivity of the main indicators of the oil field development project, based on the use of a possible correlation between the initial indicators: the price of oil sales and the US dollar exchange rate, which allows for more correct conclusions about the project's resilience to risks.

KEY WORDS
oil field development project, oil export price, sensitivity analysis, correlation, regression model.

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INTRODUCTION

In market conditions, the responsibility of the subsoil user and the state for the rational use of hydrocarbons is growing, requirements for oil organizations for the full implementation of design decisions in the field of oil field development are increasing. Oil companies must comply with rational development requirements and ensure at least a minimum profitability for their own development. Failure to comply with these requirements threatens companies with sanctions until the withdrawal of the license. In this regard, the subsoil user must monitor the development status in accordance with applicable rules and guidelines, carry out research to conduct continuous analysis and design of oil field development [1, 2].

The main task of the subsoil user and the state, represented by the owner of the subsoil, is to determine the recommended (best) option for the development of a raw hydrocarbon field (hereinafter - RHC). To determine the level of exposure of the recommended development option to possible risks, we analyze the sensitivity of such indicators as the net present value of the subsoil user, the discounted state revenue, as well as cost-effective reserves depending on the export price of hydrocarbons, capital, and current costs.

Changes in the oil export price can have a direct impact on such economic indicators as revenue from oil sales, the tax rate on mineral extraction, the rate of export duties, and indirectly affect the exchange rate of the US dollar. The significance of the presence of such interdependence in the analysis of the sensitivity of the main indicators of the project is supported by the combined influence of these factors on the net income from the implementation of the project [3-5].

MATERIALS AND METHODS

The presence of a relationship between the considered indicators can be determined using econometric methods. For their implementation, it is necessary to determine the type of statistical information to be analyzed and the frequency: average for a year, months, or for every day.

The more information is analyzed, the more reliable the results of the study will be. In accordance with the Rules for Monitoring the Price of Urals Crude Oil ion the World Petroleum Market (Mediterranean and Rotterdam) [6], monitoring is carried out in order to determine the average selling price of oil by the Ministry of Economic Development of the Russian Federation by observing and recording daily oil prices (buying and selling) published by the international price agency - Argus Media Limited (Argus Crude publication, quotation names - URALS NWE and URALS MED 80kt, unit of measurement is US dollars per barrel). There is no free access to the resources of this agency. But the Ministry of Economic Development of the Russian Federation publishes information on average monthly oil sales prices [7]. This aspect is key in determining the frequency of statistical information to be further analyzed.

An increase in the analyzed range of the source data does not always positively affect the results of

econometric modeling. Relationships of indicators, especially economic ones, at a certain point in time can change or even disappear. In this regard, it is necessary to analyze the stability of the model or use small amounts of data, within which it is assumed that the dependence formed at the current time is.

The correlation-regression analysis is necessary to determine whether there is a relationship between the variables and build a regression model that describes their relationship. The choice of the regression model, as well as the frequency, has a significant impact on the results of the analysis. In the process of selecting the type of regression, one should adhere to the rule "the model should be as reliable as possible and, at the same time, the simplest." Therefore, in this case, the choice of paired linear regression is the most appropriate.

Regarding time series models, their use in the economic evaluation of field development projects is inappropriate. This is due to the fact that the calculations, according to temporary methodological recommendations, are carried out by year and there are no cyclic fluctuations in this case. If it is necessary to carry out a calculation in a more detailed time interval for a short period of time, the modeling of time series would definitely make a significant contribution to forecasting the information users who are interested.

Once the type of model, the frequency, as well as the period of statistical information is selected, these aspects should be considered when conducting sensitivity analysis in accordance with methodological recommendations for the preparation of technical projects for the development of hydrocarbon deposits.

RESULTS

For a sensitivity analysis, the export prices are the values of Urals oil selling prices. The change in the export price affects the export netback necessary for calculating the revenue from the sale of hydrocarbons, the mineral extraction tax rate (MET), and the export duty rate. In turn, simultaneously with the level of selling prices for Urals oil, the same economic indicators are affected by the value of the US dollar exchange rate [Fig. 1].

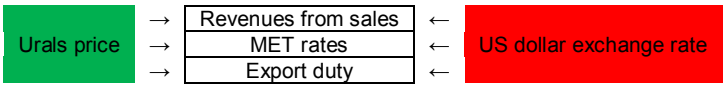

Fig. 1: The effect of Urals crude price and US dollar exchange rate on estimated economic indicators.

Thus, to conduct a sensitivity analysis, we need to answer the question: should the relationship between the export price of hydrocarbon sales and the US dollar exchange rate, if any, be taken into account? To do this, we shall consider the monthly average data for the period from January 2003 to September 2018 [Fig. 2] [8].

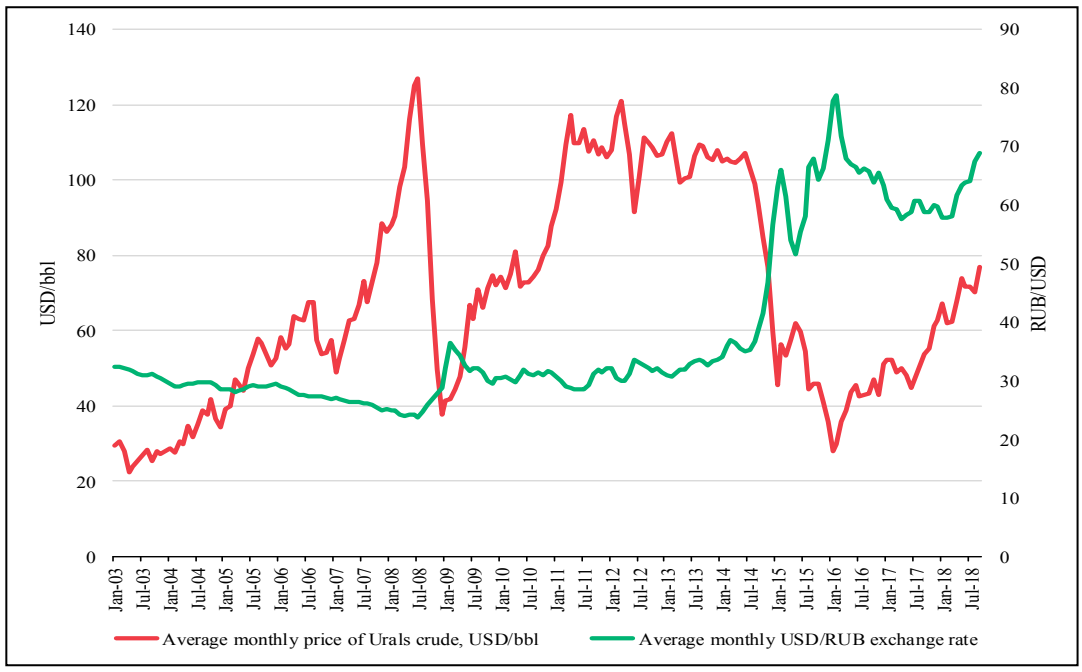

Fig. 2: Changes in the average monthly oil price and the US dollar over time.

[Fig. 2] shows that there is an inverse relationship between the considered indicators at certain time

intervals. Moreover, their elasticity is not constant. For a more detailed analysis, we construct the correlation field of the average monthly oil selling price and the US dollar exchange rate [Fig. 3].

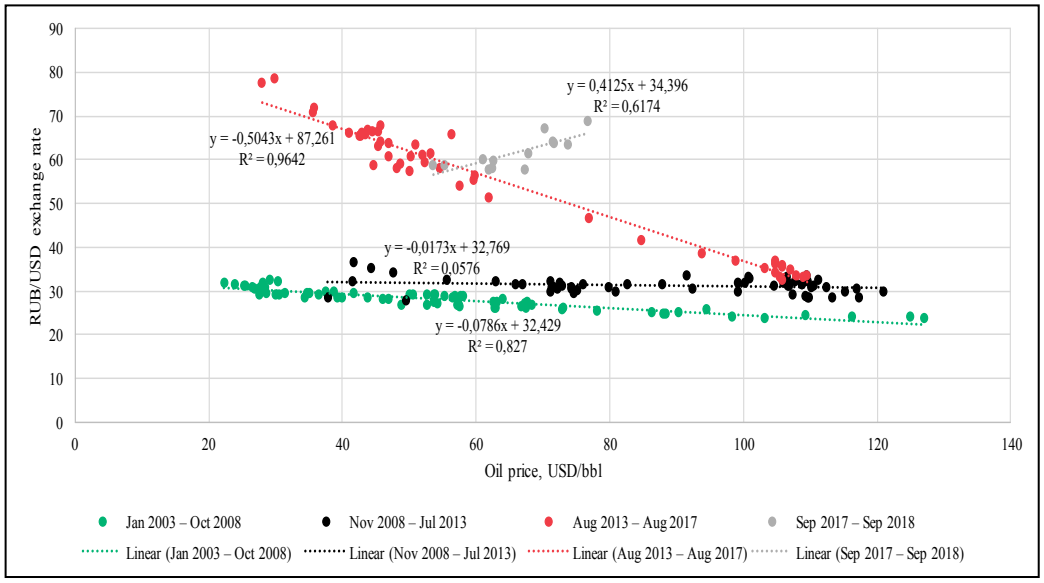

Fig. 3: The correlation field between the average monthly values of the US dollar and the price level of Urals oil.

[Fig. 3] demonstrates the inconstancy of the correlation of the considered indicators. From January 2003 to October 2008, there was a fairly strong inverse relationship between the selling price of oil and the exchange rate of the US dollar. From November 2008 to July 2013, there is no correlation between these indicators. From August 2013 to August 2017, a high correlation was observed. And from September 2017 till present, the relationship has become direct.

These findings can also be associated with an analysis of the dynamics of such indicators as the export duty rate, the MET rate and the export netback [Fig. 4]. To compare data, the calculation of the considered indicators was performed under the legislation for subsoil users in force at the end of 2018.

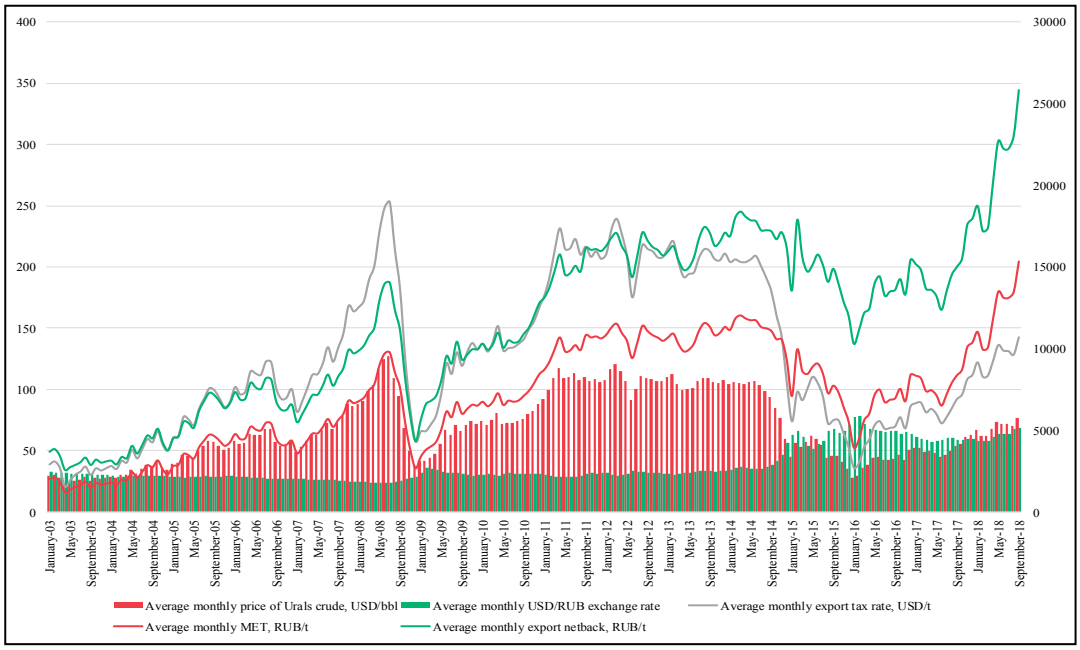

Fig. 4: Comparison of the dynamics of economic indicators.

[Fig. 4] shows that, from 2003 to 2009, the change in the selling price of Urals oil was comparable to the MET rate. From 2009 to mid-2013, such comparability was observed between the export duty rate and the export netback. From 2015 to September 2017, export duty and MET rates are comparable. Around the same periods, various relationships were observed between the selling price of oil and the exchange rate of the US dollar.

We shall carry out a correlation analysis between these indicators for each of the selected time periods. In the first time period - from January 2003 to October 2008, there are strong dependencies between all variables [Table 1]. The export duty rate calculated according to the current legislation will in all cases have a close, and sometimes complete functional dependence on the selling price of Urals oil [9]. This time period is characterized by an inverse strong correlation between the selling price of oil and the US dollar exchange rate, which is clearly shown in [Fig. 3]. A netback has a strong direct correlation with the selling price of oil and an inverse strong correlation with the US dollar exchange rate.

Table 1: Correlation matrix between variables for the period from January 2003 to October 2008

	Urals	Exchange rate	Duty	Netback	MET
Urals	1				
Exchange rate	-0.90938	1			
Duty	0.999978	-0.90988	1		
Netback	0.995154	-0.88633	0.995206	1	
MET	0.99638	-0.89954	0.996485	0.999561	1

From November 2008 and July 2013, the correlation between the selling price of oil and the US dollar exchange rate almost ceases to exist [Table 2] [10]. Netback and MET rates also have no correlation with the exchange rate. There is a strong direct correlation between variables with the exception of the US dollar.

Table 2: The correlation matrix between variables for the period from November 2008 to July 2013

	Urals	Exchange rate	Duty	Netback	MET
Urals	1				
Exchange rate	-0.26971	1			
Duty	1	-0.26971	1		
Netback	0.982238	-0.09796	0.982238	1	
MET	0.988341	-0.13707	0.988341	0.999224	1

From August 2013 to August 2017, the correlation between the selling price of oil and the exchange rate of the US dollar again became strong and inverse [Table 3]. All indicators also have a close relationship with each other.

Table 3: The correlation matrix between variables for the period from August 2013 to August 2017

	Urals	Exchange rate	Duty	Netback	MET
Urals	1				
Exchange rate	-0.98194	1			
Duty	1	-0.98194	1		
Netback	0.879717	-0.85043	0.879717	1	
MET	0.951211	-0.93897	0.951211	0.979498	1

Since September 2017, the situation has changed dramatically. The high correlation between the selling price of oil and the exchange rate of the US dollar has changed the direction from an inverse relationship to a direct one [Table 4]. Netback is directly dependent on the selling price of oil and the exchange rate of the US dollar.

Table 4: The correlation matrix between variables for the period since August 2017

	Urals	Exchange rate	Duty	Netback	MET
Urals	1				
Exchange rate	0.785742	1			
Duty	1	0.785742	1		
Netback	0.96581	0.91863	0.96581	1	
MET	0.975559	0.901595	0.975559	0.999153	1

Thus, the assessment of the economic efficiency of oil field development projects should take into account the regression relationship. For comparability of the calculations to the requirements of temporary guidelines for the preparation of technical projects for the development of hydrocarbon deposits, it is necessary to conduct an analysis for a period equal to the last 12 months, consisting of average selling prices of Urals oil and the exchange rate of the US dollar. For the analyzed indicators, a linear pair

regression is constructed, the obtained values of which can be used to predict changes in the currency exchange rate from changes in oil sales prices. With this calculation, the constructed regression equation will always go through the average annual values of the analyzed indicators.

SUMMARY

The proposed approach allowed us to achieve the quality of a simulated adaptive floating model for the period from January 2003 to September 2018 at the level of 99.01%. The graph of the dynamics of the initial data of the US dollar exchange rate and model values is presented in [Fig. 5].

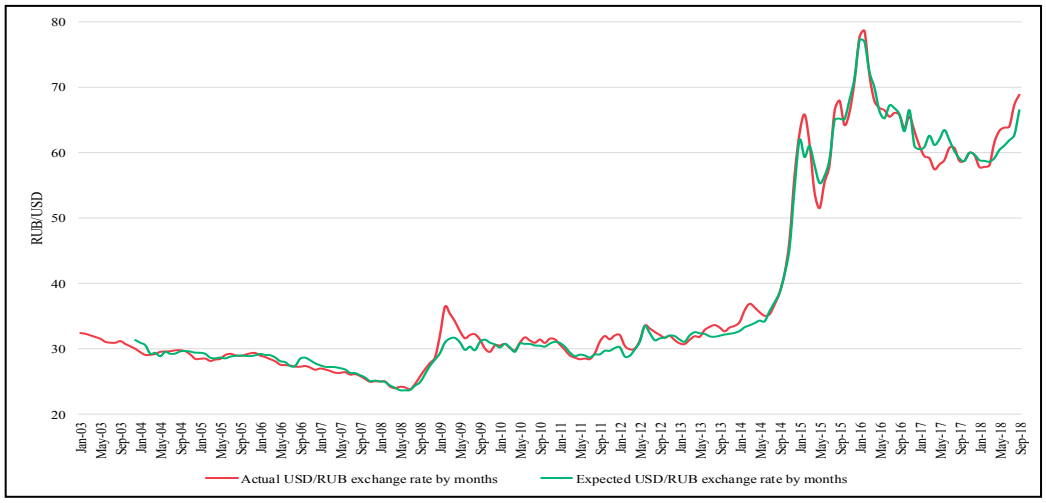

Fig. 5: Changes of actual and forecast average monthly values of the US dollar over time.

The sensitivity analysis of the export netback of crude oil in this case is presented in the form of a spider chart in Figure 6. Since September 2017, the relationship between the selling price of oil and the dollar exchange rate has changed from the direct to the direct, the graph shows the range of changes in the export netback from taking into account the dependence increased (with an inverse dependence should decrease).

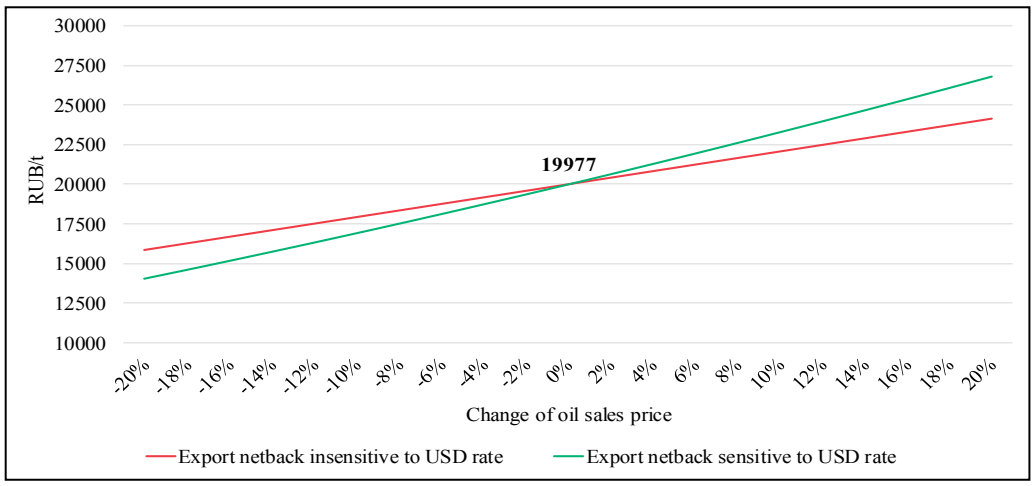

Fig. 6: Analysis of the sensitivity of the export netback for crude oil, both with and without the adaptive regression relationship between the selling price of oil and the exchange rate of the US dollar according to September 2018.

The dynamics of the export netback for crude oil with a change in the selling price, taking into account the relationship on the exchange rate of the US dollar for the proposed approach, is presented in [Fig. 7].

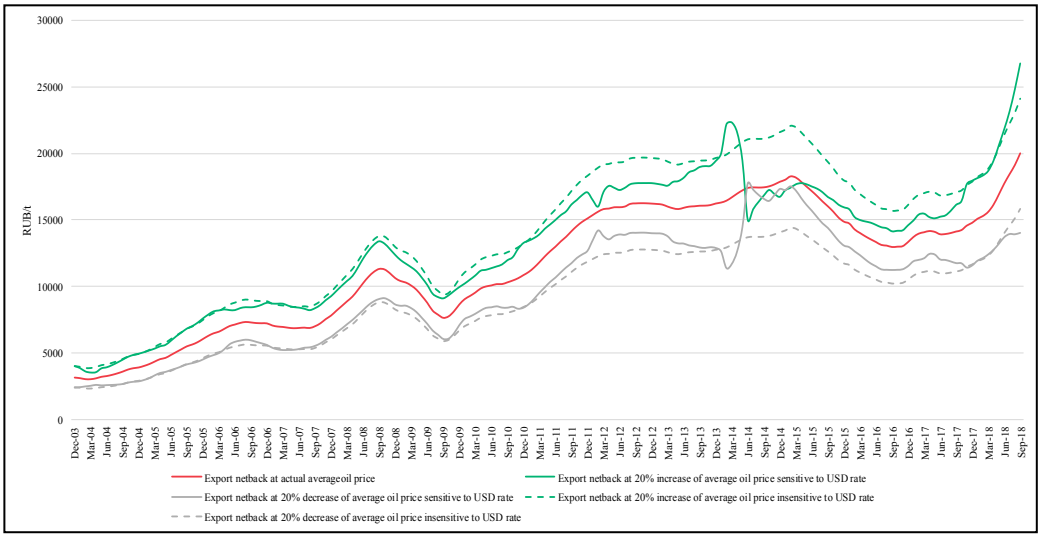

Fig. 7: Changes in crude oil export netback over time.

As part of this study, an analysis was made of the impact of legislative changes regarding the tax severance tax on the MET on the results of a sensitivity analysis of the proposed approach [Fig. 8].

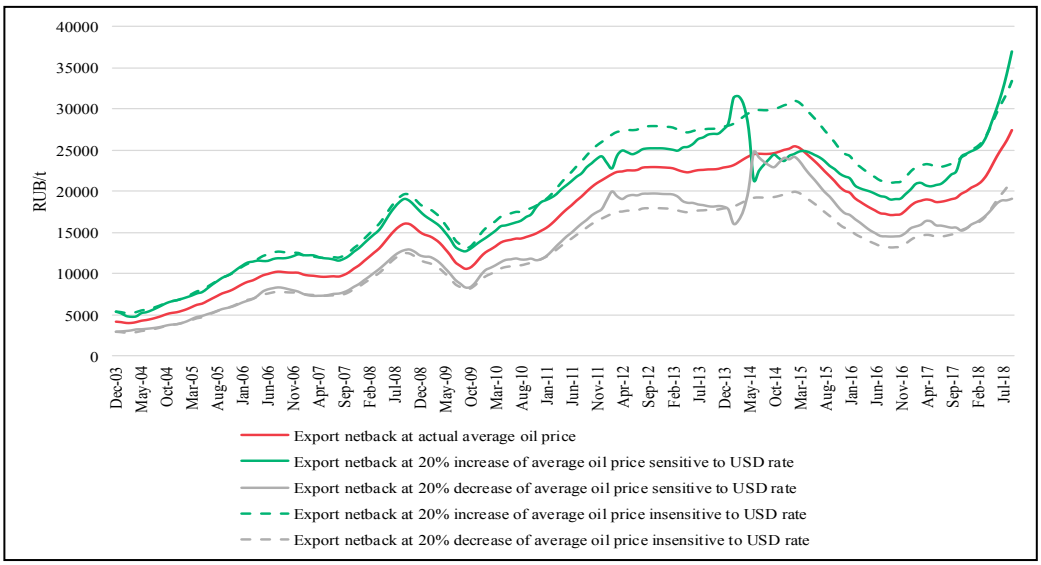

Fig. 8: Changes in the export netback of crude oil over time subject to the completion of the tax maneuver for mineral extraction tax.

In general terms, a tax maneuver involves a gradual (within 5 years) conversion of the customs duty rate to the MET rate [11, 12]. Upon completion of such a maneuver, the export netback should increase, as the export duty rate will be 0. At the same time, deductions to the budget due to mineral extraction tax will increase. Moreover, an increase in netback (reduction in the rate of export duty) and the MET rate will be carried out by the same amount. Net income of a subsoil user, both discounted and non-discounted, will not change. Only relative economic indicators will change (cost-effectiveness index and investment profitability index). Also, the dynamics of the export netback practically did not change, and the values of the indicators increased due to the zeroing of the customs duty rate; the interpretation of the results remains unchanged.

CONCLUSION

Project payback, net present value of the subsoil user, internal rate of return, return on investment, and cost indices are subject to risk. Satisfying the requirements of the subsoil user, the values of these indicators should be resistant to changes in various factors: the selling price of oil, the level of oil production, the amount of capital investment, the level of current costs. However, it is necessary to take into account the possibility of the influence of factors on each other.

Using the approach proposed in this work to determine the regression relationship between the selling price of oil and the US dollar exchange rate, it is possible to more reliably predict changes in economic indicators

that affect the efficiency of oil field development projects. The proposed approach allows for a more reliable analysis of the sensitivity of technical and economic indicators.

CONFLICT OF INTEREST

There is no conflict of interest.

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None.

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ARTICLE

THE FORMALIZED ASSESSMENT OF INTERRELATION OF REGIONAL BUSINESS CYCLES WITH MACROCYCLES: METHODOLOGICAL APPROACH AND ITS APPROBATION

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ABSTRACT

Issues revealing the features of the interaction of different-scale economic cycles in terms of scientific and practical significance are extremely relevant, especially in the context of studying the cyclical development of regional socio-economic systems and their integration into generated macrocycles. The present article deals with the study of this methodological aspect. The object of research is the cyclical fluctuations of the macro- and mesoscale economies. The subject of research is the methodology of a formalized assessment of the identification of their relationship based on the definition of an integral index that assesses the expectations of business entities regarding future transformations in the system of socio-economic transformations and forms phase shifts in the cyclical development of meso- and macro-economic systems. Practical evaluation of the developed approaches made it possible to construct the trajectories of regional economic cycles, correlate them with macrocyclic fluctuations of the national economy and reveal in a formalized form the level of their interconnection, as well as the nature of inclusiveness of regional economic cycles in the generated macro-cycles. According to the results of the assessments, a pattern was established that shows that the higher the level of the socio-economic potential of the region and the parameters of its integration into the system of global reproduction processes are, the less is the dependence of the regional economic system on the generated macroeconomic cyclical fluctuations of the national economy..

KEY WORDS
cyclical fluctuations of economy,expectations of economic agents, relationship of economic cycles, regional economic cycles

INTRODUCTION

Currently, the question of the interrelation of cycles of different scale and amplitude is of extremely high scientific and methodological importance. An understanding of the mechanisms that determine this type of relationship lies in the definition of a unified, for all studied cycles, indicator evaluation system (and the corresponding unified measurement scale) that characterize phase shifts. However, given the varying levels of scale of the cycles, and, consequently, the factors that drive the cyclical development of the economy, the solution to this problem is quite difficult, requiring consideration and the correlation of short-term market drivers of phase shifts and long-term factors of demographic, social, scientific, technological, economic, environmental and other development.

Thus, the solution is complex and ambiguous, with respect to which there is no systemic clarity and generally accepted point of view. At the same time, the scientific community has undertaken attempts and conceptual approaches that reveal the mechanisms and possible forms of implementing such interconnections [1-3].

Unfortunately, we should state that the existing theoretical developments in the field of determining the relationships between different-format / multi-scale economic cycles are, as a rule, descriptive, to a greater extent, abstract in nature and are not based on empirical calculations substantiating and confirming the assumptions and hypotheses proposed.

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MATERIALS AND METHODS

A generalization of existing approaches that determine the relationship between cycles of different time scales and territorial projections suggests the development of a unified methodological framework such as the use of a concept based on modeling the expectations of economic agents. The latter, in a concentrated form, are a reflection of the system of short-, medium- and long-term indicators of the socio-economic development of the territory, characterizing and determining the pivot points of the cyclical development of the economy in the future. Considering the fact that the expectations of economic agents reflect promising macro-generations in the future, a quantitative determination of the values of their parameters allows us to determine future phase shifts within economic cycles that are classified as short-, medium-, and long-term, depending on the assessment of factors generating the corresponding short-, medium and long-term expectations. Thus, using a single indicator for all cycles that generates the trajectory of their development in the future — the expectations of economic agents, we can solve the problem of comparability of factors determining the phase shifts of the cyclical economic development of the meso- and macro-levels. Thus, the main idea is that any transformations in economic development, including in the sphere of phase shifts of economic cycles, are driven by the system of expected estimates

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about changes in the key parameters of factors that generate conditions for these phase shifts. Identifying the expected estimates of economic agents regarding future changes in the system makes it possible to determine with a high degree of certainty phase shifts within economic cycles. In addition, the relevance of the use of an indicator that estimates the expectations of economic agents is also increasing in the framework of solving the problem of identification and formalized assessment of the relationship between different economic cycles. The construction of cyclic development paths on the basis of this indicator forms the basis for conducting economic analysis within a single measurement system, which determines new possibilities for comparing various economic cycles with each other.

RESULTS

The search for answers to these questions is undoubtedly non-trivial. The solution to some of them is reflected in the works by Russian scientists [4], Briukhanova V.B., Antokhonova I.V. [5], Zageeva L.A. [6], and Smirnova S.V. Foreign researchers such as Viber R. [7], M. Schilman [8], Chase C., Villard A. [9], Thomson V. [10], Russell C. [11], Lucas R. [12], Marchet C. [13] and others made a significant contribution to the development of this question in the theory of economic cycles.

The proposed hypothesis on the relationship between cyclic vibrations of the macro- and mesoscale, undoubtedly, must be supported by the use of methods of scientific knowledge and research of the analyzed processes, which form the basis for constructing an objective evidence base. The use of modeling and quantitative assessment of the so-called “three-dimensional expectations of economic agents (3D - expectations) regarding current and upcoming transformations in three basic coordinates — economic, social, and institutional — on the meso-, macro, and global levels, which allows for a comprehensive assessment of key parameters and limits of the generation of economic cycles of individual territories” has been proposed as the main direction that fits into this research paradigm [14]. A detailed description of the essence of the developed method is described in previously published works of the authors.

In a concentrated form, the essence of the method of constructing integral indices that evaluate in a formalized form the expectation system of economic agents is reduced to modeling of the accelerated development cycles, which are understood as “periodic steady fluctuations in the expectations of economic agents with special types of patterns that are subject to changes in short-term, medium-term, and long-term market and institutional factors and forming conditions for phase shifts in economic dynamics based on transforming current x and mental evaluations regarding the upcoming changes in the future, allowing on the basis of the known theory postulates expectations improve the quality of regional forecasting, timely predict the turning points of the economic cycle phase shifts depending on programmable (identifiable) parameters of expectations of economic agents" [15].

In a generalized form, the structural-logical diagram of modeling the cycles of rapid development is presented in [Fig. 1].

The key essence of the method is to determine the aggregate values of the index of priority development based on the identification of the system of leading factors of the institutional and market order using tools of cross-correlation analysis [15]. At the same time, it is assumed that since the calculation process uses indicators of accelerated development relative to GRP/GDP, which determine the development directions of the institutional and market environment in the future, then they can help to quantitatively express the expectations of business entities regarding future transformations and transformations that they currently evaluate.

In a formalized form, the process of determining the values of the aggregate accelerated development index (ADI) is presented below (based on a previously developed author’s technique [15]):

$$I_i = W_1 \cdot I_{1i} + W_2 \cdot I_{2i} + W_3 \cdot I_{3i} + W_4 \cdot I_{4i} + W_5 \cdot I_{5i} + W_6 \cdot I_{6i} + W_7 \cdot I_{7i},$$

where Ii - ADI value;

i– period value (year, in our case);
I1i– subindex of urban development in the i-th year;
I2i - subindex of human capital in the i-th year;
I3i - subindex of production and resource development in the i-th year;
I4i - subindex of institutional and cultural development in the i-th year;
I6i - subindex of economic activity development in the i-th year;
I6i - sub-index of research potential in the i-th year;
I7i - subindex of capital change;

W1, W2, W3, W4, W5, W6, W7 – weighting coefficients of the corresponding indices, calculated on the basis of taxonomic analysis.

The choice of the composition of sub-indexes is determined by their decisive role in the process of forming the expectations of economic agents and includes both market and institutional parameters.

Practical evaluation of the proposed methodological approaches is given in the present study on the example of the analysis of the relationship between short-term economic cycles recorded in the Republic of Tatarstan and the national economy as a whole.

The results of the calculations and estimates based on modeling the short-term expectations of economic agents identifying the dynamics of the composite indexes of the outstripping development of the studied socio-economic systems are shown in [Fig. 2].

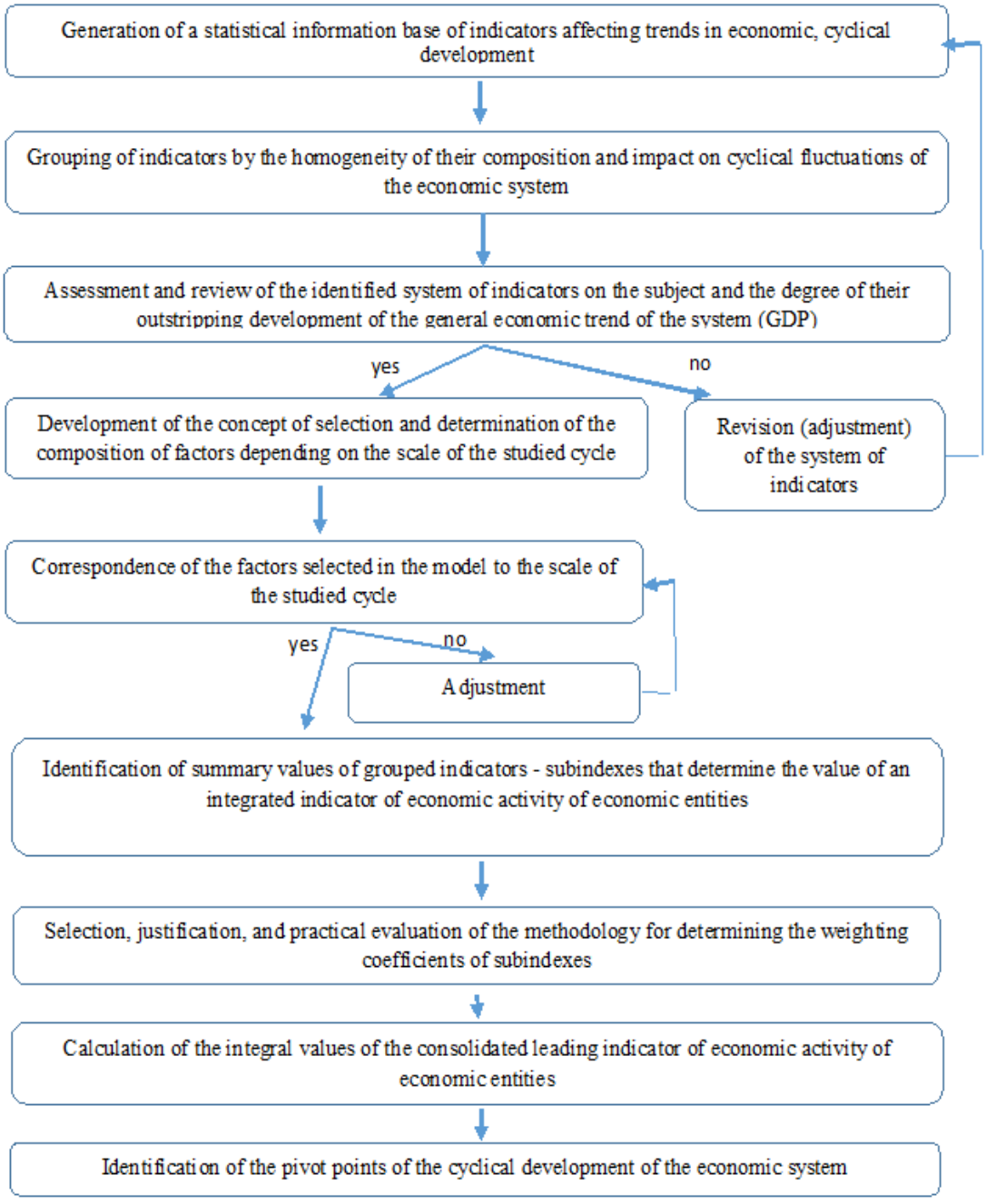

Fig. 1: A structural-logical scheme of modeling the accelerated development cycles [14].

The time series shown in the figure is characterized by a high level of convergence. At the same time, their graphic illustration clearly demonstrates the discrepancies in growth rates and oscillation amplitudes. Given that the composite index of accelerated development, in accordance with the developed concept, is an expression of the expectations of economic agents, in a concentrated form reflecting the essence of the upcoming cyclical fluctuations of the economy, we can conclude that, firstly, the economic cycles of the meso- and macro-levels are asynchronous; secondly, they are in an unambiguous relationship. According to the results of the correlation analysis aimed at determining the level of such a relationship, the correlation value was established at the level of 0.81, which indicates the presence of a high level of interdependence between the analyzed time series.

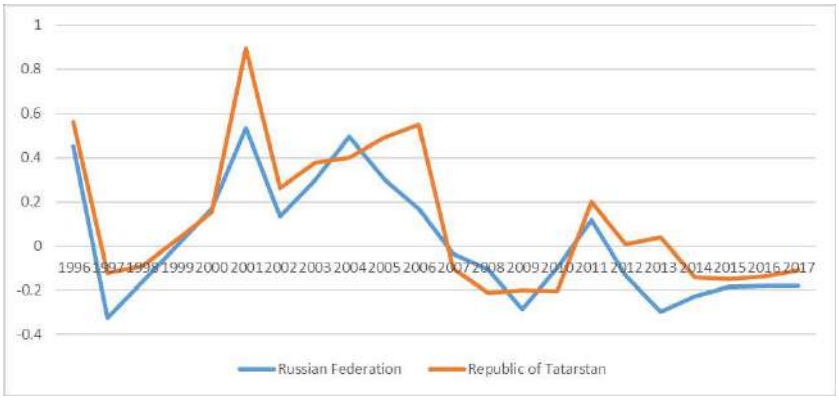

Fig. 2: Integral values of composite indices of the advanced development of the Russian Federation and the Republic of Tatarstan (formalized estimates of the expectations of macro- and mesoscale economic agents).

The presence of a high level of correlation actualizes and justifies the conduct of regression analysis, the results of which are presented below.

The following equation is obtained:

$$PT = 0{,}095 + 1{,}044 \cdot RF$$

where

RT - a composite index of the advanced development of the Republic of Tatarstan;
RF - a composite index of the advanced development of the Russian Federation.

The statistical significance of the resulting equation is confirmed by a high level of indicators characterizing the suitability of using the obtained model (determination coefficient is 0.79; criteria are values less than a given significance level of 0.05).

A similar type of analysis was extrapolated to other regions of the Volga Federal District, the results of which are presented in [Fig. 3].

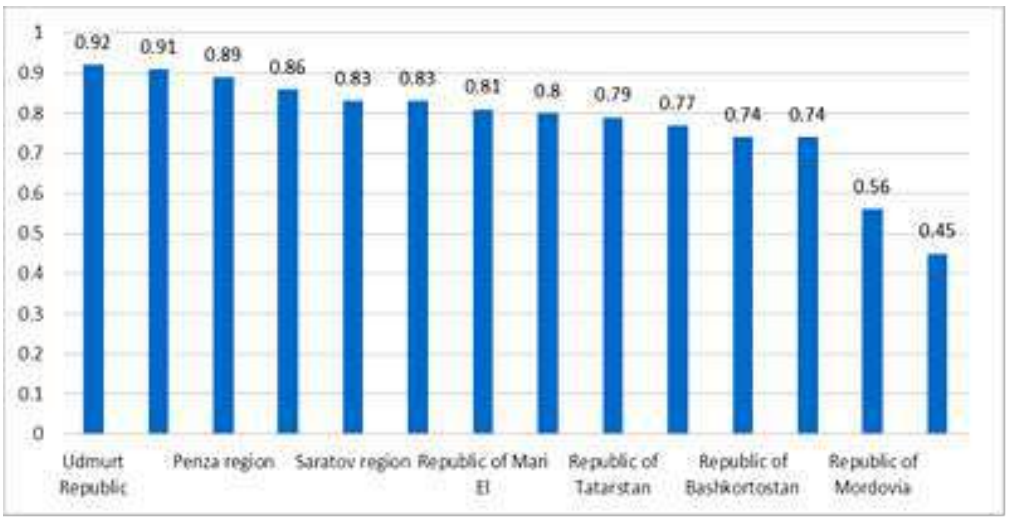

Fig. 3: Values of the coefficients of determination of regression equations that evaluate the relationship between the composite indices of the rapid development of the regions of the Volga Federal District and the Russian Federation.

SUMMARY

According to the results of the estimates, a very curious pattern is manifested - the higher the level of the socio-economic potential of the region (the Republic of Tatarstan, Samara region, Nizhny Novgorod region, etc.) - the less the dependence of the regional economic system on the generated macroeconomic cyclical fluctuations. It should be noted that such a pattern is very conditional. This fact can be explained by relying on the assumption that the higher the level of integration of the region into the system of global

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reproduction chains is, the more transformed the system of generated expectations of regional economic agents becomes. That is, in fact, the regional economic system, developing in the wake of the national macroeconomic cycle, begins to generate its own, to some extent, autonomous development paths, which forms the dissonance effects between macro- and meso-economic cycles. Meanwhile, moderately globalized regions, relying entirely on the parameters of national economic growth drivers, demonstrate a higher convergence of their cyclic development paths with macro-cycles, which is confirmed by high levels of elasticity [Fig. 4].

CONCLUSION

Summing up the intermediate result of the methodological support of mechanisms for searching for interconnections between regional and national cycles we should state the existence of such interconnections. At the same time, their qualitative characteristics are very differentiated, depending on the level of integration of regional socio-economic systems into global reproduction processes. The revealed interconnections form a practical basis for the development of prognostic estimates of regional development as a result of phase shifts in macro-economic cycles.

The algorithm for identifying regional economic cycles developed in this study allows us not only to determine the comprehensive nature of the trajectories of the cyclical development of meso- and macro-economic systems, and on this basis to predict their further sinusoidal trends but also to determine the key factors affecting these cyclical fluctuations of regional economies, including inter cyclic interaction factor. This, in turn, forms a stable basis for the development of a set of state measures of "targeted" impact on trends in the socio-economic development of regional systems, considering the expected phase shifts of the generated macroeconomic cycles.

CONFLICT OF INTEREST

There is no conflict of interest.

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FINANCIAL DISCLOSURE

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ARTICLE

METHODOLOGICAL APPROACHES TO ECONOMIC JUSTIFICATION OF INDUSTRIAL DEVELOPMENT OF OIL FIELDS

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ABSTRACT

The oil industry is an example of a high-risk business. The first risk appears already at the stage of well drilling - whether the well will produce oil or will be "dry". In addition, there are uncertainties associated with the political and economic situation in the world, changes in the world oil prices. Involvement in the development of hard-to-recover oil reserves is associated with the upcoming increase in efforts to extract them, which will ultimately affect the production cost. Energy resources are extracted primarily for the purpose of generating energy, so it is important to know the level of energy costs, which can become a criterion for the economic efficiency of an oil field. The application of method proposed by us and used to calculate the technical and economic indicators of oil production based on the total energy costs allows estimating the maximum production rate of the well and the maximum water cut of the extracted oil and gas, regardless of fluctuations in the world prices for these energy carriers and changes in the state tax policy.

KEY WORDS
energy resources, energy costs, oil producing fields, oil production, energy costs, tax system.

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INTRODUCTION

Increased industry competition and unstable profitability are inherent in today's oil industry. There is a problem of constant containment of cost growth. The end of the "era of light oil" and the increase in capital intensity of the oil industry are reflected in increased costs.

The oil industry is an energy-intensive industry of the Russian Federation. Therefore, special attention is paid to the limit of well operation and timely shutdown or transfer to other categories at the present stage of its development. This is due to the fact that many of the country's oil fields have entered the late stage of development, which is characterized by high water cut with a low production rate of the wells [5-12].

The current regulations for the preparation of design technological documents for the development of oil and gas and oil fields are "Temporary Guidelines for the Preparation of Technical Projects for the Development of Hydrocarbon Deposits" (hereinafter - TG), which determines the forecasting and comparison of technical and economic indicators for the predicted and cost-effective period of field development. The economic limit of field development is determined by the last year of profitable facility operation. The technological limit of the production well operation is determined on the basis of the water cut of the produced products at the level of 98%.

We propose to determine the field operation limit using the total energy costs. The approach taken to justify the well operation limit based on the level of energy costs was previously considered in the scientific papers [1–5]. Firstly, the energy equivalent of the extracted oil and associated gas extracted with it is determined, then the energy costs for producing hydrocarbon raw materials are determined.

The approach taken as a basis was supplemented by measuring the energy costs necessary for servicing wells and eliminating oil production facilities, oil and gas transport, maintenance systems for reservoir pressure and oil preparation, as well as reclamation of mining allotment lands, which significantly changes the results.

MATERIALS AND METHODS

The universal nature of the proposed energy-economic approach is as follows [13-17]:

- Only energy costs are used, which are converted into fuel equivalent through the calorific value of the group concerned;
- The calorific value of oil, gas, etc. are independent of fluctuations in the world and domestic oil and gas prices;
- The current tax system and its changes do not affect the ultimate energy equivalent;
- The last settlement year of the assessment of technical and economic indicators of oil field development is determined;
- The marginal production rate of the producing well and the maximum water cut of the product are estimated.

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The decision to stop calculating the technical and economic indicators of the field development is made on the basis that the energy costs exceed the energy equivalent of the produced products of the well (field). This provision is substantiated by the fact that the bulk of the oil produced is currently used as fuel with a certain refining depth, which needs to be increased [18, 19].

The total energy costs minus unforced losses can be aggregated into 5 groups:

- Oil and associated gas for own needs;
- Electric energy costs, taking into account losses in power lines;
- Thermal energy costs for the oil preparation;
- Oil product costs for well servicing and facility liquidation;
- Propane and acetylene costs for facility liquidation.

$$\begin{aligned} Э_з = Q_{нн} * m_н + Q_{пгн} * m_г + Э_э * \sigma * \frac{Q_{тов}}{1-B} + Э_т * m_г + , \\ + \left(Э_п^1 + Э_п^2\right) * m_п + Э_{с3н8} * m_{с3н8} + Э_{сн=сн} * m_{сн=сн} \end{aligned} \quad (1)$$

where: $Э_з$ - total energy costs, kgoe;

$Q_{тов}$ - commodity volume of oil production, t;

$Q_{нн}$ - oil for own needs, t;

$Q_{пгн}$ - amount of associated petroleum gas for own needs, m3;

$Э_э$ - electricity costs, taking into account losses in power lines for extraction, transportation, preparation of oil and gas and maintenance of reservoir pressure, kWh/t;

$Э_т$ - thermal energy costs for oil preparation, kWh;

$Э_п^1$ - petroleum product costs for maintenance and operation of equipment, overhaul and current repair of wells, workshop and general production costs and application of oil recovery increase methods, t;

$Э_п^2$ - oil product costs for the elimination of wells, dismantling of well sites and gauges, oil gathering systems, maintaining reservoir pressure and oil treatment, pipelines, high-voltage lines and substations, removal of dismantled structures and land reclamation, t;

$Э_{с3н8}$ - propane costs for dismantling well sites and metering devices, oil gathering systems, maintenance of reservoir pressure and oil preparation, pipelines, high-voltage lines and substations, m3;

$Э_{сн=сн}$ - acetylene costs for dismantling well sites and metering devices, oil gathering systems, maintenance of reservoir pressure and oil preparation, pipelines, high-voltage lines and substations, m3;

$m_н$ - calorific value of oil, kgoe/t;

$m_г$ - calorific value of associated petroleum gas, kgoe/m3;

$m_п$ - calorific value of oil products, kgoe/t;

$m_{с3н8}$ - calorific value of propane, kgoe/m3;

$m_{сн=сн}$ - calorific value of acetylene, kgoe/m3;

σ - specific consumption of equivalent fuel for electricity generation, kgoe/kWh;

B - water fraction in the withdrawn liquid, unit fractions.

By transforming formula 1, we can obtain a formula that allows determining the total energy costs for one production well:

$$\begin{aligned} \gamma_з = q_н * m_н * \left(k_{сн} + \frac{k_{сг} * q_г}{1000}\right) + \gamma_э * \frac{q_н * \sigma}{1-B} + \gamma_{ппд} * k_о * \frac{q_н}{1-B} * \frac{N_{нагн}}{N_{доб}} * \sigma + \\ + \gamma_{под} * \frac{q_н}{l} * \sigma + \left(\gamma_п^1 + \gamma_п^2 + \gamma_п^3 * \frac{N_{нагн}}{N_{доб}}\right) * m_п + \left(\gamma_{с3н8}^1 + \gamma_{с3н8}^2 * \frac{N_{нагн}}{N_{доб}}\right) * \\ * m_{с3н8} + \left(\gamma_{сн=сн}^1 + \gamma_{сн=сн}^2 * \frac{N_{нагн}}{N_{доб}}\right) * m_{сн=сн} \end{aligned} \quad (2)$$

where: $\gamma_з$ - specific energy costs, kgoe;

$q_н$ - oil flow rate, t/day;

$q_г$ - gas factor, m3/t;

$k_{сн}$ - oil fraction for own needs, units fractions;

$k_{сг}$ - associated gas fraction for own needs, unit fractions;

$k_о$ - oil selection compensation ratio by water injection, unit fractions;

$N_{нагн}$ - number of injection wells, wells;

$N_{доб}$ - number of producing wells, wells;

$\gamma_э$ - specific energy costs, taking into account losses in power lines for the extraction and transportation of oil and gas, kWh/t;

$\gamma_{ппд}$ - specific energy costs, taking into account losses in power lines to maintain reservoir pressure, kWh/m3;

$\gamma_{под}$ - specific electricity costs, taking into account losses in power lines for oil treatment, kWh/t;

γ_n^1 - specific petroleum product costs for maintenance and operation of equipment, overhaul and current repair of wells, workshop and general production costs and application of oil recovery increase methods, t/well;

γ_n^2 - specific oil product costs for of well elimination, dismantling of well sites and metering devices, oil gathering systems, oil treatment, oil and gas pipelines, high-voltage lines and substations, removal of dismantled structures and land reclamation, t/well;

γ_n^3 - specific oil product costs for dismantling the maintenance system for reservoir pressure, water pipelines, power lines, removal of dismantled structures and land reclamation, t/well;

$\gamma_{с3н8}^1$ - specific propane costs for dismantling well sites and metering devices, oil gathering systems, oil treatment, oil and gas pipelines, high-voltage lines and substations, m3/well;

$\gamma_{с3н8}^2$ - specific propane costs for maintenance systems for reservoir pressure, water conduits and power lines, m3/well;

$\gamma_{сн=сн}^1$ - specific acetylene costs for dismantling well sites and metering devices, oil gathering systems, oil treatment, oil and gas pipelines, high-voltage lines and substations, m3/well;

$\gamma_{сн=сн}^2$ - specific acetylene costs for dismantling of maintenance systems for reservoir pressure, water conduits and power lines, m3/well;

l - oil fraction in the fluid passed through the oil treatment unit, unit fractions.

RESULTS

[Fig. 1] shows the enlarged structure of energy costs at a well flow rate of 1 t/day for oil and various water cuts of produced products. The water cut varies from 80 to 99 percent in increments of 1%.

The largest relative share in energy costs is represented by conditionally fixed energy costs, which include: costs of fuel, propane and acetylene attributable to the elimination of production, transportation, oil treatment and reservoir pressure maintenance systems; energy costs as a part of oil and gas costs for own needs; oil product costs for well servicing and maintenance of current oil production. The conditional variable ones include energy costs, depending on the current well flow rate, which are as follows: electricity costs for extraction to the surface, transportation, preparation and maintenance of reservoir pressure; heat energy costs for oil preparation [Fig. 1] shows that when the water cut of the extracted products exceeds 90%, the conditionally variable costs begin to increase significantly.

In the Republic of Tatarstan, the potential energy content in 1 ton of extracted Devonian oil and associated gas extracted with it is 1,456.29 kg of oil equivalent, taking into account losses for technical reasons. Oil losses account for 0.6% and associated petroleum gas - 1.3%.

[Fig. 2] shows the dependence of the total energy costs on the water cut of the product at different oil production rates for the producing well.

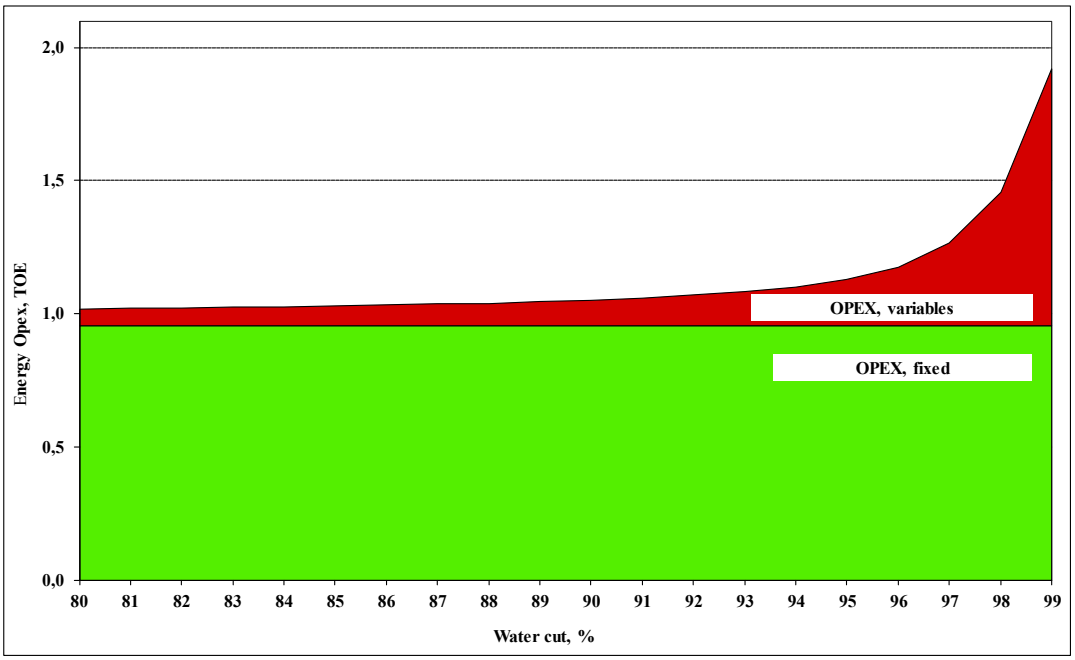

Fig. 1: Energy costs vs. water cut.

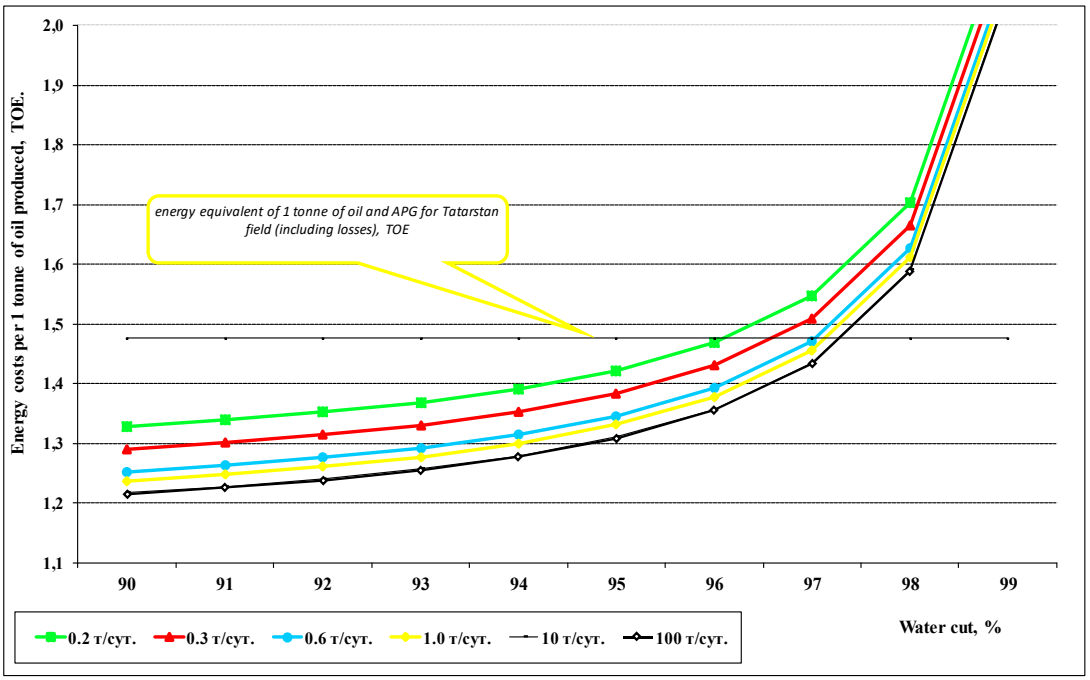

Fig. 2: Energy costs vs. oil production rate and water cut.

SUMMARY

The dependence given in [Fig. 2] shows that, the total energy costs will exceed the energy equivalent of the produced oil and associated gas with a well production water cut of 97% with an average daily production rate of 1 ton and above. Oil production at water cut above the indicated value will indicate unjustified energy consumption. The average daily oil production rate of more than 10 tons does not have any effect on the total energy costs, since the energy dependence curves at a production rate of 10 and 100 t/day are very close. If we consider low-production and high-water cut wells, then the water cut limit can be considered 96% for wells with an oil production rate of up to 0.2 t/day, 96.5% for wells with an oil production rate of 0.2 to 0.4 t/day and 97% for wells with an oil production rate of 0.5 t/day and higher.

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CONCLUSION

The application of the proposed method for determining the calculation limit of technical and economic indicators for oil field development on the basis of total energy costs allows estimating the maximum production rate of wells and the maximum water cut of produced products, regardless of fluctuations in world oil and gas prices and, most importantly, changes in the state tax policy regarding mining taxation. The proposed energy equivalent shall be recalculated, if we use extracted oil and associated gas as raw materials for petrochemicals.

CONFLICT OF INTEREST

There is no conflict of interest.

ACKNOWLEDGEMENTS

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FINANCIAL DISCLOSURE

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