The main aspects of disproportions in determining the cadastral value of real estate objects

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Abstract. The article analyzes disproportions in determining the cadastral value of real estate objects. The authors present a term “disproportion” from a position of determining cadastral value, which leads to distortion of the results of state cadastral appraisal and is caused by informational, organizational, methodological and territorial aspects. As an example, an analysis of capital construction projects was carried out, resulting in inconsistencies identified in data in relation to a list of objects. Cadastral value calculations allowed us to conclude that the degree of availability and reliability of initial information concerning the characteristics of objects for assessment has a significant impact on results of state.

1 Introduction

Real estate objects are one of the important elements of modern economic relations due to their main characteristic, which is stationarity. The results of state cadastral valuation of real estate objects serve as the basis for property taxes and other payments calculation. Due to the implementation of a new regulatory framework for the assessment of cadastral value against the background of changes in tax legislation, the issue under consideration for the regional economy is very important.

Real estate taxation based on cadastral appraisal approach allows you to take into account economic and social factors, but only in case if cadastral assessment has objective results founded on market and other information related to the economic characteristics of property application. The characteristics of valuation objects contained in the Unified State Register of Real Estate (USR RE) should have unambiguous identification, completeness and reliability. However, one can find deviations from market data both upward and downward, what is confirmed by the work of L.A. Leifer [1]. This circumstance indicates the insufficient effectiveness of cadastral valuation procedure.

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2 Research methodology

In this regard, the authors have highlighted disproportions from the stance of cadastral value determination, which lead to a similar distortion of cadastral valuation results. A disproportion in determining the cadastral value of real estate objects should be understood as disproportionality of current level of development of cadastral value assessment, as well as the ratio of indicators characterizing objects of valuation. In general, disproportions lead to a violation of cadastral valuation process - between elements forming cadastral valuation system and directly among them. Consequently, the presence of disproportions entails the contestation of cadastral value and instability of tax revenues to the budget.

Due to research in cadastral valuation system, the authors have identified disproportions caused by informational, organizational, methodological and territorial aspects. In particular, the disproportions can be classified into private and general disproportions. On the one hand, private disproportions of local or short-term nature are manifested through errors and information insufficiency on pricing factors of objects of evaluation (information disproportion), as well as a lack of interaction between registration authorities and state-financed institutions (organizational disproportion). On the other hand, general disproportions affect whole cadastral valuation system, for example, because of absence of methodology for calculating the market value when contesting cadastral value (methodological disproportions) or because of significant differentiation of real estate market, different technical conditions for cadastral valuation (territorial disproportions).

Further, the authors propose to consider the types of disproportions in more detail.

1. Information disproportions. To date, according to current methodological guidelines regarding cadastral valuation, the main information source on the values of price-forming factors is the USRRE data. Many works were devoted to questions on low quality of information regarding characteristics of evaluation objects contained in the USRRE [2-7]. Let’s consider the most general problems when forming a list of real estate objects and their characteristics for the purposes of determining cadastral value. Firstly, it is the absence of fixed boundaries of real estate objects - approximately 39% of land plots have no data on coordinates of characteristic border points (previously accounted for land plots). The situation with capital construction projects is much more problematic, because in this case the similar figure is 80%. Along with a lack of information on borders location, there are errors and inaccuracies that are widespread and closely related, as evidenced by the presence of land disputes [8]. Secondly, a list of evaluation objects does not contain data on a land plot at which a capital construction object is located. In this regard, one should perform additional verification of existence of such links, in particular, establishment of a link between capital construction projects and land plots. In addition, it is necessary to compare types of permitted use of land plots and the purpose of capital construction projects, which are often incompatible. In turn, for land plots, it is necessary to check the correctness of binding to the units of cadastral division, since in this case the inconsistencies occur too. Thirdly, checking the type of permitted use of land plots and the purpose of capital construction projects is an important element when forming cost factors. The main problem existing today is a large number of types of permitted use, what sometimes lead to impossibility of establishing a specific type at all. At the same time, attention should be paid to correspondence between the type of permitted use and the actual use of real estate objects. Similar problems are typical when determining the purpose of capital construction projects. Fourth, it is the poor quality of initial information, including the characteristics of real estate. Many characteristics of objects contain incorrect information or are absent completely. Table 1 contains information about missing characteristics according to reports on determining the cadastral value of capital construction projects. At the same time, the entire
The territory of the country is characterized by a lack of information about many significant price-forming factors of the value of valuation objects. It is also worth noting the presence of registry errors contained in the USRRE data [9].

Table 1. Lack of information about the characteristics of real estate objects, % (sample fragment)

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<th>Region</th>
<th>Oryol region</th>
<th>Central Federal District</th>
<th>Saint-Petersburg</th>
<th>Northwest Federal District</th>
<th>Volograd region</th>
<th>Southern FO</th>
<th>Republic of Dagestan</th>
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<th>Volga Federal District</th>
<th>Sverdlovsk region</th>
<th>Ural Federal District</th>
<th>Tomsk region</th>
<th>Siberian Federal District</th>
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Thus, absence, insufficiency and unreliability of information complicate the determination of cadastral value of real estate objects, and also do not permit adequately rather than formally fulfill requirements established by the current methodological guidelines on cadastral valuation. The importance of regulation of information systems for the economic and social development of the country is high, what is also confirmed by foreign experience. This issue requires special attention from the state and citizens, since information contained in the USRRE plays an important role in the taxation of real estate objects. Availability of such information, among other things, is a basis for the formation of pricing factors when conducting cadastral valuation.
2. Organizational disproportions. In a situation when errors are detected and information required is missing, one should collect, update and systematize information about price-forming factors as well as keep records of information received about real estate objects in the USRRE. Therefore, it is necessary to develop interaction procedures between registration authority (Rosreestr) and state budgetary institution in the field of cadastral valuation. In case of identification of missing or false characteristics of a real estate object, it is necessary to make changes in USRRE information. The state budgetary institution is obliged to provide the registration authority (Rosreestr) with available information necessary for maintaining the USRRE. However, accounting of this information at legislative level is not stipulated, only the input of information is enshrined, for example, through cadastral documents.

At the moment, there are certain risks that may appear at the stage of verification of the results of cadastral valuation. Additional information used, which is not being entered by the registration authority in the USRRE, will contradict data already taken into account, what may lead to a negative impact when approving the results of cadastral valuation.

3. Methodological disproportions. To date, there is an active contesting of the results of determining the cadastral value both in commissions at territorial bodies of Rosreestr and in court. From 2014 to 2017, the number of applications aimed to revise the results of determining the cadastral value increased by more than 4 times, and only in 2018 and 2019, the number of applications did not exceed the figures of the previous year (Fig. 1). It should be noted that the total value of cadastral value after contesting is reduced annually by more than 20%. Therefore, the issue of assessment, namely cadastral one, is a matter of great importance, since it has a direct impact on the country's budget.

Fig. 1. Change in the total value of cadastral value before and after contesting. Source: compiled by the authors according to Rosreestr.

The issues of assessing market value for the purpose of entering it into the USRRE after contesting cadastral value also remain unresolved. Contesting the results of cadastral assessment is based on a methodology of individual assessment, what gives different results in comparison with a methodology of mass assessment, since difference lies in methods and techniques for constructing assessment models, as well as in amount of information used. Market value, among other things, is calculated on the basis of a principle providing the best and most efficient application of a real estate object, what requires an individual approach, while when determining cadastral value, this principle is not taken into account, since the calculation is based on a current (permitted) type of use. At the same time, the appraiser, when determining the market value, has the opportunity to obtain a more complete amount of information, to inspect and survey the object of assessment, in contrast to regular work on...
cadastral valuation. Therefore, they should develop regulatory documents regarding a procedure for assessing market value when contesting results of cadastral valuation or fixing identified positions in current methodological guidelines on cadastral valuation. This approach will reduce a methodological disproportion in this area through mutual influence of cadastral and market values.

4. Territorial disproportions. Regions are characterized by a significant differentiation of the real estate market. For example, differentiation criteria for housing markets in regions are housing affordability, construction activity and housing security. However, at the same time, information about actual deals in the real estate market is not available to their direct participants, realtors, appraisers, analysts, etc. In this regard, the possibility of monitoring and analyzing the real estate market is limited, while such possibility is the basis for applying a comparative approach when calculating the cadastral value.

To date, the registration authority has provided access to an open part of information on actual real estate deals, by means of its placing in the automated information system (AIS) "Monitoring of the real estate market". Testing of the AIS "Monitoring of real estate" conducted by I.A. Kazimirov revealed shortcomings complicating its application for the purposes of analyzing the real estate market, including widespread underestimation of value of real estate directly by the participants of transactions, the ratio of numbers of transactions to offers (a number of transactions is significantly less), incompleteness of information about objects; duplication of information and different time periods of registration of transactions; errors occurring because of data transmission from other sources and etc. [11]. It should also be pointed out that not all regions have a developed real estate market or sufficient and representative information on transactions (offers).

In addition, different technical conditions are applied for cadastral assessment, depending on a region. Many state budgetary institutions at the stage of formation faced the shortage of software. However, given the previous experience with cadastral valuation, some regions have started to create their own software products in order to facilitate the evaluation process and eliminate problems identified. For example, a state budgetary institution in the Ryazan region has developed a software product named "Automated information system. Cadastral Valuation: The structuring of Real Estate Objects". Also, its employees created an application that allows you to place information about the object of assessment on display when receipting applications to interim reporting documents [12]. According to A.Y. Ulyanov, “an important component of a high-quality state cadastral assessment is an application of the best developments and achievements in this area of our colleagues from different regions” [13].

Thus, some generalization of the practice of cadastral valuation is required as well as the introduction of an adapted software product based on the results of work done, which will ensure equal conditions for carrying out cadastral valuation in regions.

3 Research results of the study

In the course of the study, an analysis of capital construction projects was carried out. Having collected and processed information regarding the list of objects, the authors identified discrepancies between the information specified in source data and the information contained in the USRRE. For example, discrepancy was found in the parameters "number of floors, including underground", "year of completion, year of commissioning", "area of the property", etc. Some objects had inconsistencies in two or three parameters at the same time.

Having done cadastral value calculations based on initial data and the USRRE data, authors obtained deviations both up and down (Table 2). It was found that the degree of availability and reliability of initial information on characteristics of objects of assessment has a significant impact on the results of cadastral assessment.
Table 2. Calculation of cadastral value using the cost approach

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<tr>
<th>Cadastral number of an object of assessment</th>
<th>Cadastral value. rub. (calculated based on initial data)</th>
<th>Cadastral value. rub. (calculated based on USRRE data)</th>
<th>Deviation between 2 and 3. %</th>
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The revealed inconsistencies in data about the characteristics of price-forming factors of objects led to discrepancy in calculation of the cadastral value, which indicates the presence of an information disproportion.

4 Discussion of the results

Thus, the USRRE should contain reliable and complete characteristics of real estate objects so that the cadastral valuation system can work adequately. Therefore, first of all, it is necessary to improve the USRRE in terms of quality and availability of information about real estate objects, because the issue has a significant spread within the Russian economy. It is also worth noting the heterogeneity of disproportion manifestation in regions when determining the cadastral value, which has a constraining effect on the economic potential of real estate.

An important task in the assessment system development of cadastral value of real estate objects is creating fair conditions for determining the cadastral value, which also depends on the quality level of information support for real estate objects. However, the solution of this issue cannot be achieved solely through organizational changes associated with the transformation of the institute of independent evaluation. Under such conditions, necessity of improving the cadastral value assessment system in order to solve existing issues increases, which determined the relevance of the study performed.

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