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# Methodological Support of the Estimated Efficiency of Public Procurement on a Contractual Basis

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## ABSTRACT

The **subject** of the study is the problems of institutional and methodological-legal regulation of the contract system of public procurement. The **relevance** of the problem is due to the fact that there have been changes in the structure and composition of forms of contract activity as a result of the 2017 adoption of amendments to Law No. 44 in the dynamics of the distribution of order placement procedures. The **purpose** of the study is to develop a scientific methodology for calculating the effectiveness of procurement activities on the basis of a comprehensive assessment of the effectiveness of public procurement on a contractual basis, plan-fact analysis, and the implementation of the principles of compliance control in public procurement management. The paper uses **methods** of statistical and comparative analysis, generalization, classification and valuation. The paper shows that the present disadvantages of institutional regulation of procurement processes have a negative effect on their effectiveness, requiring improved oversight of public procurements as well as analytical and methodological support. The authors suggested that the principles of compliance-control of public procurement management be applied on a contractual basis in order to increase the level of credibility and legality of activities conducted in procurement. The author's vision of the content of the methods of calculating the performance of procurement activities on the basis of a comprehensive evaluation of the effectiveness of public procurements on a contract basis is presented. For the collection of data for plan-fact analysis, their systematization for further calculation of performance indicators of public procurement on a contractual basis, a specialized form "Data Summary for Plan-Fact Analysis of Procurement" is proposed. If the procurement proposals presented in the study are implemented, they will increase the efficiency of the Russian public procurement contract system, the responsibility of participants in it, and the professional competence of officials.

**Keywords:** institute of procurement; procurement; contract; state patronage; corruption; institutional trap; principles of compliance control

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## INTRODUCTION

### The relevance of the problem

The current institutional structure of the contract system in the field of procurement for state and municipal needs has not yet been formed. There are several reasons for this: the conceptual apparatus of the theory of procurement management has not been developed, which confuses the practice of purchasing; the principles of fair competition in the sphere of public purchases have not been established; the normative, legal and methodological basis of the procurement process is imperfect [1–3]. Significantly influenced by the processes of digitization of communications of procurement participants, which “breaks” customary traditions and procedures.

Researchers focus on procurement — it is first and foremost a set of methods that, to some extent, are able to satisfy the interests of the customer to the maximum extent.

In terms of market relations, the public procurement institute performs functions to satisfy state needs in a qualitative and timely manner, with the most efficient use of budgetary appropriations allocated for the establishment of public order; establishment of control; and ensuring transparency of state resource expenditure.<sup>1</sup>

However, the requirement of substantial temporary costs of contract managers for conducting transactions is predetermined by the text of the Federal Law from 05.04.2013 No. 44 “On the contract system in the sphere of procurement of goods, works, services for the provision of state and municipal needs” (further — Law No. 44), because it is extremely voluminous and difficult to perceive. Understanding the norms takes a long time. It is required to understand not only the text of Law No. 44, but also the comments to it, as well as rules

and numerous classifiers, in order to carry out a single procurement. It is impossible to build the skills of rapid search and effective application of essential information without such knowledge. In the recent history of Russia, the issue of the working hours of the employee of the contract service for procurement activities has been an open problem. Thus, in practice, questions often arise about the possibility of applying other methods of labor normalization by specialists to procurement activities in budget organizations. In their work, N. V. Yurchenko and E. A. Bykova discuss these issues and emphasize the following factors:

- difficulty of recording employment transactions when performed jointly or simultaneously by several employees;
- difficulty assessing the results of individual work due to the lack of standard time limits for individual work;
- the need to collect preliminary data on the types of operations and their duration in order to establish the number of staff according to time norms.

The subject of this study is the organizational and economic relations arising in the formation of the contract system in accordance with the existing legislative and regulatory legal acts between regulatory bodies and educational organizations — customers of goods, works, services through the system of public procurement.

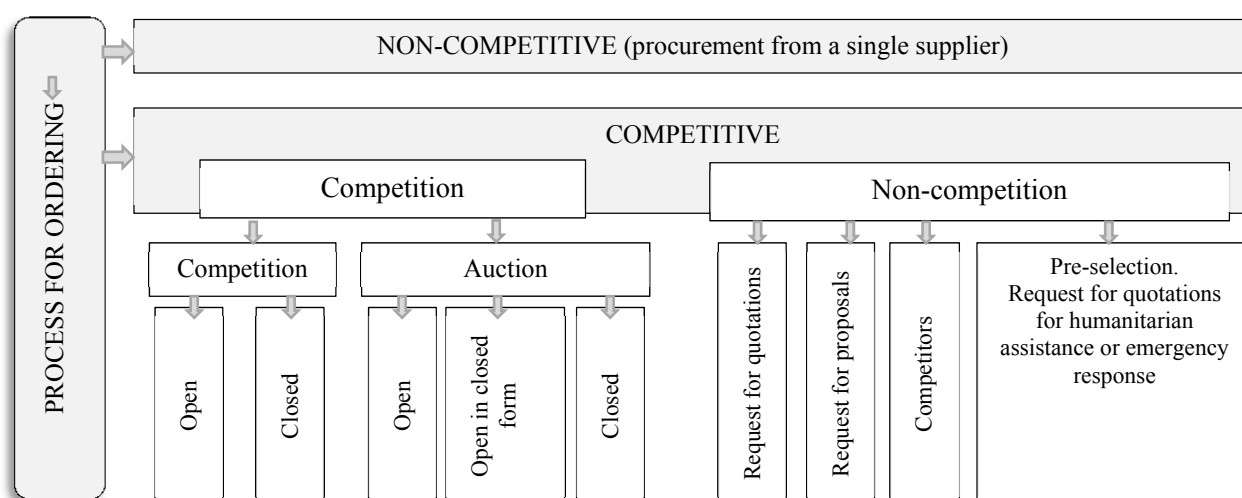
The article discusses the problems of institutional, methodological and legal regulation of the contract system of public procurement.

The purpose of the study is to develop scientifically substantiated and practical proposals on the methodology of calculating the effectiveness of procurement activities.

## MAIN PART

According to experts, the procurement institute with the adoption of the new version of Law No. 44 was in an institutional trap [4].

<sup>1</sup> Federal Law from 05.04.2013 No. 44 “On the contract system in the sphere of procurement of goods, works, services for the provision of state and municipal needs” (ed. from 02.07.2021).



**Fig. 1. Types and Subspecies of Procurement Methods in the Contract System**

Source: Compiled by the authors.

The fundamental difficulty inherited by the Russian Institute of Public Procurement from its “predecessor” was the corruption of contractual procedures. [3]. Due to the shortcomings of institutional regulation of contract-based public procurement and the corruption of quote requests, the Russian Federation’s FAS has taken the initiative to ban it from the available methods of placing state and local orders.

Being under the patronage of the State, procurement participants are obliged to comply with all requirements of Law No. 44 (small business entities (further — SBE), socially-oriented non-profit organizations (further — SONPO) and Federal Law from 18.07.2011 No. 223 “On Procurement of Goods, Works, Services by Certain Types of Legal Entities” (ed. from 04.08.2023) (commercial legal entities). Control over the implementation of the legislation is entrusted to such regulators as the Bank of Russia, the Ministry of Finance of Russian Federation, the Ministries of Economic Development of Russia, FAS of Russia, Rosfinmonitoring and others.

Adoption in 2017 of amendments to Law No. 44 substantially changed the structure and composition of forms of contractual activity (Fig. 1).

Dynamics of distribution of ordering procedures for the period 2010–2020 presented in Fig. 2.

State procurement is a special national entity whose aim is to supply the needs of economic actors in the form of goods, works, and services on contract conditions at the expense of budgetary funding. However, the existing shortcomings in the institutional regulation of procurement procedures have adversely affected their effectiveness [5]. To solve this problem, it is necessary to improve the management of public procurement and its analytical and methodological support.

Many contemporary analysts: V. V. Volchik, V. V. Gorlov, R. A. Grigoriev, O. V., Kiseleva, K. Yu. Kotova, T. V. Kramin, E. L. Kumundzhieva, A. E. Lapin, A. V. Lukinyh, O. V. Michalev, K. O. Muthylina, A. A. Nalbandyan, P. A., Pashin, E. Yu. Podosinnikov, K. V. Razuvaev, I. L. Surat and others are attempting to shape an idea about the content of the concept of “effectiveness of public procurement” and on this basis to develop a methodology for its assessment.

The Law No. 44 and the regulatory acts refer to the effectiveness of procurement, but they do not have a clear definition of the concept of “efficiency of purchasing”. In our view, the term “efficiency” is not quite suitable for

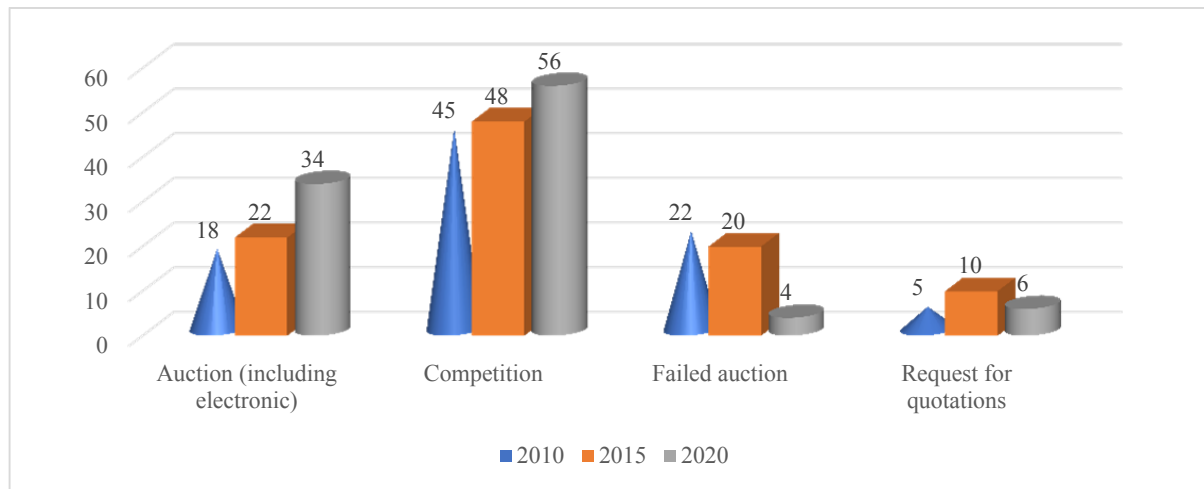


Fig. 2. Distribution of Order Placement Procedures (by Number of Procedures, %)

Source: Author's calculations.

evaluating the activities of the participants in the procurement process. The term “effectiveness” is more appropriate because it can reflect not only cost but other valuation indicators, such as qualitative valuations, the level of competitiveness of contracts, the duration of execution of orders, savings in time for forming an application, etc.

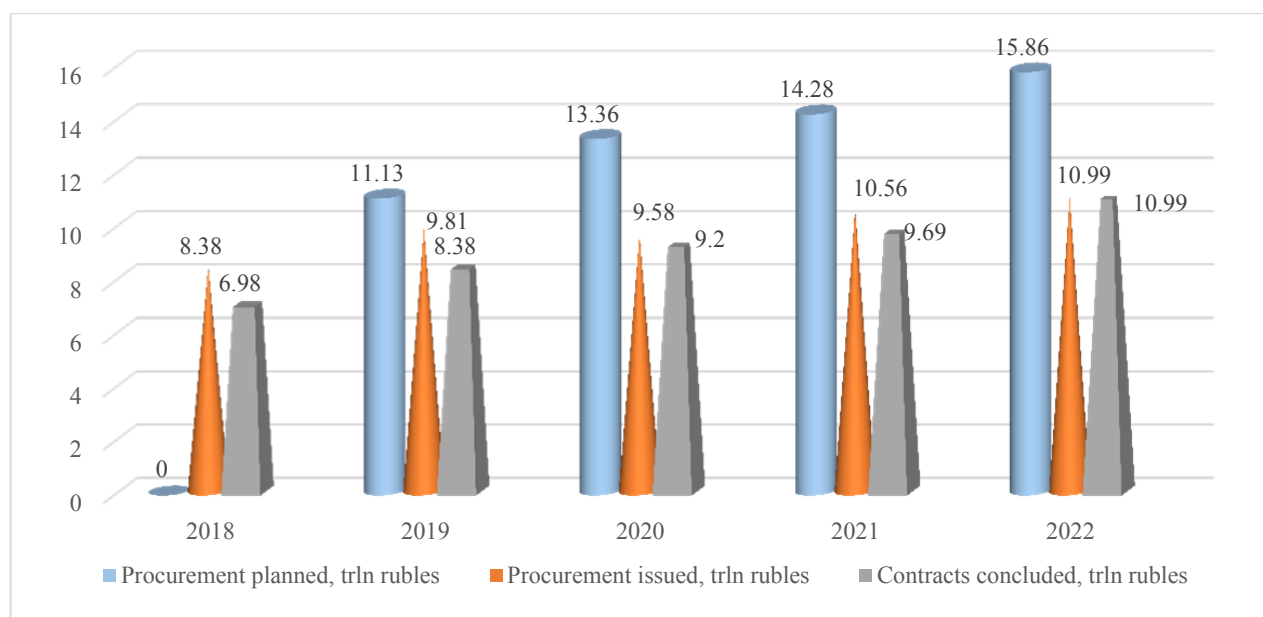
A study of the practice of Law No. 44 implementation revealed that not all regulatory difficulties had been handled, and as a result, SBE and SONPO are facing problems with order development, supplier selection, and price conditions of execution of the contract for the provision of products, works, and services. However, from the results of 2022, it can be concluded that the overall state of SONPO procurement is satisfactory (Fig. 3).

The methodical orientation of the recommendations for assessing the effectiveness of competitions for the placement of orders for the supply of goods for state needs (further — Recommendations) exclusively on price indicators puts state organizations before the need to stop their choice on cheaper, but less quality goods.

In addition to price indicators, the Recommendations include: share of tenders in total procurement, share of procurements from a single supplier, etc.

### REFLECTION OF A PROBLEM

Russian researchers on the evaluation of the effectiveness of public procurement on a contract basis are proposing their own developments. The study of these techniques shows that none of them can be considered imperfect. In the methodology of the team of authors of the Volgograd Institute of Business [6], the effectiveness of procurement is proposed to be characterized by such indicators as “the amount of savings, as well as an integral indicator of efficiency of the implementation of purchases (implementation of plans, reasonability of the initial price of contracts, proportion of competitive purchases, compliance with the legislation, discipline of contract execution)”. It should be noted that this methodology, despite its comprehensive nature, has disadvantages related to the fact that it does not take into account the specifics of the budgetary system and the institution of regulation of the public procurement system. The authors’ views on the quantitative expression of certain positions, in particular, such as compliance with contractual discipline in accordance with legal acts, procurement legislation, raise doubts. An important feature of the methodology developed by M.K. Aristarkhova, O.C. Zueva and A. Yu. Perevezentseva, “the simultaneous use of a dual system of



**Fig. 3. Dynamics of the Contract System of Public Procurement**

Source: Author's calculations based on: Statistics of implementation of procurement (Rosstat information); Report of the Ministry of Finance of Russia. Procurement monitoring. URL: <https://rosstat.gov.ru/folder/12979>; URL: <https://minfin.gov.ru/ru/performance/contracts/purchases>. (accessed on 20.01.2023).

assessments — by the executor of the public order and by the customer; this methodology is also based on the assessment of the performance of the state order at the time of its completion and after a certain time, when the quality of the works (services) performed or delivered goods begins to manifest” [7].

The expert's justification [4–5, 7] of the need for an integrated valuation indicator appears to be correct due to the participation in procurement by both commercial and non-profit organizations. The methods of these authors focus on finding an integral indicator of procurement efficiency.

This article implemented the principle of comprehensive evaluation of the effectiveness of public procurement on a contractual basis, but on a different methodological basis, since such participants in public purchases as budget educational organizations were evaluated. The set of indicators includes savings in budgetary appropriations for the procurement of values and time savings of labor costs for the maintenance of a single contract. Rationalization of the functional load of specialists, improvement of labor

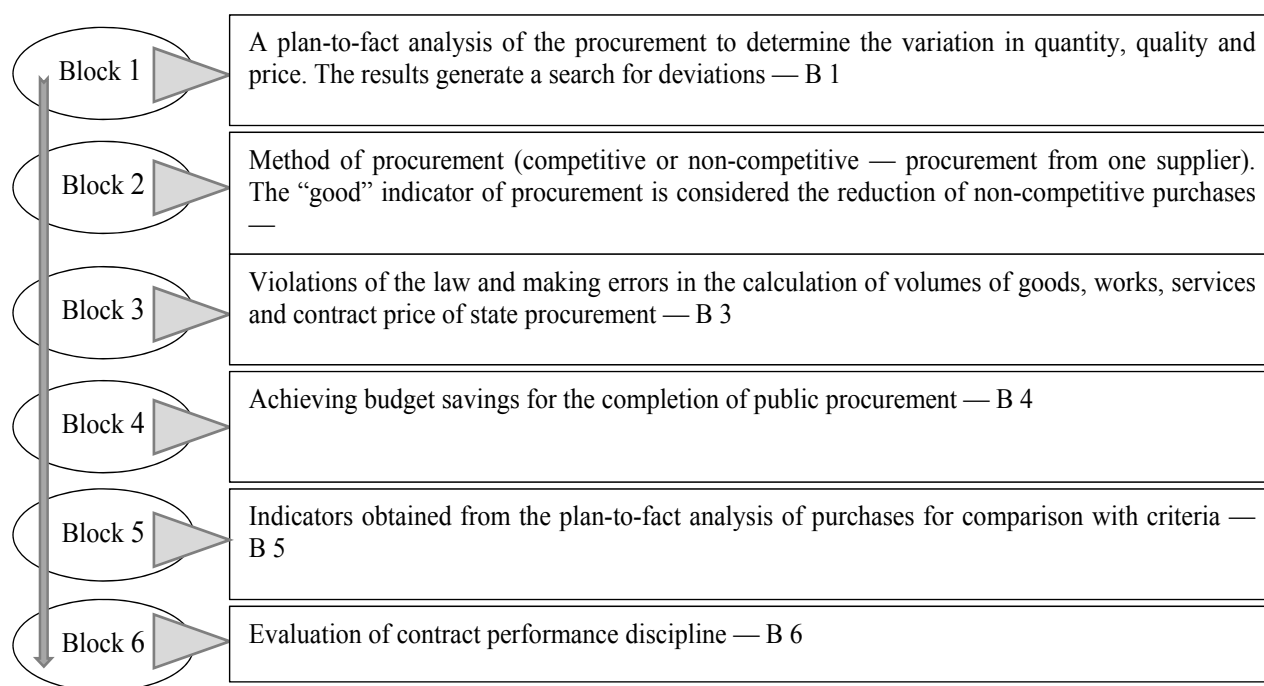
normalization, redistribution of functions of procurement participants — all of this generally gives time savings, and each saved hour on contract service brings, respectively, and savings of financial resources.

The methodical implementation of the principle of integrated assessment of the effectiveness of public procurement on a contractual basis in respect of specific space and time was implemented using rational items in the aforementioned methodologies.

## RESULTS

The methods of T. G. Sheshukova and A. A. Mal'tseva seem to us to be the most adequate to the current state of the economy and the market. These authors have divided the calculation of indicators of the effectiveness of public procurement into the following stages: preparatory (search of suppliers, choice of method of delivery, preparation of documentation, registration of applications, etc.) and the stage of delivery of values to the customer.

The methodology considered by these authors includes systems of calculations



**Fig. 4. The Content of the Blocks of the Methodology for Evaluating the Effectiveness of Public Procurement**

Source: Author's calculations.

of indicators grouped into six blocks. The developers of this methodology believe that it “is intended directly for budgetary institutions and allows for the assessment of the effectiveness of procurement performed on each contract. The analysis was conducted from the point of view of the rationality of the expenditure of budgetary funds, the correctness of the implementation of the procurement procedure. Furthermore, the methodology is based on information that is posted on the official website of UIS in the procurement sphere and, accordingly, does not require additional information from other sources” [8]. The study of the methodology of T. G. Sheshukova and A. A. Mal'tseva allowed us to determine and clarify the general logic of its retention, as presented in Fig. 4.

Analysis of the first block involves not only the comparison of planned and actual (reporting) indicators, but also an estimate of the causes of deviations, which is not always

quantifiable. Experts are involved in the first phase. All plan-fact changes are assessed by experts on a situation-specific basis:

- “cancellation of procurement (0.2 points);
- change in planned acquisition dates (0.4 points);
- decrease in the volume of procurement, decrease or increase in the price of the purchased goods, works, services (0.6 points);
- adjustments to the original version of the schedule (0.8 points);
- increase or decrease in the volume of purchases or the price of purchased values within 10% of the parameters of the original plan-fact (1 point)”.

For the same reason, the experts assigned the following estimate values to the indicator positions:

- “conclusion of a contract with a single supplier as a result of unsuccessful competitive procedures in the presence of only one participant (0.3 points);
- procurement from a single supplier (0.5 points);



- conclusion of the contract on the results of competitions, auctions, quotation requests with the number of participants of competitive procurement less than three (0.7 points);

- conclusion of a contract on the results of competitions, auctions, quotation requests with a number of participants of competitive procurement of not less than three (1 point)".

The analysis of the content filling of calculations in block 3 is based on the same principle as in blocks 1 and 2. Experts attribute three values to situations:

- "controlled violations (0.4 points);
- the same violations and errors that do not lead to the cancellation of procurement (0.6 points);
- in full compliance with the legislative norms (1 point)".

The indicator of the fourth block of the plan-fact analysis is determined by the ratio between the initial price published in the notice and the price of the contract concluded. Variations in the rate of savings of budgetary appropriations for procurement in the methodology under consideration appear to be economically reasonable and applicable to all participants in public procurements. With a savings indicator of  $0 < S < 0,5$  it is concluded that the customer has very accurately determined the initial price of the contract. If the savings rate is  $0.1 < S < 0.5$ , this indicates that the customer's actions are optimal. At the indicator of  $0.1 < S < 0.25$  the customer achieves high efficiency of work, which in this case causes fear of the possibility of fulfillment of its obligations by the supplier. Effectiveness should be checked for  $S > 0.25$ . In particular, it is necessary to ensure that excessive efficiency is not the result of miscalculations or deliberately unfair conduct.

In our view, the criteria proposed in the fifth block are not quite correct: "the indicator's maximum value is the sum of the following values: 0.3 points for delivering goods, performing work, and providing services; 0.4 points for accepting the product, performing work, or providing services with

the signing of a bilateral acceptance act or concluding the conducted examination; and 0.3 points for delivery without claims to the supplier, the contractual executor. 0.3 point when delivery with claims, but eliminated within a defined contract period of delivery of the good, performance of the works, and provision of services, the index receives the value". As you notice, the criteria's content does not reveal the features of the purchased goods, works, or services.

Not quite successfully, the authors of the methodology named the sixth block of analytics. The publications examined on the problem under consideration do not contain a clear definition of the concept of "contractual discipline".

The final indicator of the comprehensive evaluation of the performance of procurement is calculated as the sum of values and weighting factors for each of the above indicators, which is a traditional method of expert evaluation.

To identify deviations in quantitative, qualitative, and price dimensions and to initiate the search for causes of deviations (B 1), it is advisable to systematize the study proposed in *Table 1*.

## RECOMMENDATIONS

A specialized form will be required for the collection of data for plan-fact analysis, their systematization for further calculation of performance indicators of public procurement on a contractual basis. This form is called "a data summary for the plan-fact analysis of acquisitions" by the authors of the current article. Based on the name of this analytical form, it records data from the procurement schedules and associated reporting forms for each stage of the purchase's implementation. All information is published on the unified information system (UIS) in the procurement sector. A visual representation of the document "Data summary for procurement plan-fact analysis" is presented in *Table 1*.

Table 1  
Form No.**Data Summary for Plan-fact Analysis of Purchases****Organization** \_\_\_\_\_**For Three Quarters of the Year**

	I quarter			II quarter			III quarter		
Position	Schedule	Fact	Deviation	Schedule	Fact	Deviation	Schedule	Fact	Deviation
1	2	3	4	5	6	7	8	9	10
Suppliers									
Single supplier									
Amount of the contract									
Monitoring									
Saving									
Values in the contract list									
of which:									
– goods									
– works									
– services									
Claims – total of:									
Paid fines									

Source: Developed by the authors based on research.

At the end of the reporting period (year), the data in the specified form is specified, and a similar form is prepared with the data for the year.

In order to increase the level of credibility and legality of procurement activities, the system of internal and external financial control should be strengthened on the basis of



Table 2

**Principles of Compliance Control of Public Procurement Management on a Contractual Basis**

No.	The name of the principle	The content of the principles of compliance control of state procurement management on a contractual basis
<b>General principles of compliance – standards for monitoring activities</b>		
1	Ethical principles	When conducting inspections and compliance-control activities, the basis of the inspection activities and their implementation should be the requirements of the codes of professional ethics of internal controllers, auditors of the Russian Federation, professional ethic of the organization
2	Principles of independence	Subjects of compliance-control must be administrative, functional and financially independent of the control objects, neither in family nor in property relations with them
3	Objectivity	When conducting audits, compliance audits should use only objective information, documented and financially validated, without prejudice and bias
4	Professional competence	High professional qualities, knowledge of legislation and methods of forming objective information about the objects of compliance-control verification
5	Determination	The work of the controllers is constructed in accordance with the purposes and objectives of the event carried out, according to the labour legislation and the laws on procurement
6	Reliability	Compliance-control results are based on the study of documents on procurement legislation, their compliance with regulations
7	Professional scepticism	The results of the monitoring activities are not credible on the basis of the words of the performers, re-checking is carried out without the application of generalization, evaluated on actual studies
<b>Principles of professional activity – standards of control activity for audit of public procurement management on a contractual basis</b>		
8	Efficiency	Monitoring measures should ensure that procurement results are achieved to meet state and municipal needs, in accordance with the tasks faced by the management of procurements, taking into account risks and optimality.
9	Risk orientation	Risk-oriented compliance control involves identifying the riskiest areas that should be given more attention when checking procurement activities, which may cause damage to the economic operator, inefficient use of funds, appropriation and fraud
10	Automation	Subjects of compliance-control of procurement should have access to the data of automation of accounting, management processes with the underlying function of monitoring of the standard positions of work on purchases, the application of control measures on centers of financial responsibility, the functional separation of admission to information and personal responsibility of executors for the prevention of corruption and other abuses in the sphere of such purchases
11	Informatization	The construction of information systems should be formed with the fullest support of the compliance control body for the controlled procurement management segment
12	Methodological consistency	The organization should develop internal standards for the compliance control body, using them for verification, planning, conducting verification activities, generalization of findings, drafting of results, reports
13	Interaction	Interaction between internal and external controls must be carried out, coordination of the activities of the management bodies of the organization, internal and foreign controls, audits, law enforcement bodies must be ensured
14	Information transparency	The results of the control activities are both to the heads of structural units, employees, and are put to the control for the elimination of shortcomings, the adoption of measures to normalize the management of procurement

Source: Developed by the authors on the basis of the Decree of the Government of the Russian Federation of 06.02.2020 No. 95.

the principles set out in the Federal Standard of Internal State (Municipal) Financial Control “Principles of compliance control of public procurement management on a contractual basis” (*Table 2*).<sup>2</sup>

The purpose of compliance-control of procurement management — is to verify the legality and fixing of shortcomings aimed at meeting state and municipal needs in order to improve the efficiency, effectiveness of the implementation of the procurements of goods, works, services, ensuring transparency and transparency, prevention of corruption and other abuses in the part concerning the planning of the purchases of goods, works, services; identification of suppliers (contractors); conclusion and execution of contracts; monitoring of the procurement of products, works and services (Law No. 44).

### CONCLUSION

Because of the immense flexibility of any economic system and the inflexibility of the subjects of institutional and legal control, no method of assessing the effectiveness of public procurement on a contractual basis can satisfy the demands of customers, contractors, and analysts. For this reason, the methodological and legal assessments of the regulations of the procurement institution must be continuously audited and improved.

Based on the analysis of changes in the structure and composition of forms of contractual activity as a result of the adoption in 2017 of amendments to Law No. 44 on the dynamics of distribution of order placement procedures, the authors state that public procurement is a special institution of national importance, the mission of which is to meet the needs of economic actors in goods, works, services on contractual terms at the expense of budgetary funding.

The current shortcomings in the institutional regulation of procurement procedures, in particular the methodological recommendations for evaluating the effectiveness of competitions for the placement of orders for the supply of goods for state needs, have a negative impact on their efficiency, which requires an improvement in the management of public procurements and its analytical and methodological support. The author’s vision of the content of the methods of calculating the performance of procurement activities is proposed on the basis of a comprehensive evaluation of the effectiveness of public procurements on a contract basis. For the collection of data for plan-fact analysis, their systematization for further calculation of indicators of efficiency of public procurement on a contractual basis, a specialized form called “Data summary for plan-fact analysis of procurement” has been proposed.

In order to increase the level of credibility and legality of procurement activities, the authors proposed to apply the principles of compliance-control of government procurement management on a contractual basis in order to improve the degree of reliability and legitimacy of activities conducted in the sphere of purchasing and strengthen the system of internal and external financial control.

Implementation of the procurement proposals presented in the study will improve the effectiveness of the Russian contract system of public procurements and contribute to increasing the level of responsibility of its participants and the professional literacy of officials.

Several requirements contribute to the improved effectiveness of the Russian public procurement contract system: the high level of responsibility of its participants, the professional literacy of officials, and the expansion of the number of universities offering purchasing manager training programs. It is recommended that future research focus on the issues of institutional, methodological, and legal regulation of the public procurement contract system.

<sup>2</sup> Order of the Government of the Russian Federation from 06.02.2020 No. 95 “On approval of the federal standard of internal state (municipal) financial control “Principles of the control activity of bodies of internal State (municipal) fiscal control” (accessed on 20.01.2023).

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**T.M. Rogulenko** — problem statement, development of the concept of the article, critical analysis of the literature.

**A.V. Bodyako** — collection of statistical data, tabular and graphical presentation of the results.

**S.V. Ponomareva** — description of the results and formation of conclusions of the research.

**P.A. Pashkov** — collection of statistical data, tabular and graphical presentation of results, drawing conclusions.

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