

# RELEVANT REAL ESTATE APPRAISAL IN MINIMIZING ECONOMIC UNCERTAINTY IN ENTREPRENEURIAL ACTIVITY

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Independent real estate appraisal of property and property rights, based on National Valuation Standards, International and European Valuation Standards and property rights, is a systemic factor in building market relations in Ukraine. Economics introduces real estate into the system of its scientific interest, revealing its specific properties for minimizing the economic uncertainty of entrepreneurial activity. From the economists' point of view, real estate is capital fused with land. This means that the value of real estate is due to its direct dependence on land [1; 2].

The Law of Ukraine «On Valuation of Property, Property Rights and Professional Valuation Activity» requires a certain proof of the valuation results from the subjects of valuation activity. Valuation of property and property rights is the process of determining their value on the estimate date according to the procedure established by regulations on property valuation and is the result of practical activities of the subject of valuation [3].

In our opinion, relevant real estate appraisal is a process of determining the conformity of the real estate value to its actual market value.

Each type of real estate has its own peculiarities of operation, which requires a specific legal regime of regulation. Different types of income provide a special algorithm of taxation – it can be a part of the value of real estate or withdrawal of profits arising from its operation.

Depending on the possibility of income (functional purpose and implementation of the function of capital) real estate is divided into consumer, industrial, commercial, investment, income [4].

Consumer real estate is intended for permanent (or long-term) residence of their own things subjects and placement. This property allows users to receive hidden (alternative) rent. With regard to consumer real estate, there is a special institutionally organized subject of ownership – the association of apartment building owners, which falls into its specific legal space.

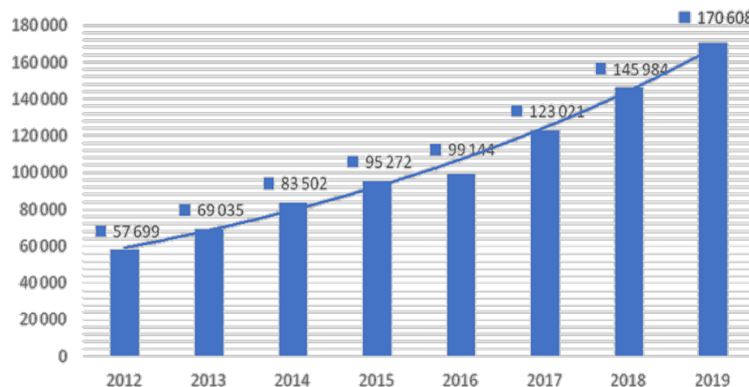
Industrial real estate is designed to accommodate various activities in industry, agriculture, transport, communications, etc. Income from this type of real estate is directly included in income from operating activities. In addition, certain types of industrial real estate (like consumer) have a hidden rent, which makes it possible to convert them into commercial real estate.

Commercial real estate is designed to accommodate those types of economic activities that are directly related to the provision of services to consumers (retail

space, offices, cafes, etc.). The main purpose of commercial real estate placement is to get rent from the location (where the required level of purchasing power is concentrated).

Investment real estate is all those objects (regardless of the purpose), the investment of financial resources, which is carried out in order to obtain business income, that includes profit, rent and interest. There is a multidimensional economic and legal environment around the real estate investment, where there are mechanisms for financing and mortgage lending. This environment includes securities transactions, when financing is carried out by issuing certificates of the Real Estate Fund.

The operation of profitable real estate involves the possibility of obtaining income from the transfer of objects in various forms of use (Fig.1). Depending on the real estate, there are many more different forms of use compared to other goods.



**Fig. 1. Real estate transactions at actual prices, UAH mil. and their share in GDP, %**

*Source: author's own development based on [5]*

Only real estate has the following uses:

- freehold (use of the building by the owner together with the land for an indefinite period of time with full responsibility for the real estate maintenance);
- leasehold (long-term lease with division of responsibilities);
- emphyteusis (long-term, inherited lease of agricultural land);
- superficies (the right to build land for an unlimited time);
- easement (the right to use real estate by third parties);
- vertical distribution of property rights (special opportunities to benefit from the underground part or airspace).

Nowadays, the right to purchase limited rights to residential apartments, suites, hotel rooms for a specified period of time (property or non-property timer) is activated. Today, Ukrainian law does not actually regulate these relations, which remain in the sphere of illegal association, that leads to various methods of fraud.

A formalized approach to estimating the market value of real estate requires correct implementation to obtain more proven results than those obtained on the basis of an informal approach (subject-intuitive). Known methodological approaches to real estate valuation are focused on practical application in a stable market economy.

It should be noted that modern market conditions of economic uncertainty pose fundamentally new problems for enterprises, the solution of which will allow to achieve and maintain a competitive position in the market. There is a growing awareness that the development and, consequently, the increase in the value of business is possible by minimizing the economic uncertainty of entrepreneurial activity.

The specifics of the domestic real estate market, which is constantly in conditions of economic turbulence, does not allow to fully adapt the known international approaches to the valuation of real estate in the realities of the national economy. The reasons are also the limitations and shortcomings inherent in each of the classical approaches to property valuation.

Approaches to property valuation differ in their focus and generally take into account cost factors and practical aspects of financial activities, which are formed on the key source information basis (Table 1).

**Table 1. Advantages and disadvantages of real estate appraisal methods**

| Approaches to real estate appraisal  |  | Advantages of the method   | Disadvantages of the method   |
|--|--|--|---|
| Revenue approach: involves estimating the value based on the ability of the object to generate income  | The method of direct (linear) capitalization           | It is used for forecasting attacks of constant in magnitude and equal in periods of forecasting net operating income, the receipt of which is not limited in time.                         | Risk assessment is quite subjective in Ukraine. The method is based on forecasting, not just actual information about performance.  |
|  | Indirect capitalization method (cash flow discounting) | Allows you to estimate the future profitability of the object of evaluation and consider the importance of the object in the market of production and sale of services                     | In an unstable economy, accurate forecasting requires highly qualified appraisers   |
| Cost (property) approach involves estimating the value of the object, based on the cost of its reproduction (replacement) in the prices on the valuation date with subsequent adjustment to the amount of depreciation | Direct reproduction method                             | Provides the ability to conduct a fairly accurate estimate of the costs associated with the creation of the object and element-by-element assessment of the components of the whole object | Limited use of market information on real estate appraisal  |
|  | Substitution method                                    | Has a normative and methodological regulation of determining the cost of replacement with subsequent deduction of the amount of depreciation (depreciation).                               | The complexity of evaluating objects with a longer service life due to the difficulty of determining wear   |
| Comparative (sales analogues approach): based on estimates of the value of the object, based on the values of similar objects  | Method of industry coefficients                        | Determines the price of the object based on the actual purchase price of similar objects, considering the adjustments for their comparison.  | Ignoring the prospects of future development of the object. Laborious collection of complete and reliable information. Complex adjustments in the process of leveling the differences of the object of appraisal. |
|  | Method of analogues                                    | Possibility to involve apparatus of mathematical statistics and computer modeling.   | It is impossible to use if there is no information on purchase and sale agreements of analogous firms or the market of purchase and sale of the enterprises is not developed                                      |

Source: author's own development based on [6-8]

Therefore, there is a question of reconciling the results obtained in different approaches to minimize the economic uncertainty of business.

The situation on the real estate market makes appraisers increasingly think about developing a comprehensive method of relevant real estate valuation, which could consider various value factors in the calculation process and would combine the advantages of each of the classical approaches [6].

Given that the effectiveness of the assessment to minimize the economic uncertainty of entrepreneurial activity depends entirely on the tools of its implementation, the search for optimal ways to improve the valuation of real estate is of paramount importance.

The theoretical foundation of the property valuation methodology is a systematic approach to determining its main elements.

The real estate appraisal process takes place in accordance with a defined procedure and using generally accepted valuation methods. There are several methods, and their choice is determined primarily by the type of object of assessment and the purpose for which such assessment is conducted.

The following basic methodological approaches are used to conduct real estate appraisal in Ukraine: income, expenditure, comparative. Thus, the income approach focuses on profitability, cost – on assets and liabilities, comparative – on the valuation of the object by comparing transactions on similar objects [7].

The assessment of the property market value and property rights using the income approach is based on determining the projected income from the use of this property.

Based on the income approach, the appraiser determines the ratio of future income from the object of evaluation and its current value. The advantages of this approach, first of all, should include its systematic approach.

The process of returning the funds invested in the object can be both simultaneous (for example, at the time of resale) and distributed over time, when the principal amount invested in the object is returned in the form of periodic receipts over a specific period of time.

The fundamental principle for a profitable approach is the principle of expectation. After all, it is in accordance with the principle of expectation that the value of property is determined by the real (current, present) value of all its future income. It now seems logical to say that the higher the income potential of the assessed property, the greater its value. It should be borne in mind that the analysis of income should be carried out throughout the subsequent economic life of the object of assessment, provided that it is used during this period of time in the most efficient way.

In accordance with the principle of substitution, the maximum value of the assessed property should not exceed the lowest price at which other similar property with equivalent profitability can be purchased. This principle is essentially analogous to the economic principle of investment alternatives. It can be argued that if the appraiser can predict with sufficient accuracy the future income of the owner of the property being appraised over a specific period of time, the use of a revenue appraisal

approach is quite appropriate, and in most cases absolutely irreplaceable. The main methods of this approach are:

- the method of capitalization of net income. On its basis, the flow of income is determined with its conversion into current value, based on capitalization rates [9]:

$$V = \frac{I}{R}, \quad (1)$$

where  $V$  is the value of the business;  $I$  – net income;  $R$  – rate of return.

However, this method can give an objective assessment only in a stable economy, for which the object of assessment, such as an enterprise, for a long time received a stable income;

- the method of discounting cash flow (the method of indirect capitalization) allows you to calculate the current value of future income. The method of obtaining income does not matter, it can be obtained both from ownership of the property and from the sale of property. Ideology of the discounted cash method flows is that a prudent investor evaluates his property in terms of income as follows: as possible income derived from the operation of the property (for the period); as a reversal – the income from the object of evaluation, associated with its sale in the post-forecast period. This means that the current value of the property can be calculated using the formula [9]:

$$PV = \frac{I_1 + R_1}{1+i}, \quad (2)$$

where  $I_1$  – income received from the operation of property at the end of the first period;  $R_1$  – reversion (property value) at the end of the first period;  $PV$  – current value of the property;  $i$  – the discount rate (rate of return on capital).

Ukrainian scientist-practitioner Maksymov S.Y. rightly notes that the use of income approach allows you to most fully consider the target settings of banks, consistent with the parameters of economic and social development of the country [9, p. 35] while researching methods of determining the value of the bank.

Some foreign scientists believe that the method of indirect capitalization is the most universal and reliable method of estimating the value of the enterprise. However, scientists note that this method best reflects the market value of the enterprise, because the value of the enterprise can be reliably estimated only when the income will be calculated, which will be generated by the enterprise in future periods. [10].

We agree with Copeland's assertion that this method cannot take into account a number of objective factors for most assets: inflation, exchange rate fluctuations, and other force majeure circumstances. In addition, the source base for this method are financial and accounting statements, marketing research data, development strategy, long-term plans, etc., which also cannot guarantee objectivity in the assessments, because it is difficult in economic uncertainty to predict the future value of finished products, equipment, raw materials, etc. [11].

The method of discounting cash flow will be effective for application to enterprises, property complexes that develop efficiently, are characterized by stable

income, have a long history of operation. It requires a significant number of adjustments to bring the projected financing structure to the real enterprise value.

According to L.A. Leifer, the practical application of methods of discounting free cash flows for the company, for share capital and assets should give the same generalized value of the company [12]. These methods give the same results after taking into account the following conditions:

- their market value is accepted as the value of share capital and debts;
- the ratio between the components of the company's capital must be constant throughout the valuation period;
- income growth rate is zero.

This statement can be adapted to other areas of economic activity. However, the scientist does not remove the main problem – the exact calculation of future income.

On the basis of the cost (property) approach, the vast majority is the assessment of real estate, the circulation of which is limited (educational institutions, culture, architectural monuments, etc.).

For the real estate appraisal, the cost approach is used if it is necessary to replace such property or determine their economic feasibility.

The use of expenditure income is appropriate if [13]:

- assessment of state facilities;
- establishing the value of special purpose property (schools, hospitals, architectural and cultural buildings, railway stations, post offices, etc.);
- accounting;
- establishment of the object of taxation;
- putting the property up for auction or other open bidding is necessary.

The peculiarity of this approach is the valuation of property solely on the basis of analysis of available assets. On the one hand, this is an advantage of this method, because its results are largely built on an objective basis, but on the other hand, this approach does not consider the prospects of business development based on analysis of key financial and economic indicators, which makes this method more static. The method allows you to determine the lower level of value of the enterprise, property complex as a whole or part of it.

The cost approach is based on the assumption that a typical buyer will not offer more for a property than the amount of money to spend on the purchase of land and the construction of a property similar to the consumer characteristics of the property being valued.

The calculation of the value of buildings and structures in most cases is performed using the method of valuation at the cost of a single indicator, which is most widely used in domestic valuation practice. However, it should be considered that it gives a discrepancy of 15-20%. This method is based on comparing the unit cost of real estate properties (1 m<sup>2</sup> of living space, 1 m<sup>3</sup> of construction volume, etc.) of the assessed object with the value of a similar unit of measurement of a similar typical structure.

The purpose of the assessment is to calculate the residual value, which is the replacement cost less depreciation. In this case, the replacement cost is determined on the basis of the value of a single indicator of the analogous object, and wear – based on the physical wear of each element of the assessed building.

The calculation is carried out in the following sequence:

1. The choice of construction analogue.
2. Estimation of the value of the object in the prices given in the «Aggregated indicators of replacement cost» (UPVV).
3. Determination of replacement cost.
4. Calculation of residual replacement cost.

The choice of analogue is made with the help of «Aggregate indicators of replacement cost». They are grouped in collections by sectors of the economy or by types of buildings and structures that contain the replacement cost of 1 m<sup>3</sup> of building volume, 1 km of pipeline or highway, 1 ton of storage capacity, 1 m<sup>3</sup> of foundation, etc. depending on the purpose, construction, capital, landscaping, size and location in a certain territorial zone (for Ukraine 2 zone) considering the climatic region.

When determining the replacement value of a building, the appraised value of a unit of aggregated meter, adopted according to the relevant collection of aggregated indicators of replacement value of buildings and structures for the 2nd territorial zone, is increased by the total number of units of measurement. The object of evaluation value ( $V_{repl}$ ) when using the method of calculation of the single indicator value ( $V_{un}$ ), is determined by the formula [6]:

$$V_{repl} = V_{un} \times S(V), \quad (3)$$

where  $V_{repl}$  – replacement cost of the object of assessment, UAH;  $V_{un}$  – base value of a single indicator according to UPVV collections, UAH;  $S(V)$  – total area (construction volume) of the object of assessment, m<sup>2</sup>, m<sup>3</sup>.

The replacement cost at the valuation date does not take into account the degree of physical wear and tear and is determined as follows [6]:

$$V_{repl.date} = V_{repl} \times K_n, \quad (4)$$

where  $V_{repl.date}$  – replacement cost at the valuation date, UAH;  $V_{repl}$  – replacement cost of the object of assessment, UAH;  $K_n$  – is the integrated index of construction cost increase from 1969 to the valuation date.

$$K_n = K_{inc} \times K_{app} \times K_{inf} \quad (5)$$

where  $K_{inc}$  – coefficient that considers the increase in construction costs;  $K_{app}$  – market coefficient of price increase of construction and installation works on the territory of Ukraine;  $K_{inf}$  – inflation rate.

The coefficient of increase ( $K_{inc}$ ) considers the increase in construction costs and is calculated by multiplying the industry index by territorial coefficient.

The market rate of appreciation ( $K_{app}$ ) characterizes the change in the cost of construction and installation work. The ratio is calculated considering the data of the

State Statistics Committee of Ukraine and published in the collection of official documents and explanations of the State Committee for Construction and Housing Policy of Ukraine «Pricing in Construction».

The inflation rate ( $K_{inf}$ ) is used if the valuation date differs from the date on which the market rate of increase in the cost of construction and installation work in Ukraine is published. It is calculated by the State Statistics Committee of Ukraine and published in the periodical press on a monthly basis.

Having determined the replacement value of the object, we find its residual replacement value, which is reduced by the amount of wear and is calculated by the formula [6]:

$$V_{res} = V_{repl.date} \times K_{wear}, \quad (6)$$

where  $V_{res}$  – residual value of the object, UAH;  $V_{repl.date}$  – replacement cost on the valuation date, UAH;  $K_{wear}$  – coefficient of physical wear.

The amount of physical wear is characterized by the coefficient of physical wear of the object, which is determined as follows [6]:

$$K_{wear} = 1 - \frac{W}{100}, \quad (7)$$

where  $K_{wear}$  – coefficient of physical wear, units;  $W$  – physical wear of the building, %.

$$W = \sum_{i=1}^l F_i, \quad (8)$$

where  $F_i$  is the weighted average wear of the building element (foundation, walls, floors, etc.);

$$F_i = f_i \times l_i, \quad (9)$$

where  $f_i$  – the percentage of wear of the element of the house depending on the technical condition;  $l_i$  – the share of the value of the element in the value of the whole object.

Determination of physical wear and tear of the object of appraisal is made on the basis of a review of its structural elements in accordance with the Rules for assessment of physical wear and tear of residential buildings, approved by the State Committee for Housing and Communal Services p 52 from 02.07.93.

Also, when calculating the cost by the method of costs, a necessary condition is to take into account the value of the land component, which means taking into account the right to use the land.

This approach gives the most reliable results when evaluating the objects of unfinished construction, specialized real estate, as well as in the assessment of infrastructure. Less reliable results – when applying this approach to the assessment of built-in premises.

A comparative approach in the process of property valuation allows you to compare the value of the object of evaluation with the cost of acquiring a similar or similar object. However, the disadvantage of this method is obvious – the search for a similar object. This applies to the assessment of the property of large industrial complexes, unique buildings, their location, and so on.



Within the comparative approach (sales analogues), it is a valid assumption that the data on existing transactions are the result of judgments of sellers and buyers regarding the value of objects and include information that allows to decide on the market value of the object. The approach is based on the principle of substitution, according to which a typical buyer will not pay for the object exhibited on the real estate market a price greater than the cost of purchasing another object with the same utility.

In general, the method of market comparison (method of sales analogues) is formalized as follows [6]:

$$V_{ob} = V_{an} \times K_{diff}, \quad (10)$$

where  $V_{ob}$  – the value of the object of evaluation, UAH;  $V_{an}$  – the cost of the analogue, UAH;  $K_{diff}$  – a coefficient that considers difference between the object of appraisal and the object-analogue.

After selecting the unit of comparison, the main indicators or elements of comparison are determined, using which you can model the value of the object of evaluation by making the necessary adjustments to the selling prices of similar objects.

Based on this, the basic rule of adjustment is formulated in the implementation of the method of comparison of sales: the selling price of the analogue object is adjusted to model the value of the object of evaluation [14].

There are the following main elements of comparison:

- Ownership rights to the object of assessment transferred ( $K_{own}$ ). The presence of certain restrictions on the right of ownership objectively reduces the value of the object of appraisal, and hence the sale price;

- Terms of sale (free sale, forced sale) ( $K_{terms}$ ). This element of comparison allows to exclude objects of comparison from a number of analogues or to carry out on them adjustment of the prices of sales at detection of deviations from market conditions of sale caused by atypical motivation of acquisition of property;

- Terms of financial settlements when purchasing an asset ( $K_{calc}$ ) – purchase and sale agreements in terms of financial settlements can have a variety of options, of which we can distinguish two typical:

- a) settlement of the buyer with the seller at their own expense and on the date of sale;

- b) financing of the purchase and sale of real estate by the seller, which means providing them with a commercial loan to the buyer (deferred payment);

- dynamics of transactions in the market ( $K_{dyn}$ ). This element of comparison allows us to identify the influence of time in a broad context on the dynamics of transactions in the real estate market and, accordingly, on the level of sales prices. A component of the time factor is inflation or deflation, changes in property rights legislation, taxation, change in supply and demand for real estate, etc.;

- location ( $K_{loc}$ ). Territorial coordinates of the location of a real estate object in determining its value are transformed into the rental component of the value. For

example, the value of real estate depends on many characteristics related to its location, namely: differences in the location of land in different climatic zones, in settlements of different categories and within settlements in different functional and economic-planning zones; physical characteristics ( $K_{ph.ch}$ ) determine the usefulness (and hence the cost) of the object of evaluation. The list of physical characteristics is diverse – age and condition, type of building materials used, size and shape of land (for real estate), architecture of buildings or structures and design of other types of assets and more. Thus, the coefficient characterizing the difference between the object of appraisal from the object-analogue can be calculated using the following formula [15]:

$$K_{diff} = K_{own} \times K_{calc} \times K_{terms} \times K_{dyn} \times K_{loc} \times K_{ph.ch}. \quad (11)$$

This approach is used when there is information about the sale of objects with similar characteristics to the object of evaluation. Given that both the primary and secondary real estate market is already formed and there is enough information about the prices of analogues, this method of determining the value is the most reliable.

The comparative approach is implemented on the basis of the following methods:

- method of branch coefficients. The application of this method will be effective in the case of a systematic approach to its use. It is necessary to study the statistical data, as well as analytical generalizations on the main production and financial indicators of the enterprise;

- the method of the analogous company is based on the basic principles of benchmarking and allows on the basis of studying the experience of a similar company or a company that has achieved significant success to determine the adjusted price of the enterprise. The effectiveness of this method depends on a number of factors – the analogue should belong to the same industry; approximately correspond to the form of management; location geography; type of activity; legal and organizational structure; operating time; production volume; number of employees, etc.

Note that in international practice there are a number of methodological approaches to the valuation of real estate, which in an adapted form can be implemented in domestic practice – Edwards-Bell-Olson models, (EBO) [16]:

$$V = B_0 + \sum_{t=1}^T \frac{E[\Delta X_t]}{(1+r)^t}, \quad (12)$$

where  $B_0$  – equity (net assets) of the company at the time;  $E$  – a symbol of mathematical expectation;  $r$  – the discount rate that corresponds to the expected cost of serviced capital;  $\Delta X_t$  – deviation of net profit at time  $t$  from the «norm» (excess profit).

The model belongs to the so-called models of «residual» income (Residual Income Model) or RIM. We believe that Olson's model, as one of the promising developments in the theory of property valuation, synthesizes some advantages of income and cost approaches, while even minimizing the disadvantages of each of them, because property appraisal is based on the integrated application of the following indicators:

- book value in statistical terms for a certain period on the basis of market data;
- discount rates;

- the number of dividends paid;
- empirical parameters, the values of which are set according to the data of the whole market.

However, the application of this model in Ukrainian realities will be caused by a number of problems, as the accounting data of domestic companies largely do not correspond to the market value. In addition, we can assume that this model is based on consistency of volatility, which also complicates its application of these methods in the economic uncertainty of business in Ukraine.

Thus, we can assume that currently there is no appropriate method of property appraisal, tested by foreign experience, which would ensure the objectivity of real estate appraisal in the national economic realities. Those methods, approaches, models that are effective in the conditions of international economic systems, are not adapted to the economic conditions in Ukraine.

We believe that there is a need to supplement national methodological approaches with requirements to increase the amount of objective information in real estate appraisal. Our proposal is based on the author's own observations on the absence at all stages of both real estate and integral property complexes appraisal, the results of intellectual property and other objects of evaluation, objective, reliable, timely, valuable, complete information about the object of appraisal.

In this context, we fully support the opinion of Ukrainian scientist-practitioner Maksymov S.Y., that in an innovative economy and rapid renewal of business processes there is a need to disclose in the financial statements' information on the company's development strategy, which aims to increase business value and strengthen its competitive benefits. Providing stakeholders with a wide range of information will have a positive impact on the market capitalization of companies.

Undoubtedly, the practical implementation of the concept of informatization of relevant real estate valuation requires significant efforts, first of all – is the formation of open access information arrays about the object of valuation.

However, subject to the successful implementation and practical application of this approach, we will be able to minimize the corruption component in the process of relevant real estate appraisal and allow the application of tried and tested international property valuation methods.

Our proposal is also based on the main problems identified by us, which Ukrainian appraisers face in practice in order to minimize the uncertainty of business activity. In particular, it is the classification of information about the prospects of development of settlements to the category of limited access, usually official information, secondly, the lack of systematic data on transactions (we mean sales agreements), thirdly, the lack of analog databases on market value of property and a number of other problems.

The information approach in the appraisal of property involves a set of organized data on the results of economic activity, various aspects that characterize the functioning of the production facility.

The source base of the information approach is formed of planning, normative,

accounting, reporting data and analytical information. The structure of the information array provides information on the actual results of economic activity and indicators as a basis for comparison.

On the basis of the SWOT – analysis information approach matrices that will allow to simplify procedure of construction of an estimation and to provide clarity of the carried-out operations can be developed. In addition, geographic information systems (GIS) can be an important source of information in the context of the information approach in property appraisal. To date, there are few companies that would not need GIS technology. After all, only with the help of this system it is possible to process a significant amount of information in the shortest possible time.

Interesting, in the context of our study, is the experience of Slovenia, where within the framework of a loan from the International Bank for Reconstruction and Development, a «Geoinformation plan to support real estate management» was developed and implemented. The global goal of this project is to provide operational support to the management and economics of real estate in the context of international relations, the use of information databases (land registers, etc.) and tools related to modern information technology. The methodology itself in everything related to data collection is designed at two levels: data are collected both at the state level and at the local level.

But property appraisal requires not only data from the original database provided by the geographic information center – the results of real estate market analysis are also needed. Assessment of property using GIS will provide visual information on the directions of new construction, the density of existing urban development, there will be the possibility of qualitative and quantitative zoning in the real estate market, displaying the area on the city map and the competitive environment near it. It is geographic information technologies that make it possible to combine different types of information, statistical, economic and geographical basis, which is not enough for the analytical activities of table numbers. Only a combination of GIS capabilities and analytical information accumulated by the appraiser makes it possible to have a complete picture of the object of appraisal.

The development of the real estate market creates a new transaction service, which is implemented through the activities of professional surveying firms. The main function of surveying is to provide a comprehensive approach to property management based on the separation of functions of the owner (strategic decision-making, quality control) and manager (development of specific actions of marketing research, consulting, investing and their implementation to achieve effective results for the owner and society).

**Conclusions:** Real estate valuation, as a procedure with significant stabilizing potential, can be used to limit economic uncertainty. Such an assessment of real estate can be considered relevant for the conditions of national economies with a high level of uncertainty. This is exactly what the Ukrainian economy is like.

Approaches and methods of real estate valuation used in the practice of other countries and in Ukraine contain certain elements that, if implemented, will make the

valuation relevant. It is a question of conformity of an estimation to those concrete conditions in which real estate is used, bought and sold. Despite the importance of general approaches to real estate valuation arising from the economic nature of real estate, special conditions must be taken into account in national valuation methods.

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