Problems and unaccounted for effects in the organization of procurement for the needs of complex projects

The issues of public sector procurement efficiency, which constitute a significant part of economic activity in many countries, are of steady interest to economists. The study is devoted to the analysis of institutional procurement alternatives carried out for the needs of complex infrastructure projects and considers two aspects of solving optimization problems in the field of procurement organization. The first block of the study is devoted to the issue of choosing optimal procurement methods for various types of contracts and purchased goods[1], which is actively discussed in the literature. The second concerns a less developed issue – solving optimization problems in the field of public procurement not only in the given institutional conditions, but also considering the possibility of changing boundary conditions.

There are several gaps in the domestic literature on regulated procurement. For example, most Russian studies concern purchases under Federal Law № 44 while purchases under Federal Law № 223 remain poorly studied. At the same time, they occupy the high share in the total volume of public sector procurement[2] and they made for the needs of many strategically important infrastructure projects, such as the construction of railways, the construction and operation of trunk pipelines and many others. In addition, papers evaluating the comparative effectiveness of procurement procedures in the institutional environment of the Russian Federation are extremely few, which is probably due to the strict restrictions imposed by Federal Law 44 and other regulations on the choice of procedures.

Approaches to the analysis of the regulated procurement effectiveness in Russian practice at the state level also have some disadvantages. Mostly, they are based on the indicators achieved at the stage of the contract conclusion, and do not consider the results of the execution of contracts either by price or quality characteristics. The specifics of complex projects are also not taken into account, in the implementation of which the results of the execution of a separate contract may play a critical role. Infrastructure projects[3] are particularly «sensitive» in this context - its entire functioning may depend on the quality of individual infrastructure elements, and savings on a separate site or stage of work does not guarantee an improvement in the economy of the entire project, and in some cases, on the contrary, may lead to its rise in price[4].

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[1] See, for example: (Goldberg, 1977; Estache, et al., 2009; Bajari et al., 2009; Chong et al., 2014; Yudkevich and Pivovarova, 2010; Yakovlev, 2012; etc.)

[2] See, for example: https://ach.gov.ru/upload/iblock/fea/fea86920fc7f4c8b39262ce74beb32d8.pdf

[3] For more details on the specifics of infrastructure projects see (Flyvbjerg, 2007; Künneke et al., 2010; Alaev et al., 2015; Shabalov et al., 2016)

[4] See, for example, (Künneke et al., 2010)

With this study, we seek to fill the gaps described above and contribute to the development of scientific discussion, as well as to the formation of approaches to assessing performance and improving the efficiency of the managed procurement system.

Taking into account the high importance of infrastructure projects for the Russian economy[5] and the key role of transport infrastructure[6], we conduct an econometric study on procurement data for the needs of construction, modernization and operation of Moscow Metro facilities. We analyze purchases under Federal Law №223, where, unlike Federal Law №44, the customer is freer to choose the procedure for awarding the contract. This makes it possible to simulate the effects of using two forms within the same institutional and legal environment to select suppliers for comparable contracts.

The results of the empirical analysis indicate that the form of the auction, despite the higher levels of competition at the auction, loses its effectiveness in terms of price criteria with an increase in the complexity of the contract and demonstrates consistently lower relative savings compared to the request for proposals in the case of procurement of project, construction, and repair work. In addition, the auction is characterized by higher rates of contract delays, which play a critical role in the implementation of infrastructure projects.

In addition to comparing the effects of alternative procurement forms in given (established) institutional conditions, based on the analysis of industry cases, we identify some distortions in the structure of incentives for participants in the public procurement system and form several preliminary proposals for institutional changes aimed at leveling the identified sources of inefficiency.

The approaches proposed in the study and the results obtained can be useful in the formation of planning methods for a wide class of projects in terms of organizing procurement activities.

[5] See, for example: https://roscongress.org/news/razvitie-infrastruktury-dlja-rosta-ekonomiki-i-urovnja-zhizni-grazhdan/

[6] See, for example: https://mintrans.gov.ru/documents/2/11577

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