

PECULIARITIES OF THE METHODS OF MONETARY VALUATION OF LAND IN UKRAINE

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Summary

Land is a lifelong asset, traditionally designated as one of the most reliable objects of investment, it does not require high maintenance costs and constantly grows in value. All over the world it is a successful and a reliable investment of any level. Depending on the purpose of the assessment, the methods of monetary land evaluation have their own characteristics. Normative monetary evaluation has a revenue basis, while expert monetary valuation is both revenue-based and cost-based and comparative, which is based on market and non-market evaluation databases. The object of the study is the normative and expert monetary evaluation of land plots and the methods used since their implementation. The theoretical and methodological basis of the study are the dialectical method basic provisions of cognition, scientific works of scientists. Empirical and abstract-logical research methods were used in the work. The analysis of the current regulatory framework for the monetary evaluation of land plots proved the existence of significant differences. This, in turn, has an impact on the existence of various methods and approaches to the monetary valuation of land. Among the three methodological approaches in Ukraine, the methods of the cost approach are most often used and if there is a sufficient number of similar objects, the comparative approach is used. It should be noted that normative and expert monetary evaluation of land in Ukraine differ from each other according to a number of criteria, such as: the basis for the evaluation, the purpose of the evaluation, the procedure for conducting it, the qualifications of the executor and the original documentation.

Keywords: land plot, expert monetary evaluation, normative monetary evaluation.

Introduction

Land is a lifelong asset, traditionally considered one of the most reliable objects of investment, it does not require large maintenance costs and constantly grows in value. All over the world, it is a convenient way of reliable investment at any level. Unlike the unstable value of cryptocurrencies and assets that can be easily destroyed in a fire, stolen, lost, land is a minimally risky investment option. Like other types of real estate, a land plot is evaluated in order to determine its value. Depending on the purpose of the assessment, the methods of land monetary evaluation have their own characteristics. Normative monetary evaluation (NME) has a revenue basis and expert monetary evaluation (EME) are both revenue-based and cost-based and comparative, which are based on market and non-market valuation databases.

The issue of the value and cost of land is relevant all over the world (ELD Initiative, 2015; Omari, 2008; Bencure, at al., 2019; Koshkalda, Anopriienko, 2018). The results of land assessment become the basis for making balanced management decisions, therefore the choice of reliable assessment systems and models does not lose its relevance even today (Anopriienko, 2018; Hughes, at al., 2020; Needham, 2020; Sanderson, at al., 2019).

The legislation of Ukraine provides that the monetary evaluation of lands is performed by different persons. Normative monetary evaluation is performed by legal entities, which include a certified engineer and land manager. However, expert monetary evaluation is carried out by individuals and legal entities, in whose staff works an appraiser for expert monetary evaluation of land plots. The professional requirements for the mentioned persons have significant differences.

The purpose of the study: to reveal the features of various methods used during normative and expert monetary evaluation of land plots.

To achieve the goal, the following **tasks** were set:

1. To conduct an analysis of the current legal framework for the monetary valuation of land plots.
2. Establish assessment methods that are most often used during various types of evaluation.
3. To determine the criteria for the difference between normative and expert monetary evaluation of land plots.

According to the Law of Ukraine "On Land Evaluation" (On land valuation, 2003), depending on the purpose and methods of carrying out, land evaluation is divided into the following types:

- soil grading;
- land plots monetary evaluation.

In turn, the monetary evaluation of land plots, depending on the purpose and procedure, can be normative and expert. Despite the similarity of the names, these assessments have different purposes and essences. Let's consider both in more detail.

The obligation to carry out normative and expert monetary valuations is established in article 13 of the Law of Ukraine "On land valuation" (On land valuation, 2003).

Thus, the normative monetary valuation (hereinafter - NGO) of land plots is used in the vast majority for fiscal purposes, and the expert valuation is used to determine market and non-market types of value.

The object of regulatory monetary evaluation is land plots of all categories and forms of ownership within the territory of the territorial community (or part of it) (Methodology of NMV, 2021).

NME is an evaluation based on the rental income from the use of the land plot during a certain period of time. That is, the basis of the land plot NME is the rental income which is, in fact, the money that can be obtained from the most effective use of the land plot for its intended purpose.

Within the settlement of the NME land plots are calculated per 1 sq. m. The calculation depends on many factors; among which it is possible to highlight:

- land plot functional use;
- land plot location;
- soil quality;
- ecological situation;
- other factors.

Every year, the NME is subject to mandatory indexation taking into account the inflation indicators of the previous year.

The following normative legal acts are used during the implementation of NME:

- Law of Ukraine "On land evaluation" (On land valuation, 2003);
- Resolution of the Cabinet of Ministers of Ukraine dated 03.11.2021 No. 1147 "On approval of the Methodology for normative monetary evaluation of land plots" (Methodology of NMV, 2021);

Based on the results of the normative monetary evaluation of land, the engineer - land manager forms technical documentation, the results are entered into the State Land Cadastre, from which data on the normative monetary evaluation of a separate land plot are subsequently provided, which are automatically drawn up as an extract from the technical documentation regarding the normative monetary valuation of lands.

Expert monetary evaluation (hereinafter referred to as EME) of land plots and rights to them is carried out in order to determine the value of the evaluation object. With EGO of a land plot, the market (fair) value of the land ownership right or the value of the land lease right (land use right) is determined, i.e. when the land plot is the subject of the deed.

In contrast to the normative, expert monetary evaluation of land plots and rights to them is carried out by appraisers, persons who have a higher education, have completed a basic training course for appraisers in expert monetary evaluation of land plots, a one-year internship with the subject of appraisal activity and successfully passed the qualification exam, after that received the qualification certificate of the appraiser for the expert monetary evaluation of land plots, and after receiving the qualification certificate every 2 years they carry out advanced training.

So, all of the above can be presented in the form of the following scheme (Table 1).

Table 1. Monetary evaluation of lands

MONETARY EVALUATION OF LANDS	
← Normative monetary evaluation (NGO)	Expert monetary evaluation (EGO) →
Main function	
Fiscal	Market
Executor of works	
A legal entity that employs a certified engineer and land manager	A natural or legal entity subject to appraisal activity that employs an appraiser for the expert monetary evaluation of land plots
Professional requirements for the direct executor	
Higher education in the specialty 193 "Geodesy and land management" or "Land management and cadaster", the presence of a valid certificate of a land surveying engineer (every 4 years of passing the relevant advanced training)	Higher education, availability of a valid appraiser's qualification certificate for expert monetary valuation of land plots (every 2 years of passing relevant professional development)
The result of the assessment is drawn up in the form of:	
<ul style="list-style-type: none"> - Technical documentation on normative monetary evaluation of land (land plots) and electronic document in *.xml format; - An extract from the technical documentation on the regulatory monetary evaluation of the land plot, which is generated automatically from the DZK and issued by the land resources authority 	<ul style="list-style-type: none"> - Report on the expert monetary evaluation of the land plot; - An extract from the report on the expert monetary evaluation of the land plot, contained in the report, is signed and issued by the appraiser and the head of the subject of appraisal activity
Scope of execution	
Mostly mass assessment	Individual assessment
Assessment approaches	
Income	Income, expense, comparative
Frequency of conducting	
Every 5-10 years	As needed
Money expression	
The national currency is hryvnia (UAH)	

During the evaluation, the main factors that significantly affect the value of the land, with other things being equal, are:

- location, roads, surroundings;
- configuration of the site and its area, type of surface (flat, hilly);
- availability of engineering networks, established restricted areas;
- purpose of the site and its functional use;
- others.

One of the most important factors affecting the value of a land plot is its location, namely the area where the plot is located. Even within the same city, the value of land can be different: the price of a plot is closely related to the concept of the location prestige.

In contrast to the normative one, when conducting an expert monetary evaluation, it is possible to use three methodological approaches (comparison of sales prices; taking into account the costs of land improvements, capitalization of net operating or rental income), which in turn are divided into a number of different evaluation methods.

According to the Law of Ukraine "On Land Evaluation" (On land valuation, 2003), expert monetary evaluation of land plots free from buildings and structures for commercial agricultural production, personal peasant farming, which is carried out in cases of these land plots purchase for public needs or forced alienation for reasons of public necessity, is carried out on the basis of the capitalization methodical approach of net operating or rental income from the use of land plots taking into account their intended use (On land valuation, 2003).

To determine the value of the land plot using the investment method, the capitalized net operating income from the land plot lease is calculated.

The capitalization method of land rent involves the capitalization of income from the economic use of land, which is different from rent.

To determine the land value using the economic method, the difference between the expected sale price of the improved plot and the cost of land improvements is determined, taking into account the rate of return on the specified transaction.

While using the correlation (transfer) method, the land plot value is determined as a share in the total value of the improved land plot. According to the residual method for land, the land plot value is equal to the difference between the current value of the capitalized net operating (or rental) income from the improved plot and the value of the existing land improvements.

The nature of improvements on agricultural land plots in the vast majority does not involve the independent use of the latter, as in industrial facilities, but an increase in the level of economic efficiency and/or ensuring environmental stability, sustainable economic use of the land fund.

While using the income allocation method, the value of the land is calculated as capitalized at the rate determined for the land, the difference between the net operating income from the leased improved land and the projected return on the capital invested in the land improvements. At the same time, the forecasted net income from land improvements is the product of their cost and the capitalization rate for the improvements.

The method of development (possible use) is applied in the case when it is possible to predict changes in the most effective use of the land plot during the period for which calculations are made.

In the case when the evaluation concerns land plots, the most effective use of which is to obtain income from the sale, the comparison approach of sales prices is used, i.e. the assessment of the land plot value is determined by pairwise comparison or on the basis of statistical market analysis, taking into account the level of previously sold similar objects prices. This approach is the most adapted to the requirements of the market, as it most objectively reflects its conjuncture. At the same time, the influence of the inflation factor, the ratio of supply and demand in the market, the previous conditions for carrying out the transaction with the object of evaluation under the future agreement should be taken into account, as well as possible changes in the main properties of the land plot.

Taking into account the application peculiarities of the results of the land plots expert monetary valuation among the main legislative acts regulating the necessity of its implementation and regulating methodical approaches, valuation methods and requirements for drawing up a report are:

- The Law of Ukraine "On Land Evaluation" (On land valuation, 2003);
- The Law of Ukraine "On Property Evaluation, Property Rights and Professional Evaluation Activity in Ukraine" (On Valuation of Property, 2001);
- The Methodology of land plots expert monetary valuation (On expert monetary valuation, 2002).

Although, during the evaluation the groundings of the Land Code of Ukraine (Land Code of Ukraine, 2010), the Commercial Code of Ukraine (Economic Code of Ukraine, 2003), the Tax Code of Ukraine (Tax Code of Ukraine, 2010), the Law of Ukraine "On Mortgages" (On Mortgages, 2003) and others are applied.

According to the legislation of Ukraine, a normative monetary evaluation must be carried out at least once every 5-10 years and an expert valuation can be carried out by expert appraisers who have a qualification certificate of an appraiser as necessary.

Research object and methods

The object of the study is normative and expert monetary evaluation of land plots and the methods used since they were carried out.

The theoretical and methodological basis of the research is the dialectical method basic provisions of cognition, the scientific works, which highlight the issue of land plots monetary evaluation and the scope of using its results. The following methods were used in the work:

- empirical – comparison (identification of similarities and differences during various types of land plots monetary evaluation);
- abstract and logical (theoretical rethinking and generalization of research results, forming of conclusions).

Research results and discussion

We will identify indicators and factors of similarities and differences using the example of three land plots provided for the construction and maintenance of a residential building, farm buildings and structures with an area of 0.1500 hectares, located in the town of PISOCHYN, Kharkiv District, Kharkiv Region, with cadastral numbers 6325157900:00:025:0103 (hereinafter Land Plot 1), 6325157900:00:025:0158 (hereinafter Land Plot 2) and 6325157900:00:021:0194 (hereinafter Land Plot 3) (Fig. 1).

The village of PISOCHYN is the administrative center of the PISOCHYN Territorial Community, a well-developed suburb of the regional center - the city of Kharkiv, which is located 7 km from the nearest bus terminal and the "Kholodna Gora" underground station (Fig. 1A), which significantly affects the value of the coefficient, which takes into account the location of the community within the zone of large cities influence (Km1), is included in the resort and recreation zone, which also affects the cost due to the high value of the coefficient (Km2), the population is about 18 thousand people, which in turn affects the coefficient, which takes into account the peculiarities of land use in within the category of land according to the main purpose and the norm value of capitalized rental income (Nri). All plots are located on the outskirts of the village, at almost the same distance from the center (Fig. 1B, C, D).

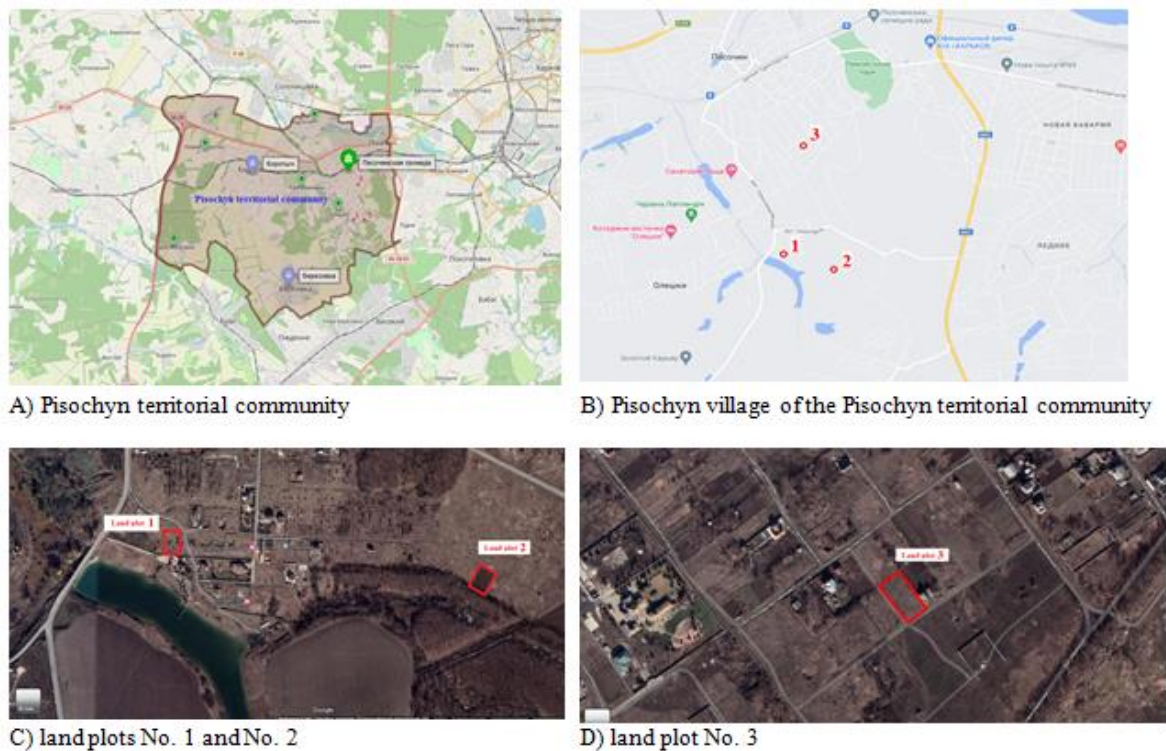


Fig. 1. Scheme of the location of land plots

According to the Methodology (Methodology of NMV, 2021), the normative monetary valuation of the land plot (P_n) is defined as the product of such indicators as, area of the land plot (S_p), the norm value of capitalized rental income per unit of area (N_{ri}), coefficients that take into account the location of the territorial community within the zone of influence of large cities (K_{m1}), the resort and recreational value of settlements (K_{m2}), the location of the territorial community within the radiation pollution zones (K_{m3}), characterizes the zonal factors of the land plot location (K_{m4}), purpose of the land plot according to the information of the State Land Cadastre (K_p), peculiarities of the use of the land plot within the category of land according to the main purpose (K_{mp}) and indexation coefficients of the normative monetary evaluation of lands for the period from the approval of the norm of capitalized rental income to the date of the valuation (K_{ni}). The values of the coefficients are given in the Appendices to the Methodology (Methodology of NMV, 2021).

According to the results of the calculations, the normative monetary evaluation of all land plots amounted to UAH 306,909.58, calculated per $1m^2$ as UAH 204.61. That is, despite the differences in the location of the plots, according to the approach laid down in the new Methodology (Methodology of NMV, 2021) during the assessment of individual plots, there is no differentiation.

As mentioned earlier, the expert monetary evaluation of the site can be performed using various methodological approaches and evaluation methods. Thus, the cost approach is used in Ukraine in the assessment of land plots that are developed or planned to be developed according to their most effective use. While using the revenue approach, the evaluation is based on the potential revenue that can be generated from the use of the site. The application of the comparative approach assumes a sufficient number of similar objects on the market sales and the evaluation is carried out taking into account the comparison of the value of the assessed plot with similar land plots (plots with the same or very similar characteristics and located in the same or similar places). The difficulty of its application in our country is due to the lack of a developed land market of all land categories.

In our case, the sites are located in a developed settlement bordering the regional center, so there is a sufficient number of analogues, which is a prerequisite for the use of a comparative approach, namely the method of direct comparison, which involves a certain procedure. The main indicators of the plots evaluation are given in Table 2.

Table 2. Calculation of land plots expert monetary valuation by the method of direct comparison

Land plot characteristics	6325157900:00:025:0103	6325157900:00:025:0158	6325157900:00:021:0194
Selling price according to advertisement	411711,1	367599,2	551398,8
Total area, m ²	0,15	0,15	0,15
Price per 1 m ² , UAH/ m ²	274,47	245,07	367,6
Shape of the plot	regular rectangular shape		
Adjustment to the shape of the plot	0	0	0
Presence of plants	perennial plants and trees	no plants	perennial plants and trees
Adjustment to the presence of plants	-5%	0	-5%
Purpose	for the construction and maintenance of a residential building, farm buildings and structures		
Adjustment to the purpose	0	0	0
Land improvements	no	no	fencing
Adjustment to the land improvements	-5%	-5%	0
Physical characteristics (relief, slope)	flat, without slopes		
Adjustment to the physical characteristics (relief, slope)	0	0	0
Building density nearby	low		
Adjustment to the building density nearby	0	0	0
Infrastructure	school, kindergarten, shops, park, post office, gas station, 10 minutes on foot to the station		
Adjustment to the infrastructure	0	0	0
Access roads (transport accessibility)	asphalt road	dirt road	dirt road
Adjustment to the access roads (transport accessibility)	0	-5%	-5%
Conveniences (connection possibility)	possibility to connect electricity	possibility to connect electricity	no
Adjustment to the conveniences (connection possibility)	0	0	-5%
Proximity to water bodies, forests	near the lake (beach) and forest (150 m)	near the forest (400m)	near the forest (500m)
Adjustment to the proximity to water bodies, forests	0	-5%	-5%
Terms of sale	bargain is possible		
Transaction discount (bargain adjustment)	-5%	-5%	-5%
Total adjustments	-15%	-20%	-25%
Adjusted rice UAH/ m²	233,29	196,06	275,7
Price for the land plot after adjustment, UAH	349935	294084	413550
Median value, UAH/ m ²	233,29		
Average value, UAH/ m ²	235,02		

Based on the above calculations, we have a significantly overestimated value of land plots by their owners. It should also be noted that the differences and peculiarities of land plots are taken into account during the expert monetary evaluation of land plots. These features are manifested both in the income approach, as well as in the cost and comparative approach. These differences are most clearly observed when using the direct comparison method.

Conclusions

The analysis of the current regulatory framework for the monetary evaluation of land plots proved the existence of significant differences. This, in turn, has an impact on the existence of various methods and approaches to the monetary evaluation of land. Among the three methodological approaches in Ukraine, the cost approach methods are most often used and the comparative approach if there is a sufficient number of similar object.

It should be noted that normative and expert monetary evaluation of lands in Ukraine differ from each other according to a number of criteria, such as:

1. Basis for evaluation. Normative evaluation is carried out on the basis of norms and rules established by law and expert evaluation is based on the professional opinion of an expert.

2. The purpose of the evaluation. Normative evaluation is carried out to determine taxes, duties and other mandatory payments and expert evaluation can be carried out for various purposes, such as lending, selling, renting, insurance, etc.

3. Evaluation procedure. Normative evaluation is carried out according to established rules and procedures and expert evaluation can include a wider range of methods and approaches.

4. Qualification of the contractor. To conduct a normative monetary evaluation, you need the appropriate qualification and certification as a land engineer and to conduct an expert evaluation, you need an appraiser's qualification certificate, as well as a high level of professionalism and experience in this field.

5. Output documentation. The technical documentation for normative monetary evaluation usually has a certain structure and content and the expert monetary evaluation report has a certain structure and content, but can be more flexible and adapted to the specific goals and tasks of the evaluation.

But despite the fact that normative and expert monetary evaluation have their own peculiarities and differences, they should be used together to get a more complete picture of the value of a special type of real estate, such as land plots.

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