

System Approach to Art Value in the Auction Market

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Abstract: In this article the concept of work of art value, that employs system approach to the auction market, has been presented. While treating the market as a system, respective elements of the system and their relationships have been identified. Sellers, buyers, auction institution as an agent, and works of art as the objects of exchange have been identified among the elements of auction market system. The structure of the auction market system, besides the elements already mentioned, includes relationships between the elements. The article also takes up the issue of market subsystems and environment that the system of art auction market functions in. System approach to the market allows multi-aspect consideration of the issue of artwork's value. Thanks to the system approach to work of art value, a variety of value types create one whole. Market value (price), value for the seller, artistic value, aesthetic value, historic value, estimate value, value for the customer, utility value, aesthetic value, hedonistic value, common/private value, collection value, emotional value have been placed in the market system. Environment of art auction system has been divided into: close environment, connected with art market (not only auction market), and distant environment that includes social, cultural, economic, religious factors influencing the system and thus the value of works of art.

Key-Words: system theory, system approach, art market, art auction, auction market, art market system, art trade, art, works of art, value, art value, art price, art market value

1 Introduction

Studies on the issue of value are taken up in many scientific disciplines: philosophy, aesthetics, cultural anthropology, neurobiology, sociology, psychology, and economy. The issues discussed include the ones concerning the sources of value (objective – inherent in the object, subjective – assigned by human), dependence of values (absolute, relative), certainty of values (scepticism), method of value cognition by a human being (rationalism, empiricism), historical variability of values, problem of axiological hierarchy.

The value of the works of art is a very complex problem, including many specific aspects of those objects. It should be emphasized that they are unique, original artefacts, made by human being, economic goods, heterogeneous, indivisible, incommensurable objects, singular goods, luxury goods (high income elasticity of demand), cultural goods and a part of cultural capital, consumption goods, investment goods, symbolic goods, objects with a special *aura*, cultural heritage, sometimes national heritage requiring state's protection.

In the field of economics, the issues of art value are present in the papers concerning cultural economics (*in JEL classification Z1*) [2, 5, 13, 17, 17, 21, 23, 27, 30, 41]. It should be stated that value of works of art can be measured by the market

mechanism - supply and demand interacting to establish the level of price (market value).

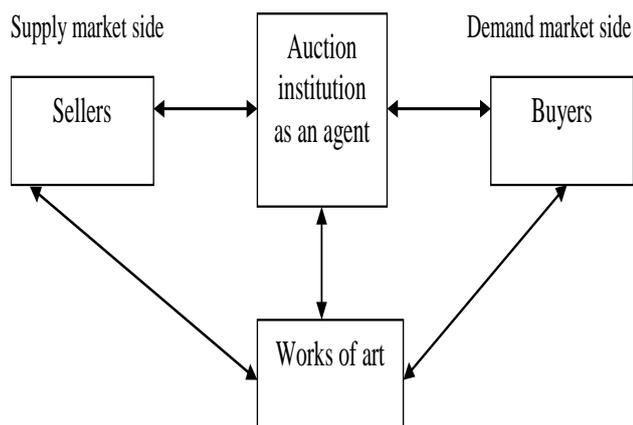
Auction can be understood as an organized institution, as single auction session, as a game between potential buyers, as a market mechanism enables prices' formation. It's noteworthy that auction is a subject of economic analyses on the ground of auction theory [3, 14, 22]. Specificity of characteristic features of auction market will be considered during the analyses of the art auction value shaping.

In an attempt to integrate different views on the artworks' value, system approach will be used in this paper Auction market will be treated as a system, i.e. set of elements with specified properties and the existing relationships between them and between their properties, creating certain isolated entirety [5, 22, 34]. Different aspects of value of works of art, taken up on the grounds of philosophy (aesthetics), art history, economics (market analysis, auction theory, value theory, art market issues, behavioural finance, ownership economics), sociology of art, psychology of art, anthropology of art, will be considered. All these aspects will present the value of work of art in a wide, multidimensional, and interdisciplinary perspective.

2 Elements of art auction market system

Subjective elements of art auction market are participants of exchange transactions, including sellers, who offer works of art for sale and represent supply side of the market, as well as customers, who signal the requirement for the purchase of work of art and represent demand side of the market. Market elements also include objects of exchange, namely respective goods or services (in this paper - works of art). The last identified element of the system is auction institution, which acts as an agent between sellers and buyers in making purchase-sale transactions. Individual elements of the market system influence on each other, thus creating a network of multilateral connections of diversified nature. The concept of system approach to art auction market has been illustrated in Fig. 1.

Fig. 1. Elements of art auction market system



Source: author's own work

The following elements might act as market subjects (sellers and buyers): natural persons (artists, art dealers), art galleries, auction houses, antique shops, museums, enterprises, banks, companies, investment funds etc. Auction operates contractually on behalf of sellers of works of art. Potential buyers may participate in an auction session on their own behalf or on behalf of others. Those potential buyers interested in purchase may also buy without participation in the auction, by the agency of auctioneer (they need to file absentee bid form in advance, which specifies the maximum price level at which they are willing to purchase the object). Auction, as another market element, acts as an agent in conclusion of purchase-sale

transactions, acting based on defined rules of transactions making. The last element of market system comprises works of art – objects with unique, inimitable character, which are an issue of special interest of aesthetics and history of art.

After identifying the set of system elements it is possible to define attributes of auction market elements. The attributes of sellers include, inter alia: profile (kind of seller: private owner, artist, auction house, enterprise, institution), motive for selling (financial needs, change in taste, change in preferences, boredom with a particular artwork, or the desire to raise funds for a different purchase), holding period. Features associated with the element of auction institution may include:

- location of the auction house,
- reputation of the auction house,
- personality and behaviour of auctioneer,
- possible manipulations of auction house¹,
- opening bid level,
- increment/decrement included in auction regulation,
- auction house strategy concerning e.g. order of auctioned items,
- levels of seller's commissions and buyers' premium - the percentage calculated out of the hammered price of sold item².

Attributes, which may be assigned to potential buyers, include the following:

- demographic qualities: age, sex, education, profession, place of residence,
- nationality (particularly in comparison with artist's nationality),
- needs, interests, passions, desires, aspirations,
- personality³,
- preferences, tastes, habits,
- incomes, financial assets, material possessions,
- behaviour⁴,

¹ In the paper of Wilson-Anastasios one can find evidence that auction houses can exert significant control over buyer behaviour and price formation [42].

² It has been proven in the literature that the estimate values are significantly and highly related to prices of works of art. At the same time high levels of estimates at the time of purchase are associated with adverse subsequent abnormal returns [24].

In on-line art auctions opening bid have a positive effect on price formation throughout the auction, with its effect decreasing toward the end of the auction [8].

³ In psychology the theory of Five Factor Model (FFM) is used to describe dimensions of personality of human being (the Big Five personality traits: openness, conscientiousness, extraversion, agreeableness, neuroticism).

- knowledge vs emotions,
- willingness to pay⁵,
- inclination to take risk (risk neutral vs. risk averse buyers discussed in auction theory),
- bidding experience,
- bidding strategy of potential buyers.

It should also take into account: current number of bidders - number of competitors intending to buy a given artwork, current number of bids, manipulations on the part of bidders (for instance "bidding rings")⁶.

On the other hand, among the features that describe works of art and its creators (artists), the following could be mentioned⁷:

- author's name and connected with it - author's reputation,
- period of artist's work⁸,
- time the work of art was created in,
- age of artist as indicator of her/his artistic experience,
- artist's age at death (length of the artists' careers)⁹,

⁴ Behavioral economics studies the effects of social, cognitive, and emotional factors on the economic decisions.

⁵ Willingness to pay (WTP) is the maximum amount of money that a potential buyer would be willing to pay, sacrifice or exchange in order to obtain a work of art.

⁶ The purpose of organizing bidding rings is to reduce bidder competition and to depress the auction price for the work of art. "Bidder cartels are the most likely to succeed, when the number of potential competitors is low and the price competition for the auction goods is limited" [3].

⁷ Among objective features that characterize painting art, Moureau mentions groundwork, composition and signature, [27, pp. 16-18]. In Mc Andrew's book, among the features of work of art itself, the following are mentioned: size, medium, period, subject, condition and provenance [23, pp. 53-56].

⁸ The works of art created by an artist may be generally divided into: early, transitional and mature.

The age-price profiles estimated by Hodgson reveal, statistically significant, differences among cohorts of painters [14].

⁹ The death of the artist increases prices in the first two years following the artist's death before prices drop back somewhat to levels similar to before the artist died [9]. According to Ursprung and Wiermann death of artist can provoke two effects on the level of art prices. On the one hand prices increase when the artist dies (none work of art will be made by artist in future - supply is non-augmentable). On the other hand, an untimely death may negatively impacts on art prices (frustration of collectors, not realized hopes of owning artwork that will increase in value, as the artist's career progresses. [39].

- artist's nationality¹⁰,
- artist's gender¹¹,
- artist's place of residence,
- authenticity¹²,
- attribution¹³,
- size (dimensions)¹⁴,
- material cost,
- technique it was made in (oil, gouache, acrylic, water-colour, tempera, sanguine, black chalk, ink, natural ochre...),
- support (canvas, paper, board, plywood, glass, silk...),
- subject matter (mythological, historical, religious scenes, landscape, seascape painting, genre painting, battle scenes, still life, animals, portrait/self-portrait, nude, abstraction, untitled...),
- colour, colours scheme, influencing mood,
- composition,
- artistic style, school in art history,
- quality of workmanship,
- condition (possible previous fine arts conservator's interventions, need of cleaning, repair, restoration),
- signature (author's signature on the work of art or unique symbol used by artist),
- provenance, referring to the documented history of the art object (source from which a work of art has come to the market, previous owners, auction records, certificates, conservation records)¹⁵,
- artistic value described by aestheticians¹⁶,
- historic value discussed by historians and art historians¹⁷.

Moreover, some qualitative aspects connected with artworks should also be taken into account i.e.:

¹⁰ Buyers prefer to buy the works of art created by the artists' of their own nationality.

Analysis of prices according to artists' nationality has been held by L. Renneboog and Ch. Spaenjers in the data set they include the biggest nationality groups: American, British, Dutch, French, German, and Italian [29].

¹¹ Female artists receive less for their works [41].

¹² Authenticity - signed, dated, inscribed.

¹³ The levels of artworks attribution reflect different levels of certainty: attributed to, studio of, circle of, school of, after, in the style of.

¹⁴ In case of paintings: height x width.

¹⁵ Famous provenance can increase the value of artwork.

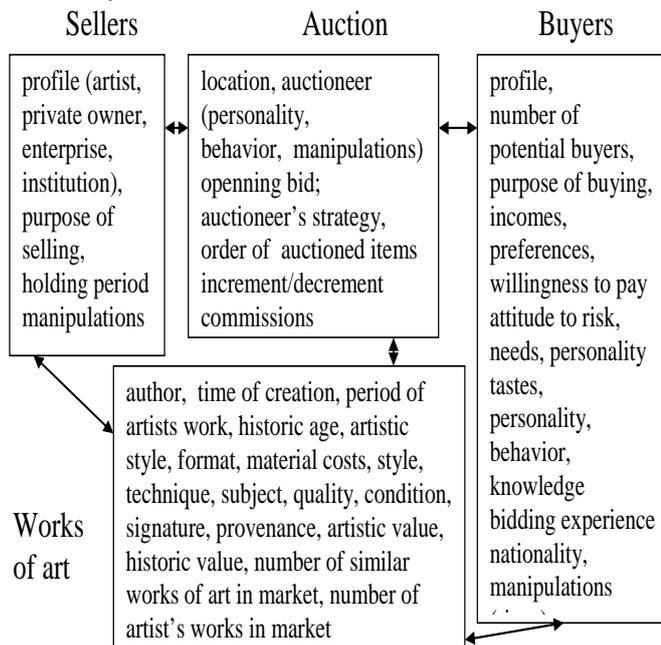
¹⁶ Among the most fundamental artistic values we can distinguish: originality (novelty), mastery of execution and the importance of ideas presented in the work of art [12].

¹⁷ The influence of some variables describing the works of art has been analysed in the literature [6, 13, 29].

- number of similar works of art on the market (the same artistic school),
- number of works of art made by a given artist,
- number of works made by a given artist on the market).

It is noteworthy that for the description of work of art we can use the approach, derived from Lancaster's concept, to a product as a set of characteristic features [27]¹⁸. Attributes of the elements of the art auction market system have been presented in Fig. 2.

Fig. 2. Attributes of elements of the art auction market system



Source: author's own work

3 Relations in art auction system

Structure of auction system, besides indicated elements, also includes any type of relations existing between them. The following relations between pairs of elements may be identified in the auction market system of works of art:

1. seller – auction,
2. auction – buyer,
3. seller – works of art,
4. buyer – works of art,
5. auction – works of art.

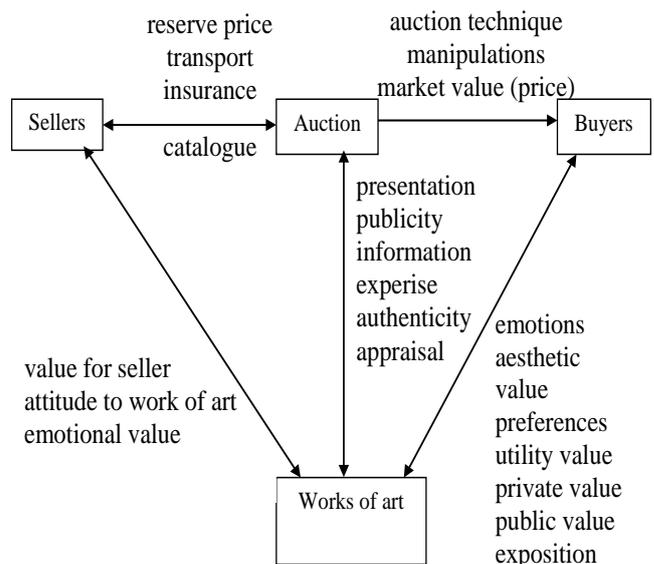
From the economic perspective the most important relation in the market system is the one

¹⁸ Lancaster's theory rests on the assumption that consumers are interested in components of products – their "characteristics". The price is the sum of the prices of all characteristics of the product.

that concerns conclusion of exchange transactions and specifying work of art's market value. In the case of auction market, auction institution mediates the transaction. On the institution's behalf the auctioneer, together with the seller, specifies reserve price – below which respective object may not be sold. Object's price is determined based on adopted auction technique (English, Dutch, first price, Vickrey's second price).

Relation between sellers and works of art is expressed by subjective attitude of sellers to possessed works of art. Relations between buyers and works of art may include for instance a grasp of the possibility to purchase work of art of a given artistic school or subjective feelings and emotions of buyer related to respective work of art. The character of the discussed relation will be determined not only by objective features or utility value of the work, but also by the access to information on the work of art, advertisement, the way the object is exhibited. Bearing in mind the views of aestheticians, it should be stated that the relation between buyer (customer) and work of art might be an aesthetic experience, which determines its aesthetic value. Buyers will reveal different preferences towards works of art. Works of art in buyers' perception may possess private or common value. Relations between auction and works of art may take the following forms: presentation, publicity information, expertise, authenticity, appraisal, order in which artworks appear during auction session. Selected relations between the elements of the auction art market system have been presented in Fig. 3.

Fig. 3. Relations in art auction system



Source: author's own work

Relations also exist within respective elements of the auction market system. Considering sellers, the phenomenon of competition or collaboration of entities may be indicated on the supply side of the market. Relations within the buyers set, on the other hand, concern inter-bidder relations including collaboration or competition between the entities on the demand side, manifested in cooperation, imitation, ostentation, Veblen effect, Ash effect, wish to catch up with the others, wish to surpass others etc¹⁹. Relation within the set of works of art may determine such features of works of art as disputable issue of substitutability or complementarity of goods. Work of art itself can also be treated as a system. In this approach work of art can be identified as an artificial, partly isolated and dynamic system.

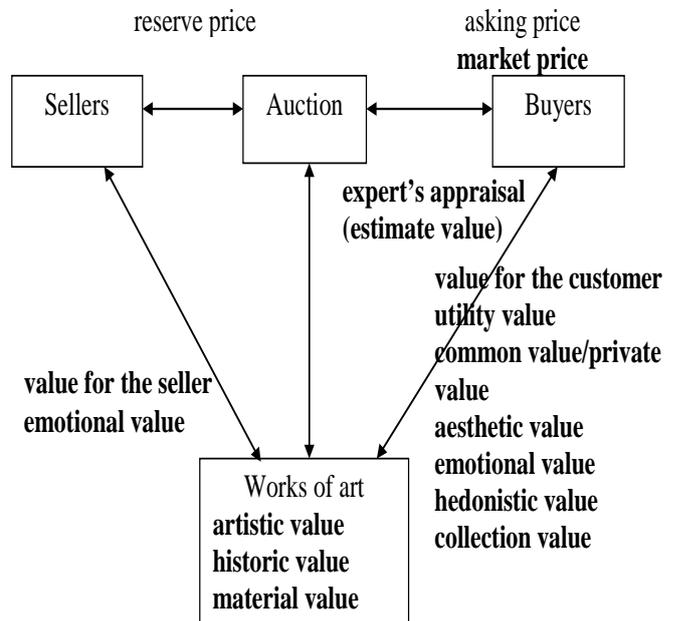
4 Art value in the auction market system

System approach to art auction market will allow joining interdisciplinary considerations and presenting considered issue in a wide perspective. The following types of work of art's value should be identified:

- market value (price, so called hammer price in English auction technique),
- value for the seller,
- emotional value (for seller, and also for buyer),
- estimate value (experts' appraisal indicated in auction catalogues),
- artistic value,
- aesthetic value,
- historic value,
- value of materials,
- value for the customer,
- utility value,
- hedonistic value,
- common/private value,
- collection value,

All mentioned kinds of artwork's values are presented in Fig. 4.

Fig. 4. Types of artwork values in the art auction market system



Source: author's own work

Work of art itself is connected with the value of materials that the work of art is made of (valuable materials like gold or diamonds in particular). It is noteworthy that in the philosophical approach materials that the work of art was made of represent the basis of its existence. Work of art is also a source of artistic and historic value. It is worth mention that the artistic value is assigned to work of art based on visual, objective properties of the object (e.g. compositional layout, texture, combination of colours, chiaroscuro, method of material usage, craftsmanship), as well as based on such criteria as: degree of the work's originality, new way of presentation, significance in the history of art manifested, for instance, in formation of new period or artistic school in the history of art. Historic values of work of art are considered in historical context. They are inseparably linked to the course of time.

Works of art present specific value, both for sellers (value for the seller) and buyers (value for the customer). Value for the seller may include, in particular, a value at which the object was previously purchased, as well as non-material values, for instance emotional and sentimental value of the work of art. Special attention should be paid to different types of values associated with relations existing between buyers and works of art, of which the following should be mentioned: utility value, value for the customer,

¹⁹ At auctions the different kinds of manipulations are possible in the presence of the malicious buyers and sellers [28].

common/private value, aesthetic value, emotional value, hedonistic value, collection value.

First type of value – utility value, is understood as the ability of good to meet different types of human needs. Whereas in economic sciences, the issue of utility value of economic good has been taken up, in aesthetic sciences there is no consent as it comes to possibility of assigning utility to works of art. Literature study enables to identify three approaches to the issue of work of art utility. First approach is based on the assumption that each type of art and each work of art may be useful, while usability is not inherent a priori and objectively in the work, but is determined by the needs and desires of the customer. Second approach denies work of art's utilitarian character and considers it only in the context of purely aesthetic values as per the slogan "*l'art pour l'art*" ("all art is quite useless" O. Wilde). Finally, the third concept introduces a division of art into "pure art" and "applied art", assuming that only the latter has utility value.

Second type of value mentioned - value for the customer is considered in marketing perspective [31, 35]. It may be defined as a difference between total benefits that the product brings to the customer and total costs, which the customer must bear in order to obtain it. While analysing benefits, customer takes into account product attributes and the effects of its purchase (satisfying psychological, social, aesthetic, and functional needs like, for instance: satisfaction from purchase, fulfilment of dreams, displaying social position, making an investment for the future, providing safety for a family, decoration of a flat etc.). Taking into account costs borne, not only purchase price is considered, but also non-material costs, so called sacrifices, including, for instance, costs of searching the offer, time devoted to purchase, physical effort associated with carrying the object, psychological costs, which must be borne in the process associated with obtaining the product. In the auction art market system common value and private value were also identified and discussed on the grounds of auction theory²⁰. It has been proven, that the type of valuation by potential

²⁰ Private value concerns the objects purchased without the intention of their resale; it is specified based on subjective conditions and remains private information of each of the auction participants. Common value concerns objects purchased with an aim to resell them for profit; not only does it depend on individual estimates, but also on the predictions of valuations made by future contractors.

customers has an impact on the level of market value (auction price) of work of art [10, 18, 22].

Taking into account aesthetic considerations on work of art value, the relationship between customers and work of art may be equal to aesthetic value. Aesthetic values are inseparably linked to the customer's reaction to work of art in the process of perception. These values are dependent on customer's sensitivity, so the work of art evaluation, due to the intensity of aesthetic experience, is determined mostly by subjective factors.

On the grounds of psychology, emotional values are associated with work of art's ability to cause different types of human emotional states, like: exaltation, love, fear, or intense shock, may be considered related to aesthetic values. When considering art perception by human being, cognitive psychologists consider two kinds of processes: "bottom-up" and "top-down" [20, 36]²¹. Psychological studies have provided evidence that a buyer's choice and preferences of artworks can be used as a measure of personality. Aesthetic perception of art is also taken up in the recently developing field - neuroaesthetics that tries to explain the aesthetic experiences at the biological - neurological level connected with a human brain anatomy and mental states [43].

Moreover, collection value, pertaining to the will to build or complete a collection by collector, should also be included into the values associated with the relationship between customer and works of art. Collector may be acting in accord with his collection plan for the future. Collection value may have an impact on the increase of private value of potential customer.

Relation between auction and works of art may take a level of estimate value²². Experts, who represent auction institution, define the estimate value, which is given out in form of price spread (from X\$ – to Y\$) and placed in auction catalogues. Market value (in English auction so called hammer price) arises as a result of relationship between auction and customers. The

²¹ "Bottom-up" concerns the question how information is processed by the visual system of human being into colors, shapes, patterns, etc. It includes the following issues: form, complexity, symmetry, compositional balance, figurative vs abstract painting, laterality and movement. "Top-down" refers to knowledge and past experience of the particular individual. It takes into account prototypicality, novelty and additional information (title of work of art, expert's opinions).

²² The auction prices tend to be higher if the auction estimates are higher [13].

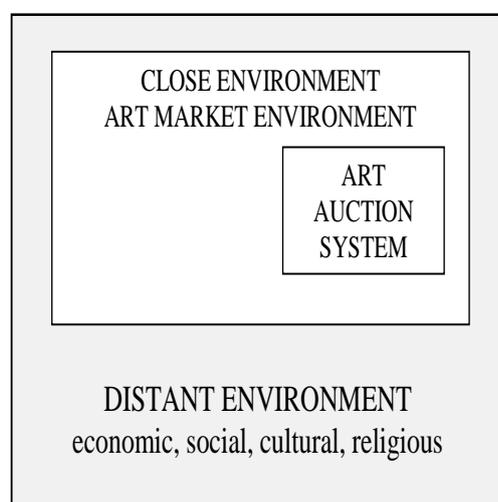
value is placed in auction ratings and will represent a reference point to auction and off-auction transactions concluded in the future.

5 Environment of art auction system

Art auction system is subject to environment impact. Environment can be divided into:

- close environment – environment connected with art market (not only auction market),
- distant environment of art auction system that includes social, cultural, economic, religious factors influencing the system and thus the value of works of art (Fig. 5).

Fig. 5. Environments of art auction system



Source: author's own work

The close environment of art auction system includes situation on the art market (e.g. prices of the works of arts in art galleries, import/export of artworks, legal instruments on art market, illegal art trade, art banking, art taxation, promotion on the art market, fashion for artistic schools, artists, art museums activities, artists' promotions, art conservation and restoration, art insurance market, art funds, art critiques, specialist publications connected with art and art market, artistic events, art foundations, art fairs, discussions on art and art market, presence of art in public space, public support for art, artistic education, artist's status – incomes, social insurance, taxes, ateliers, market of materials for artistic creativity).

The distant environment influences both the close environment and the auction market system. It includes: economic situation in the country, world economic situation, demographic situation, GDP level, incomes of inhabitants, inflation rate,

interest rate, exchange rates, situation on the stock exchange, rates of return for alternative investments (real estates, noble metals: gold, platinum, silver; diamonds, wine...) etc. Apart from economic dimensions, the distant environment includes also cultural aspects, influencing the level of prices of works of art. In anthropology of art, work of art is treated as a cultural phenomenon. Cultural environment and cultural values have a great impact on private/personal value formation. Cultural values influence the meanings that members of different societies can attribute to particular artworks. It should be also added that cultural values are multi-dimensional and cannot be easily measured [38].

Sociology, particularly sociology of art, presents social view on artworks [32]. Generally speaking, the works of art are treated as a social reality in a wide social context, with a special social meaning²³. In the literature, researchers (generally anthropologist and sociologists) discuss symbolic meaning of art prices in the society [7, 40, 41]. The artworks are coded, and their meaning is dependent on socially acquired mechanisms of comprehension of coded signs used by artist. The high level of art prices can be a symbol of social status. According to Sorokin, society and art cycle among ideological and sensate patterns [37]. Taking into account religious environment the artworks using religious inspiration are understood and the most valuable for believers. All mentioned aspects of environment (economic, social, cultural, religious) create special circumstances for art value creation in specific place and time.

6 Dynamic aspects of art value

At the end, what is important to note, is the dynamic aspect of value, that is, the change of work of art's value in time. It seems that time, in relation to art auction market, may be considered in three aspects:

²³ Klammer distinguishes social values as a separate category of value describing cultural goods. He understood social values as „the values that work in the context of interpersonal relationships, groups, communities and societies“ [17].

1. duration of a single auction session and price effects associated with it²⁴;
2. annual period and clearly emerging phenomenon of seasonality in art auction market (regarding months and quarters)²⁵;
3. so called in economics long period.

Taking into account the duration of auction session it remains interesting how competitive bidding among bidders evolves. It should be pointed that final bid relative to the auctioneer's estimated prices of works of art declines thought the course of an auction (*afternoon effect*) [4]. However, the presence of morning effect emergence from the empirical data analysis is indicated [33]. In the case of on-line auctions it has been empirically proven that lots auctioned later in the auction exhibit lower prices during the auction session [8].

Considering the period of one year, one can note a specific schedule of art auction calendar. In consequence of this fact the art auction market moves in seasonal fluctuations, generally peaking in the spring and autumn. There are usually rare auction sessions held in the summer months. The methods of calculating the seasonal fluctuations analysis can be used to estimate fluctuations within one-year period (on the basis of monthly or quarterly data). The empirical auction data analysis has showed that the differences in the level of prices are strongly correlated with variations in the timing of auction sales [29]²⁶.

Changes in value in the long time period will be determined by the changes in the market environment, including changes in the condition of national and world economy, social and cultural changes, as well as changes in the system of art market (elements, relationships, elements' attributes, e.g. tastes of buyers)²⁷. In the long period it is possible to analyse market prices dynamics i.e. determine general market trend and the cyclical fluctuations that appear in the periods longer than one year. In this approach prices' dynamics can be analyzed on the basis of art market indices (e.g. MM Mei-Moses Fine Art Index, Artprice Global Index, AMR - Art Market Research Price Index) or

²⁴ In the case of traditional auction session the duration can be indicated in hours, in case of Internet on-line auction session can be counted in days.

²⁵ Semi-annual data can be used for auction data analysis.

²⁶ The works of art sold at sales in May/June or November/December at Sotheby's or Christie's in London or New York are highly valuable [29].

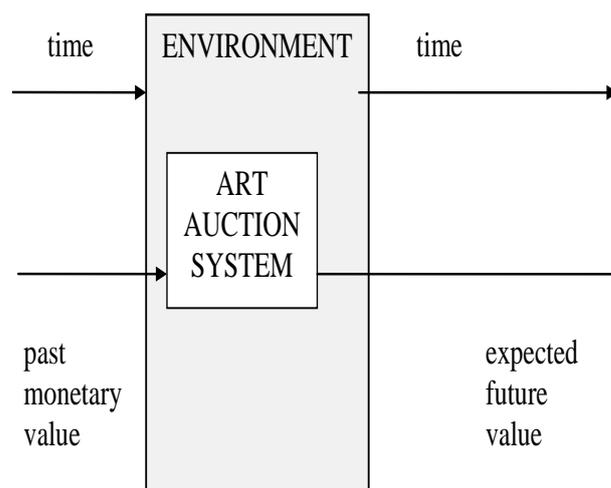
²⁷ For Weber changes in art reflect changes in society.

selected baskets of works of art. Dynamics of the art market can be analysed in comparison with stock exchange market or other markets.

The value of work of art changes over time. The present value of the work of art is unavoidably connected with its monetary value in past and in the future.

Estimating present value of work of art, past value of item and expected future value of object are taken into account. Generally, estimate value is made by looking at comparable work of art sold for recently. Valuations of bidders may be influenced by its previous artwork's prices (so called 'anchoring effect' or reference dependence). In the case of contemporary art, having few comparables or when an artist is not well known and has no auction history, the risks of incorrect valuation are greater.

Fig. 6. Dynamic aspects of art value – dynamic system



Source: author's own work

Changes in value of art over time imply it can be treated as a mean able to store value and as an investment asset at the same time. From economic point of view works of art can serve as a consumption goods and investment goods as well. The analysis of art prices in different points in time can be used to evaluate the benefits/losses from art investment (rates of return)²⁸.

²⁸ Analysis of rates of return in art is one of the problems discussed on the grounds of cultural economics [13, 15, 25]. Repeat-sales approach, hedonic modeling method and hybrid modeling are used as methods of analysis.

6 Conclusions

System concept of art auction market has been used in this paper for the purpose of interdisciplinary considerations on the value of works of art. Elements of the system discussed are sellers, buyers, auction institution, and works of art. Respective elements of the system may be assigned with specified set of attributes. Internal structure of the auction market system also includes relations, that is, any relationship between the elements. Art auction system functions under influence of environment (close and distant). Holistic depiction of art auction market allows integration of interdisciplinary considerations on the issue of work of art's value.

In the art market auction system different types of work of art values are interrelated. Some of objective and possibly to measure art value determinants can be explained statistically on the basis of qualitative and quantitative data. However in some cases the objective criteria of art valuation seem absent. Then subjective emotional bounded rationality or even irrational determinants of art prices are also important for the matter in question. Some of problems mentioned in the paper has already been a subject of scientific research, but many of them still remains unrecognised.

At the end it should be underlined that the issue of artworks' value is multidimensional and it strongly needs interdisciplinary approach. System approach to value of works of art presented in the paper has allowed joining issues discussed on the grounds of cultural economics (especially art economics), sociology of art, anthropology of art, psychology of art, philosophy (aesthetics), neuroaesthetics. The concept of system approach to understanding auction art market and auction art price determinants presented in the article will be a starting point for further considerations on the issues associated with auction art market.

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