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## THE PECULIARITIES OF APPLYING THE MAIN METHODOLOGICAL APPROACHES TO EVALUATION IN DETERMINING THE VALUE OF ANTIQUES DURING FORENSIC EXAMINATION

**Abstract.** The article determines the peculiarities of applying market-based, profit-based and cost-based approach in determining the value of antiques. It specifies that expert practice has always been dominated by comparative (market-based) methodology. Market-based approach does not take into account the total cost of the acquisition of the object, maintaining it in proper physical condition and its operation; therefore, the valuation of antiques only on the basis of market indicators often does not match the real or market value of cultural goods. The comparative method is relatively simple and convenient in terms of practical use, does not require detailed planning and economic calculations, long-time forecasting, accumulation and analysis of large amounts of data. It relies on the principle of substitution; allows to disregard the pricing of individual elements of items or fragments of the whole (e.g., clothing details), types of wear in the preparation of the final conclusion; takes into account the ratio of supply and demand, the competition factor; is based on the expert's experience and academic standing.

It is recognized that, as a rule, the cost-based method is used when assessing specific types of work (for example, exhibition, educational, advertising and publishing) and for the compilation of business plans for financial investments in the development and implementation of projects.

The article establishes that the appropriateness of profit-based approach must be justified economically in each case, taking into account, to the highest possible degree, different aspects of the use of the object in question, the financial side of the agreement between the parties, such as the museum or gallery sending the exhibition and the host represented by an organization, sponsor, etc.

It is ascertained that most experts lack information and analytical materials for the assessment founded on the profit-based and cost-based approaches and the fundamental issue regarding the legality of their use is not always resolved.

**Keywords:** antiques, forensic examination, evaluation of antiques, museums, galleries, museum collections, methodical approaches to evaluation.

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## ОСОБЛИВОСТІ ЗАСТОСУВАННЯ ОСНОВНИХ МЕТОДИЧНИХ ПІДХОДІВ ОЦІНКИ ДО ВИЗНАЧЕННЯ ВАРТОСТІ ПРЕДМЕТІВ АНТИКВАРІАТУ ПІД ЧАС ПРОВЕДЕННЯ СУДОВОЇ ЕКСПЕРТИЗИ

**Анотація.** Визначено особливості застосування порівняльного, прибуткового та витратного підходу при визначенні вартості антикваріату. Відзначено, що в експертній практиці завжди переважало застосування порівняльної (ринкової) методики. Ринковий підхід не враховує сукупність всіх витрат на придбання предмета, підтримання його фізичного стану та експлуатацію, тому визначення вартості предметів антикваріату тільки на основі ринкових показників часто не відповідає реальній та ринкової вартості культурних цінностей. Метод порівняння відносно простий і зручний на практиці, не вимагає докладного планово-економічного обґрунтування і довгочасового прогнозування, накопичення та аналізу великого обсягу даних. Він заснований на принципі заміщення, дозволяє при підготовці підсумкового висновку знехтувати розрахунком ціни окремих елементів предметів або фрагментів комплексу (наприклад, деталей одягу), видів зносу; враховує співвідношення попиту і пропозиції, фактор конкуренції, спирається на досвід і науковий авторитет експерта.

Встановлено, що витратний метод, як правило, використовується при оцінці конкретних видів робіт (наприклад, виставкової, просвітньої, рекламно-видавничої) і для складання бізнес-планів по фінансових вкладеннях в розробку і впровадження проектів.

Визначено, що доцільність застосування дохідного підходу має бути економічно обґрунтована в кожному випадку з максимально можливим урахуванням умов обігу предметів, домовленості про фінансову сторону угоди між учасниками, наприклад музеєм, галереєю, що надсилає виставки, та приймаючою стороною в особі організації, спонсора та ін.

Встановлено, що для проведення оцінки на основі дохідного і витратного підходів у більшості експертів відсутні інформаційні та аналітичні матеріали, не завжди принципово вирішене питання про правомірність їхнього використання.

**Ключові слова:** антикваріат, судова експертиза, оцінка антикваріату, музеї, галереї, музейні зібрання, методичні підходи оцінки.

**Problem overview.** One of the features of civilization, traditionally understood as a coherent, complete, harmonious and original combination of culture, art, architecture, literature, science and technology, as well as the theory and practice of state-building and lawmaking serving as a model for various peoples and regions which have created and are using these and other achievements of civilization, is the desire to establish a connection between the existing civilization and the preceding ones.

As H. Ahrens wrote in his *Legal Encyclopedia* (1855): “In the legal and state-building progress of nations, as in human development overall, the following kind of law is observed: that of *continuity*. ... The ultimate unity of humankind and peoples is evidenced by the fact that the precious capital acquired by one nation is not lost, even if this nation leaves the world arena, but is rather inherited, as a legacy, by another nation, facilitating the latter’s further development and increase of inheritable capital. With the progress of history, this process of assimilation becomes fuller and wider” [1, p. 93].

Western civilization is a striking example of the implementation of the *continuity law* mentioned by H. Ahrens; beginning with the first translations of Aristotle’s works from Arabic into Latin by T. Aquinas in the 13<sup>th</sup> century and the Renaissance culture, it has been searching for and discovering its origins, which date back to antiquity.

Historical studies constitute a recognized scholarly tool for identifying the basis of civilizational continuity of evolution and a given civilization’s connections to pre-existing civilizations and cultures. As far back as the start of the 19<sup>th</sup> century,

I. Kaidanov stated: “A person enlightened by history can be likened to someone who has lived for several millennia and seen all the upheavals that took place in the world. Such a person knows all the figures who have acted on the world stage, whatever the age or the nation. For such a person, the great men who lived a few centuries ago become, through the power of history, contemporaries. ... In this sense, Cicero compares a person who does not know history to a new-born baby” [2, p. xi].

Historical research helps to determine the preconditions for the emergence of peoples and states, including those that preceded the establishment of the Principality of Kyiv in the 9<sup>th</sup> century. However, we must agree with Voltaire, who once argued that there is only one way to reliably learn something from ancient history, and it involves examining “several indisputable artifacts, if they have survived” [3, p. 8].

The material artifacts of culture, art, architecture, literature, science and technology are what allow us, in our opinion, to draw objective conclusions about specific historical events, processes and personalities, to separate historical myths from reality. As a rule, the abovementioned artifacts, which in one way or another reach posterity, have historical and cultural value and can be classified as antiques (from the Latin *antiquus* – “old”); they range from Sumerian clay tablets to works belonging to different strands of contemporary art.

Collecting various old works of art, manuscripts, etc. was known as far back as ancient Greece. During the heyday of absolutism, in the 18<sup>th</sup> century, collecting artifacts of art and culture underwent a revival among European elites. It was during this epoch that the first museums

appeared [4, p. 5]. However, the systematic collection of historical and cultural artifacts, along with their scientific authentication, began much later, in the 19<sup>th</sup> century. At this time, according to B. Platonov, “a textbook on precious stones and antique jewelry was already written” [5, p. 31].

As the practice of identifying and storing 19<sup>th</sup>–20<sup>th</sup> century antiques in national (state) museum and private collections demonstrates, the most complete and valuable collections are concentrated in economically developed countries with a long and continuous civilizational history. These are represented by the Louvre in Paris (France), the British Museum in London (UK), the Metropolitan Museum in New York (USA), the Uffizi Gallery in Florence (Italy), the Vatican Museum and others. The UK, the USA and other countries also have world-renowned art auctions, including auctions of antiques such as Christie’s and Sotheby’s, which dominate the market (their market share amounted to UAH 63.8 billion in 2015) and whose incomes increased sevenfold between 2000 to 2015 [6, p. 45–46].

This suggests that today ancient objects of culture, art, architecture, literature, science and technology are an important component of modern Western civilization; in addition, they form a segment of world economy. As P. Dossi writes: “Each era has its own collectors. Under globalized capitalism, hedge-fund managers have become the most active sellers and buyers in the art world. They compete in what is called wall power – in the price power of works that are being bought” [7, p. 15]. This statement about works of art also applies to world-class antiques.

Due to their value (including the material one) antiques are often subjected to forensic examination. Such examinations are appointed during criminal investigations related to the theft of art works and antiques; fraud; smuggling; failure to return objects of artistic, historical and archaeological value to Ukraine; destruction or damage of historical and cultural artifacts, *etc.*

Along with the examination of antiques which are of historical and cultural value, the issue of their evaluation must be addressed. Resolving this question is important when buying and selling the items, insuring them, determining the amount of collateral, classifying the abovementioned offenses, *etc.*

Obviously, determining the value of antiques is a problematic task whose implementation requires fundamental knowledge in the field of evaluation and significant practical experience in conducting examinations and expert research. This work should also be underpinned by the correct use of current legislation and methodological framework for property valuation in Ukraine. We can also agree with foreign experts that “expert assessment essentially consists of two interrelated parts. The first is devoted to the study of qualitative characteristics of the object (technological and art valuation expertise) and the second may contain an economic appraisal of its value” [4, p. 50].

In Ukraine, property valuation is regulated by the Special Law of Ukraine “On Property Valuation, Property Rights and Professional Valuation Activities in Ukraine”. In accordance with Art. 8 of this Law, in Ukraine the methodological regulation of property valuation is based on laws and regulations regarding prop-

erty valuation: provisions (national standards) on property valuation approved by the Cabinet of Ministers of Ukraine, methodological frameworks and other laws and regulations developed in line with the requirements of the abovementioned national standards and approved by the Government of Ukraine or the State Property Fund of Ukraine [8].

Furthermore, Art. 4 of the Law of Ukraine “On Property Valuation, Property Rights and Professional Valuation Activities in Ukraine” establishes that the activities of forensic experts related to property valuation are to be carried out in accordance with terms and procedures prescribed by the Law of Ukraine “On Forensic Expertise” [9], with reference to the norms outlined in the Law “On Property Valuation, Property Rights and Professional Valuation Activities” as regards the methodological regulation of the valuation of property.

Thus, the legislature establishes that a forensic examination of antiques shall make use of main methodological approaches to valuation. At the same time, analysis of scholarly and methodological literature uncovers divided opinions on this issue among evaluators and forensic experts.

**Analysis of recent research and publications.** The question of examination and evaluation of various antiques has been explored by such Ukrainian and foreign scholars and experts as V. Bockhanska [10], S. Bratko [11], L. Burdo [12], V. Indutnyi [13], F. Petriakova [14], B. Platonov [5], M. Postnikova-Loseva [15], N. Romanova [4], L. Serebrin [16], V. Soloviov [17, 18], L. Tymoshchuk [6], L. Khaukha [19], Y. Cherniavska [20] and others. Additionally, the issue is covered in general-audience educational litera-

ture, for example, in P. Dossi’s “Hype! Art and Money” [7] and other works.

Some of the abovementioned experts have authored expert research methodologies included into the Register of Forensic Examination Methodologies managed by the Ministry of Justice of Ukraine. These are, in particular, “A Guide to Determining Paintings’ Value” (registered under No 15.1.01) (V. Soloviov), “Methodology of Assessing Cultural Values” (registered under No 15.1.04) (V. Indutnyi, E. Cherniavska and others), “Methodology of Evaluating Antique Russian Samovars” (registered under No 15.1.06) (L. Burdo), “Methodology of Evaluating Antique Diamond Jewelry” (registered under No 15.1.07) (L. Serebrin), “Methodology of Evaluating Antique Garnet Jewelry” (registered under No 15.1.08) (L. Serebrin), “Methodology of Authentication of Cyrillic Early-Printed Publications” (registered under No 15.1.11) (S. Chycheryna) and others [21]. However, these methodologies often contain provisions conflicting with the National Standard No 1 “General Principles of Property Valuation and Property Rights” [22].

Today, the Department of Expert Support of Justice of the Ministry of Justice of Ukraine is updating the methodologies included into the Register of Forensic Examination Methodologies in order to bring the methodological support of forensic activities in line with the requirements of current Ukrainian laws and regulations. Accordingly, this article summarizes, analyzes and identifies ways to improve methodological approaches to conducting forensic examinations aimed at determining the value of antiques.

The **general purpose** of this study is to determine the peculiarities of applying

comparative, profit-based and cost-based approach while conducting forensic examinations aimed at determining the value of antiques in present-day Ukraine.

**Presentation of main findings.** As already mentioned, paragraph 35 of the National Standard No 1 “General Principles of Property Valuation and Property Rights” establishes that property valuation in Ukraine is to be carried out based on methodological approaches, evaluation methods that are part of methodological approaches or represent the result of combining several methodological approaches, as well as evaluation procedures [22]. The National Standard envisages the following basic methodological approaches for the assessment of property: 1) comparative 2) cost-based; 3) profit-based. Thus, we will define the peculiarities of applying these methodical approaches while determining the cost of antiques.

**Comparative approach** constitutes a set of methods for estimating the value of the object of evaluation based on the comparison of the object of evaluation with comparable objects whose prices are known. An object is declared comparable to the object of assessment for the purposes of assessment if it is similar to the object of assessment in terms of basic economic, material, technical and other characteristics, which determines its value.

In expert practice, the use of comparative (market-based) method has always prevailed. Market-based approach does not take into account the total cost of the acquisition of the object, maintaining it in proper physical condition and its operation, so determining the value of antiques solely on the basis of market indicators often does not match the real

and market value of cultural values. This usually leads to underestimating the value of museum and private collections.

Comparative approach to evaluation is based on several key indicators which can be applied in diachronic and synchronic dimensions, taking into account the presence of similar objects in the cultural space of society (or in a museum or private collection), their cultural and historical value, quantity (presence of variants), preservation, value, etc.

In essence, this approach is market-oriented, governed by market laws, by the ratio of supply and demand, as well as by competition, fashion, individual motivation of sellers and buyers, and other factors. The value of the object, determined by the expert in the position of a purchaser, must be no higher than a similar value determined with allowance for circumstances which call for its adjustment. Sometimes, the initially overstated price of an antique item is not an obstacle to its purchase on the antique market if the item is needed to replenish (complete, enlarge) a collection or an exhibition, for research purposes, etc.

With a high degree of individualization of art works and handicrafts, the value of similar objects, even when they share quantitative parameters, is not the same. This does exclude the possibility of arriving at average figures if the conditions and characteristics of objects are equivalent, as is done, for example, in the valuation of property, business, financial instruments, etc. A single information database with appropriate software could become a precondition for this process. Such an information database would allow, *firstly*, to legalize the presence of antique cultural and historical values in Ukraine; *secondly*, to help owners and

acquirers operating in the market of antiques to form an idea about quantitative parameters, the relative values of antiques based on classification groups and introduce correction coefficients.

In the Ukrainian antique market, the accepted practice is to use time coefficients; depending on the age of the object, its value automatically increases by a certain percentage of the original figure. Well-known foreign auction houses regularly publish auction catalogs, and the prices for works of art indicated there serve as a guide when buying and selling antiques.

In the past, in the USSR, attempts were also made to compile comparative tables on the value of certain groups of art works. Thus, in 1983 "Guidelines for the evaluation of works of fine and decorative arts of religious significance; book collections and antique books", approved by the Ministry of Culture of the USSR, were published; a brief description of state awards and a comparative table of prices for Soviet and foreign badges used in preceding decades at foreign auctions, in the USSR and even on the "black market" was compiled [23]. In the following years, almost no new methodological literature of this nature was published in the former USSR and later in the independent Ukraine.

Comparative approach is based mainly on the results of quantitative and qualitative analysis of comparable items and involves the study of an object based on comparable criteria, including the average cost at the date of evaluation of information on the sales of similar objects. The market-based method of comparison may consider the following features that affect the assessment of the object:

- time of manufacture and use (with data on the item's value at the same date as the time of assessment);
- place of manufacture (country, region, district, etc.);
- history of use;
- authorship;
- individual or mass nature of the product;
- material characteristics of the product;
- the object's dimensions (linear and three-dimensional);
- the object's condition (wear, loss, appearance, etc.);
- balance of supply and demand on the market and in the museum environment;
- the best option in terms of the market and terms of purchase;
- nature of the source;
- liquidity.

The fuller the scale of comparative parameters of similar objects, the easier it is to draw analogies and determine the object's value objectively and adequately.

Applying this approach while determining the value of an antique item, the expert must:

- a) select the units of comparison and conduct a comparative analysis of the object of evaluation and each comparable object, for all elements of comparison. For each comparable object, it is possible to select several indicators for the purposes of comparison, provided their choice is well-founded;
- b) adjust the value of the unit of comparison for comparable objects (for each element of comparison between the characteristics of the evaluated object and the comparable object) based on the scale and procedure of adjustment, the conditions of their introduction);
- c) regulate the results of adjustment for the units of comparison of selected

comparable objects, substantiating the scheme of coordination of the adjusted units of comparison and the prices of comparable objects, adjusted respectively.

As a source of information, the expert may use financial data on previous acquisitions of similar items by an institution (individuals), as well as catalogs and collections of museums, galleries and exhibition firms.

Thus, comparative (market-based) methodology is the most frequently used method of antiques evaluation conducted for the purpose of their acquisition, insurance. The methodology is applied by the expert during the study of the object based on reliable and accessible information about prices and characteristics of comparable objects. Within its framework, various indicators (material, technological, artistic, economic) are also analyzed, which is especially important for determining the object's value as a total consisting of different parts.

The market approach has a number of advantages, as it reflects the actual current market value of the object, which is the weighted average of buyers' and sellers' opinion about comparable objects and specifically about the given antique; moreover, it incorporates expert opinion.

In addition, comparative method belongs to traditional methods of formal logic; is easy to master and apply; it does not require detailed planning, economic calculations, strategic forecasting, or the accumulation and analysis of a significant amount of data. It relies on the principle of substitution, allows to disregard the pricing of individual elements of items or fragments of the whole (e.g., clothing details), types of wear in the

preparation of the final conclusion; takes into account the ratio of supply and demand, the competition factor; is based on the expert's experience and academic standing.

However, some advantages of this approach may also act as its disadvantages. First, the information about comparable objects and their value (in other states, museums, private collections) may be limited or unavailable; accordingly, the results of the method's application can be incorrect in general. Furthermore, the methodology depends on the expert's subjective opinion, based on his or her individual experience of working with antiques. Besides, the evaluation results can be undermined by changes (aging) of market information, as well as the specific nature of antiques market in Ukraine.

**Cost-based approach.** One of the most economically sound and effective methods of assessment is represented by cost-based approach. When applying it, we can take into account all the resources spent on the manufacture of the object, its maintenance in required physical condition, its sale and other physical, material and intellectual costs.

Thus, cost-based approach constitutes a system of methods for estimating the value of the object of evaluation based on determining the costs necessary to reproduce or replace the object of evaluation, taking into account wear and tear (aging). The costs of *reproducing* the object of evaluation are the costs necessary to create an exact copy of the object of evaluation using the materials and technologies used in the creation of the object of evaluation. The costs of *replacing* the object of evaluation are the costs necessary to create a similar object



using materials and technologies used at the date of evaluation.

When establishing the costs, we determine the monetary value of resources needed to create or produce the object of evaluation, or the price paid by the buyer for the object of evaluation, and take into account the object's physical condition (wear, functional, economic (external) aging, etc.). This approach is widely used to evaluate various objects in modern market conditions. It enables us to determine the degree of wear and tear of items in general and their individual parts. The owner of the antique item, especially if he or she was responsible for organizing (if needed) the object's professional restoration, considers many parameters when determining the price. In particular, such factors can be related to the restoration process, raw materials (materials) used during restoration, complexity and technological nature of restoration, even the name of the conservation professional, etc. The same applies to the professional authentication of the antique or its conservation. These parameters provide the ground for the agreement regarding the antique item's value between the seller and the buyer.

The object's price largely depends on its physical condition. The buyer, in case of purchasing a badly preserved object, visually assesses the degree of wear, destruction, loss of fragments (parts), etc., with a view to restoring it to its original state, which involves the subsequent costs of restoration. Sometimes these costs are significant and may exceed the value of the antique item at the time of purchase (for example, in case of restoring porcelain produced in the 2<sup>nd</sup> half of the 20<sup>th</sup> century.). The assessment of the antique by the buyer and the seller may

differ, but the implementation of the purchase agreement indicates that the parties have achieved an agreement.

Cost-based valuation methodology, like other methods, has certain shortcomings. These are tied to the forecasts concerning future benefits brought by continued ownership of the antique item underlying the methodology, as well as aspects like comparing the price category of the antique item at the initial stage of its acquisition, the cost of its authentication, restoration, conservation, etc. The use of cost-based method requires the expert to analyze a significant amount of information and involves spending a substantial amount of time on establishing the cultural and historical value of the object, the study of its physical condition. However, this methodology allows to calculate the total cost combining all expenses related to the purchase of antiques.

At the same time, this method is rarely used when determining the value of antiques. In some cases, this leads to underestimating the financial performance of collections, in contrast to private museums, where the value of objects (therefore, their insurance value as well) is rated much higher, as museums take into account the maximum cost of acquisition, authentication, storage, restoration, operation, etc. Yet, comparing analogous objects located in institutions of different forms of ownership, and based on current prices for comparable items and museum costs (authentication, storage, transportation, restoration, conservation, etc.), one can get comparable figures in terms of prices.

Price indices used when determining the value of an antique item often act as increasing or decreasing coefficients, but

their specific values are not regulated; rather, they are based on the practice of selling cultural values through various structures (auction, market, pawnshop, commission shop, museum, etc.). For example, the cost of antiques can be increased based on the time of manufacture, the exclusivity of the product, the name of the artisan, the material and so on. Antiques tend to increase in value over time. However, while any antique item is “old” by definition, not every old item is considered an antique and increases in price over the years.

Experts also take into account special cost structure indicators which have to be verified and adjusted at the date of valuation. For instance, the preliminary cost of an antique item can be reduced by a certain percentage, based on the results of technical and technological analysis, because of the wear (loss, damage, etc.) or the discrepancy between the initially indicated and actual raw material (e.g., assay), or because the analysis has refuted the object’s connection to a specific historical figure or to well-known historical events, etc. All the expert’s conclusions are corroborated by concrete digital indices, formed as a result of long-term practice of assessing different types of sources.

The insurance value of an antique is always higher than the sum of the costs of its acquisition and authentication. At the same time, it cannot exceed the established size of insurance assessments of comparable objects determined by insurance companies and relevant state organizations. Moreover, the amount of insured value may not exceed the item’s market value, which is always a variable. When these conditions are violated, the laws of competition come into force. Fixed limits imposed on the amount of

insurance coverage objectively lead to the underestimation of museum items’ value, as this significantly affects the payment of insurance premiums.

Cost-based approach is sometimes regarded as the most cost-effective one, especially for museums and galleries. It addresses various indicators related to the acquisition, authentication, use of museum objects; to the change in their market value. Today, Ukrainian state museums document procurement costs in invoices, acts, etc., but these documents only record the initial value of antiques, while other costs associated with the process of their acquisition (delivery) are not considered. In our opinion, such a procedure does not ensure adequate determination of antiques’ value.

Cost-based approach is often used when collectors (correspondents) bring items to the museum from other regions, with a view to selling such items. Naturally, their cost includes overhead costs associated with delivery, often with authentication, photographing their use or using other media to reflect it, etc. Consequently, the price of the same ethnographic antique differs depending on where it is bought: in the place of its manufacture and previous use, the price is different from that at which the item can be purchased in another area, often located at a distance. When buying objects at a lower price during expedition, a museum employee does not include other types of expenses into the cost. This creates the illusion of a profitable purchase.

In some cases, it is possible to purchase an antique item at a dumping price (for example, if the item’s market exposure is limited in time), but this involves a fundamentally different approach to eval-

uation, due to subjective factors. In each case, establishing the value of the antique should include the projected calculation looking into the economic justification of an agreement beneficial to both parties. As a rule, in Ukraine the cost-based method is used in the evaluation of specific types of work (e.g., exhibition, educational, advertising and publishing) and for drawing up business plans for financial investments in the development and implementation of projects.

**Profit-based approach** is in fact investment-based, as makes use of the analysis of valuation data on comparable objects and their expected profitability. In other words, profit-based approach is a system of methods for estimating the value of the object of evaluation which focus on determining the expected revenue from the use of the object of evaluation, represented in our case by antiques.

The application of profit-based methodology largely depends on the scope of marketing policy and management implemented by public or private museums, gallery owners. The degree of their effectiveness and strategic direction enable us to reliably predict economic benefits gained from the museums' and galleries' participation in promising projects. To ensure good results, it is important to combine the expertise of specialists and experts engaged in various fields of museum and gallery activities. The quality and quantity of scholarly and practical information about the main characteristics and the potential of antiques also influence the effectiveness of their use.

The appropriateness of profit-based approach must be justified economically in each case, taking into account, to the highest possible degree, different aspects of the use of the object in question, the

financial side of the agreement between the parties, such as the museum or gallery sending the exhibition and the host represented by an organization, sponsor, etc.

Exhibitions are different in content, number, nature of exhibits. Sometimes exhibitions with only one exhibit, an antique, are arranged (organized), the object on display being a rare (well-known, little-known, etc.) work of art, a historical and cultural artifact. In this case, profit-based method can be applied both to the object and to the set of exhibition events around it. It should be noted that exhibition activities mainly pursue cultural goals. However, other factors also come into play. Museums cannot always count on making a profit by displaying rarities during such exhibitions. On the other hand, exhibition activities undertaken by museums improve their standing and, among other things, bring publicity to the antiques they own.

Profit-based approach is applied when there is reliable information allowing to predict the future revenue which the antique is potentially able to generate as well as costs associated with the estimated object. Using this approach, the appraiser determines the amount of future revenues and expenses and when they will be generated or incurred.

Applying this approach, the expert should:

a) establish a forecasting period (a period in the future, commencing after the date of evaluation, involved in predicting the quantitative characteristics of factors affecting the amount of future profit);

b) explore the estimated object's ability to generate profit during the forecasting period and after its end.

Object assessment performed in line with this methodology is based on the recognition of the object's significance as a historical and cultural artifact, considers the possible aspects of its use by a museum or a gallery at present and anticipates the possible prospects of its use, taking into account various factors (economic, cultural, ideological). Thus, the evaluation of museum objects acts as an investment mechanism, with the price seen as an investment. In general, this can become a basic indicator in calculating the added value of different museum projects – related to exhibitions, publishing, education, etc.

The method is difficult to apply in terms of conducting analytical studies regarding the prospects of project implementation; collecting and processing various kinds of information regarding factors which directly or indirectly affect the assessment of the value of the antique, etc.

**Conclusions and prospects for further development.** Thus, when evaluating antiques, three main methods can be used; the choice depends primarily on the expert's decision. Each of the methods has its own peculiarities. At the same time, they have much in common: applied in the evaluation process, they analyze the object from a temporal standpoint:

cost-based approach represents the past: the antique costs as much as has been invested into it (the aggregate of the whole complex of museum works);

market-based (comparative) approach centers on the present: the antique costs as much as its counterpart in the current art market;

profit-based approach focuses on the future, predicting the economic benefits

associated with the manner and conditions of the antique's use (turnover) in the short and long term.

When evaluating antiques, we can either use some of these techniques, depending on the expert's mastery of this or that method, or combine all of them, arriving as a result at an average cost.

Today, experts mainly use the comparative approach, as the simplest and most convenient one. This is confirmed by experienced evaluators and experts. In particular, L. Tymoschyk, taking the evaluation of icons as an example, writes about the comparative approach that "[t]he priority given to comparative approach in the evaluation of icons can be decisive, as the method relies on a set of factors such as age, rarity, religious and cultural significance, etc." [24, p. 245].

Most experts lack information and analytical materials for the assessment founded on the profit-based and cost-based approaches and the fundamental issue regarding the legality of their use is not always resolved. Currently, these methodologies are used only by experts who have substantial practical experience, free access to museum and gallery environment in Ukraine and abroad and attend antique auctions.

The development and implementation of innovative unified methods for the forensic examination of antiques, based on existing Ukrainian legislation and the general methodological property-valuation basis, constitutes a highly topical task; their development will lead to their use in expert practice, which in its turn could reduce the share of questionable forensic examinations.

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