

The Concept and Properties of the Economic Form of Time in Terms of General Scientific Conceptions

Svetlana Eduardovna Zhelaeva

East Siberia State University of Technology and Management, Russia, 670013,
Republic of Buryatia, Ulan-Ude, Klyuchevskaya St., 40B

Doi:10.5901/mjss.2015.v6n2p175

Abstract

The aim of this work is to systematize the concepts of the economic form of time in the context of general scientific concepts and to identify its specific properties. The study proposed a general scientific conceptual system of the unity of time concepts, which is reflected in the aggregate of concepts and specific properties of its economic form and causes the study of economic time as interdisciplinary scientific category.

Keywords: time, general scientific concept of time, economic times, methodology, economic theory, synergetic.

1. Introduction

Time in the economy - is a special economic category, which reflects the diversity of types of human transformative activity and time of relations inherent in economic activity. Complexity and contradictory of the nature of economic time is reflected in the general scientific concepts of time and should be taken into account in the analysis of the evolution processes of the economic system, forming an adequate for the reality methodology of economic theory.

Modern economic theory has no unified methodology for the study of economic time, which allows to reveal the mechanism of economic self-organization, and to synthesize the ideas of different general scientific areas. Searching for paradigms allows us to reduce the heritage of scientific knowledge to a single whole; it leads to the need to put the economic time and its unique properties at the center of the study of the processes of self-organization of the economic system.

Multivariant and multilayer character of events development, the complex interlacing layering of the variety of processes, inconsistency and asynchronous of changes will inevitably lead to an increased tension and instability in the development of the socio-economic system and the society as a whole. The more complex are social and economic processes of society, the more vital is the need to study the time as the best candidate for coordinating communication between the different elements, parts and subsystems in the mechanism of self-organization of the economic system.

2. Analysis of the Current State of Studying the Problem of Time in Economics

The economic theory has not yet considered time as an object of research. The formulation of the problem of time extended beyond the boundaries of the objective field of economic knowledge. Studies of the essential aspect of time, its nature are not widely known in the economic theory, which is explained by the philosophical and natural scientific context of the problem

At the same time, the development of scientific approaches to the study of time in philosophy and natural sciences has traditionally set the direction of development of the methodology of economics. Until recently, reflecting the indifference of classical science to the time, the history of economic knowledge is represented by the change of learning, the basic positions of which were changed and supplemented, inheriting the concepts of time as a homogeneous duration and a parameter of quantitative changes that characterize the economic activities of man and the society. This limited attitude to the time was built into the foundations of modern economic theory by such outstanding representatives of various directions as Adam Smith [12], Ricardo [Ricardo, 1955], Marx [Marx, 1983, Marx and Engels, 1955-1981] A. Marshall [Marshall, 1993] J. Keynes [Keynes, 1978] M. Friedman [Friedman, 1957], and others.

The relational view of the dependence of time on the properties and structural organization of a particular matter led in the XX century to the birth of the concept of multiplicity of time that carried out the raising of the problem about the diversity of time forms, including the economic ones. Thus, the practical study of biological time is associated with the names of such scientists as T. Dellaf [Dellaf 2001], G. Backman [Backman et al., 1943], K. Thornthwaite [Thornthwaite 1953] et al. The study of sociological form of time can be found in such works as ZH. Gurvitch [Gurvitch, 1958], Sorokin and R. Merton [P. Sorokin and RK Merton, 2004, Klineberga S. and T. Cottle [Cottle and Klineberg, 1974], and others. Historical time is being analyzed in the works of Fernand Braudel [Braudel, 1958], Toynbee [Toynbee, 1996] and others.

Psychological aspects of the development and activities of the individual during life are presented in the works of SL Rubinstein [Rubinstein, 1946], KA Abulkhanova-Slavskaya [Abulkhanova-Slavskaya 1990] and others

20-30-ies of XX century are connected with the creation and rapid development of many theories of cycles and fluctuations in the works of such eminent scientists as ND Kondratyev [Kondratyev, 2002], Joseph Schumpeter [Schumpeter, 2007], O. Toffler [Toffler, 2008, 2010], Immanuel Wallerstein [Wallerstein 1998], E. Hansen [Hansen, 1997] R. Lucas [Lucas, 1976], F. Kydland and E. Prescott [Kydland and Prescott, 1982], and many others who have demonstrated the priority of relational-dynamic views on an irreversible and heterogeneous nature of time, came to the recognition of the time factor affecting the formation of a qualitatively different stages and phases of the development of economic system by the economists.

The most profound and multifaceted study of time in the modern economic science was due to institutionalism that arose in the early XX century as a synthesis of economics, psychology, and biology. In the works of such bright its representatives as D. Nort [Nort 1997], Veblen [Veblen, 1984] and others, economic time acts not just as a certain period of economic dynamics (short, medium or long-term), but as a subjective factor in the formation of social and psychological foundation of the society - institutions or practices, habits and rules that define not the rational economic behavior of a person or a group of people. Institutionalism characterizes long evolution of the economic system, when there are multiple random and irreversible changes in its institutional and technological structure.

In the second half of the XX century a substantial modernization of the ideas of neoclassical direction about the behavior of the participants of the economic activity appeared due to the writings of such scientists as G. Becker [Becker, 1996], Dzh. Mincer [Mincer, 1963], E. Dean [Dean, 1963], J. Owen [Owen, 1964] and others, who firstly investigated the problem of distribution and effective use of economic time as a scarce resource that has a value.

The end of XX century is associated with the development of evolutionary economics, which is an application of the ideas of biological evolution to the dynamic analysis of nonlinear and stochastic economic processes. The founders of evolutionary economics: T. Veblen [Veblen 1984] Y. Shumpeter [Schumpeter, 2007], R. Nelson, S. Winter [Nelson and Winter, 2000] and others, have developed a methodology, based on the account of the majority of general scientific notions of time, allowing to develop a universal mechanism of the evolution of the economic system based on the processes of heredity, selection and adaptation of its elements; to conduct a microeconomic analysis of changes in the behavior of economic agents; not excluding short-term equilibrium in the system, to focus on non-equilibrium states and qualitative changes in the evolution of the system.

Since the second half of the twentieth century to the present, there has been a rapid development of one of the main directions of evolutionary theory - Synergetic - a science, that deals with the mechanism of self-organizing of any system as a work of a complex and open body, developing due to its ability under the impact of irreversible and multivariate time to make a qualitative transition to a new more sophisticated level of development. As time is the object of study of many sciences, each of which generates its own concept of time, it is synergy and its methodological principles that allow us to consider economic time in the manifold of manifestations of economic reality as an integral part of the surrounding world.

Methodological studies of the evolutionary nature of the economic system are carried out in the conceptual framework of synergy, in particular, one of its areas in the social sciences– synergetic economy. General laws of self-organization of the economic systems within the synergetic economy, where the main source of evolution is disequilibrium, instability, non-linearity and irreversibility as the basic properties of time, can be found in the works of Haken [Haken, 1980], W.-B. Zhang [Zhang, 1999].

Among the representatives of national economic science who have devoted their works to the study of various aspects of economic time, it is necessary to allocate such modern scientists as V.I. Majewski [Majewski, 2000, 2010], S.Y. Malkov [Majewski and Malkov, 2014], E.V. Balatsky [Balatskiy, 1999], V.V. Biryukov [Biryukov, 2000], A.D. Levanov [Levanov, 1994], A.I. Baskin [Baskin, 2006], E.L. Tolokina [Tolokina, 2012], V.V. Demin [Demin, 2011] and others.

The control function of the economic time, which is the basis of the cost and value indicators of the economy, has been proven in theory of switch modes of reproduction of the main capital of V.I. Majewski. The joint idea of V.I. Majewski and S.Y. Malkov about an open-closed nature of the economy gives an idea of the time as a natural mechanism that provides two forms of commodity flows in the switching mode of reproduction: circular and linear.

One of the first studies in the national science devoted to systems analysis of time and its functional role in the economy, are the works of V.V. Biryukov, where time is considered as a space of the development of the economic system, A.D. Levanov, who focuses on the value aspects of time in microeconomics and AI Baskin, who studied time as an economic resource of postindustrial society.

Proceedings of E.V. Balatsky, E.L. Tolokina, V.V. Demina and others are devoted to theoretical and

methodological aspects of the study of free time. So, E.V. Balatsky proves the ability of free time to affect the economy, acting as a factor of its equilibrium, but E.L. Tolokina and V.V. Demina consider the category of work time as the basis of the law of value, and the category of free time as a goal of social production.

With the variety of theories and approaches there is a limited number of works devoted to a complex research of multiple manifestations of economic time as an interdisciplinary scientific category on the basis of methodological principles of synergy, generalizing general scientific concepts of time and allowing the penetrate into the essence of the extremely complex and dynamic processes of self-organization of the economic system.

With the variety of theories and approaches there is a limited number of works devoted to a complex research of multiple manifestations of economic time as an interdisciplinary scientific category, on the basis of methodological principles of synergy, reflecting the views of general scientific concepts of time and allowing the penetrate into the essence of the extremely complex and dynamic processes of evolution of the economic system.

3. General Scientific Concepts of Time as the Basis of Interdisciplinary Approach

Until recently, science has not considered time as an object of research because of the complexity of its nature. We only integrated time into a simple form for the science. However, since the 70-80's of the twentieth century, this became unacceptable for the scientists themselves, which can be noticed in the change of views on the current methodologies of science, in the understanding of the need to combine different disciplines to study such phenomenon, as the time, which goes beyond the boundaries of particular science.

In this regard, we believe that the first step towards the integration of the existing sciences on the basis of mutual understanding and cooperation to achieve a common objective - studying of time, is not so much to reveal its nature and essence, but to define the general notions of time in the frameworks of the existing concepts.

Obviously, the most profound ideas about the essence and nature of time firstly belong to theologians and philosophers, who in their thinking, intuitively based on the ratio of time and consciousness, guided by philosophical approaches. This led to the formation of two general scientific concepts of time: objectivist and subjectivist. The first one, in turn, includes the substantial and relational theory.

Conceptual ideas of time in the subjectivist and objectivist conceptions are significantly different, which indicates its contradictory nature and heterogeneous structure. According to the subjectivist conception, time - is an elusive essence, comprehend due to human's sensory perception. According to the objectivist conception, time - is an objective reality, which is independent of the mind of the subject. This view is reflected in two opposing statements: in the substantial direction, time - is self-contained matter, independent of the nature and space; relational direction defines time as an inalienable property of the material body, which characterizes its movement and change.

Contradictions in the mentioned above approaches, to identify the nature and essence of time, caused the emergence of problems of relations between the categories of time and variability, or problems of reversibility of time, for the solution of which the static and dynamic concepts were used.

Static concept, based on the substantial approach and classical mechanics, did not take into account the serial passage of time, expressed in the change of the past, present and future. Indifferent attitude to the formation processes of this concept has led to the formation of the idea of the existence of universal physical laws, which are actual in all times, ideas of the absence of the passage of time, of the possibility of principle reversible of the processes in time. This provided an opportunity to consider any no simultaneous events or process as the present moment of time and to measure them quantitatively.

In a dynamic concept that has arisen on the basis of the relational approach and the theory of relativity, there is a clear distinction: past has realized and transformed into present, present is based on the past and it exists here and now, and the future, arising from the past and the present, will only be existing. Strict sequence of events in the same direction "past-present-future" is due to the action of the law of causality of relations, and determines the irreversibility of time, when each event or process changes over time and qualitatively transforms. The last statement also allows you to classify the dynamic concept as a successor and subjective view of time, since all the qualitative changes in the chain of the past, present and future are sensually perceived and analyzed by the subject.

Despite the diversity of opinions, it is possible to make a general conclusion that opposite in their perceptions of time, objectivist substantial and relational, subjectivist, as well as static and relational concepts, have a common ground that can be expressed in the following statements:

1. Time - is the only universal natural phenomenon, which is the basis of any processes occurring in nature and society;
2. Time provides communication between different processes, while maintaining the integrity of the system.

3. Time is the bearer of changes and is capable to measure these changes.

The relational view of the dependence of time on the properties and structural organization of a particular matter led to the birth of a new concept, assuming the existence of a special internal time in every form of matter - the concept of multiplicity of time. In addition, the basis for the formation of the main ideas of this concept is also the subjectivist philosophy, in which each individual subject as a psychosocial biological system, has its own time-feeling, it exists and operates in different space-time coordinates. Thus, the concept of multiplicity of time, partly combining objectivist and subjectivist general scientific concepts of time, considers time as an essential attribute and objective determination of the existence of living and nonliving systems, each of which has a specific time, which reflects its quantitative and qualitative changes. In this interpretation, time is universal in terms of quantitative measurement and the possibility of synchronization and coordination of various events in the system, and is relative in terms of the quantitative changes in the status of various system objects.

The concept of multiplicity of time, taking into account the ambiguity of interpretations of the essence and nature of time in the above concepts, and absorbing their basic regulations, determines time and as an objective definition of being, and as a parameter to measure the quantitative and qualitative changes, and as a subjective entity, which reflects the specificity of biophysical, psychological and social organizations of human, and most importantly - as irreversible condition of the evolution of any system. Multiplicity of times is due to the fact that each area of the material and immaterial reality is different in its specific feature of time properties, which cannot be described only in terms of common astronomical time. According to I.R.Prigozhin: "Unavoidable multiplicity of points of view on the same reality means the impossibility of the existence of a divine point of view, which overlooks the whole reality" [Prigogine and Stengers, 1986, p. 358].

Plurality of own times of any system generates in science an idea of its inhomogeneous structure, which had an opportunity to spread thanks to a new interdisciplinary science - synergy, in the context of it time has a heterogeneous structure, where along with the concept of external time, there is a concept of internal time of the system, which is related to the character of the processes occurring in it. One of the pioneers of the concept of "internal time" of human consciousness is the French philosopher Henri Bergson (1851-1941). He believes that the bearer of continuous internal time or "pure duration" is human: « Pure duration is a form that is accepted by the sequence of our states of consciousness, when our "I" simply just lives, when it does not establish differences between the current state, and those which preceded it ... "[Bergson, 1992, p. 93]. As time of outside world while he considers the time of human environment. Bergson also talks about two forms of time: into the multiple periods of time - "time-quality", and into the multiple number of continuous length - "time-quantity": "If we distinguish two forms of multiplicity, two forms of duration, it is obvious that every state of consciousness, taken separately, should be manifested in different ways, depending on whether we will consider it in a separate multiplicity or within a combined multiplicity - in the time-quality, where it appears, or in the time-quantity, where it is projected. .. Sensations and tastes appear to me in the form of things, as soon as I isolate them and give them names ... "[Bergson, 1992, p. 105-106]. The presence of internal and external, quantitative and qualitative time results in the formation of the idea of non-uniform structure of time and the multiplicity of its forms.

4. The System of Ideas about the Economic Time from the Standpoint of General Scientific Concepts

The aforementioned general scientific concepts of time are the basis for determining the set of concepts and identifying the properties that are common for different forms of its manifestation. Let us unite the general scientific conceptual notions of time and the resulting properties in table 1.

Table 1 - The system of concepts and properties of time in general scientific concepts *

The concept of time	The notion of time	The properties of time
Subjectivist	Time-feeling; a form of human perception and cognition; is objective and does not exist outside of man; is perceived as a sequence of memorable events, the rate and duration of which is measured subjectively.	Subjectively, subtle
Subjectivist: substantial	Time-substance; exists independently from matter; outer scale for measuring changes.	Objectively, completely, reversible, homogeneous, equally
relational	Time-report; system of relations; exists as an attribute of matter; a standard for measuring quantitative changes, an internal indicator of qualitative changes.	Objectively, relatively, irreversibly, homogeneous, equally
static	Time-existence; the absence of flow and direction of time; the possibility of fixing any moment and measurement of interval duration.	Universally, completely, reversible, homogeneous, equally
dynamic	Time-formation; linear order of sequences of events; indicator of qualitative changes.	Subjectively, relatively, irreversibly, heterogeneous, unevenly
The concept of multiplicity of forms	Time-multiplicity; a proper time for each level of organization of matter; incommensurability of different times.	Subjectively, relatively, irreversibly, heterogeneous, unevenly, multidimensional

*Compiled by the author

Notions and properties of time in the mentioned concepts demonstrate a unity system of opposite characteristics of time formed over several millennia of human thought and society development and society. That is, we start from the position that all general scientific approaches by studying the category of time based on various forms of its manifestation in the mind, matter, volatility, etc., do not oppose, but complement each other. In this case, time being as a complex scientific category, is considered as a contradictory unity of general scientific concepts and properties: the essence and feeling, which correspond to the properties of universality and uniqueness; substances and communicated, which are characterized by absoluteness and relativity; existence and formation with the properties of reversibility and irreversibility; multiplicity, generating properties of a multidimensionality and the idea of the existence of local and global times, whose principle irreducibility is manifested in the property of latency.

Thus, the economic time can be considered as the result of interaction and transformation of various economic and other processes, defined by the laws and specifics of motion of the economic system. Such an understanding of economic time allows presenting it as an economic category, which objectively reflects and summarizes the economic reality, which characterizes complex relationships of economy with natural physical world, society, human in the context of past, present and future.

Complex and contradictory nature of time and its properties eliminates the need for highlighting economic time in relation to other specific forms. On the contrary, we must reveal the specific of concepts of the economic time, depending on the interaction and merging with other forms, which reflect the natural physiological, social, personal and biological links of the economic system: astronomical, social, historical, psychological and biological. These forms are well known in science and reflect the characteristics of temporal organization of the system that corresponds to the sphere of knowledge. However, in terms of the unity of opposite characteristics of time, we believe that various conflicting manifestations of economic time are results of its synthesis with the above mentioned forms (Table 2).

Table 2 - The system of ideas about the economic time from the standpoint of general scientific concepts*

Forms of time Results of synthesis	Astronomical	Social	Historical	Psychological	Biological
Conceptions of the economic form of time	Time-essence, time-substance, time-existence: Metrized duration (intervals of time) , parameter of quantitative changes (speed, rhythm, amplitude)	communiqué: a qualitative indicator of the level of life and well-being of the society	Time-formation: the order of the sequence of events	Time-feeling and time-multiplicity: measure of the personal time of the individual, a measure of the immersion of the human's psyche in the economic activity	communiqué: limited-refundable resource, value
measurement Scale	Astronomical units: seconds, minutes, hours, days, etc.	Socio-economic units: absolute and relative	Chronological units - small and large duration events	Subjective units of distribution of the "budget" of lifetime	Economic units of efficiency and productivity of use
Properties in accordance with general scientific concepts	Universally, objectively, completely, reversible, homogeneous, equally	Uniquely, objectively, relatively, irreversibly, homogeneous, equally	Uniquely, subjectively, relatively, irreversibly, heterogeneous, unevenly	Uniquely, Subjectively, subtle Relatively, irreversibly, heterogeneous Nonlinear, multidimensional.	Uniquely,objectively-subjectively, relatively, irreversibly, heterogeneous multidimensional.

*Compiled by the author

Manifestations of the economic form of time relations are diverse, which is due to the difference in the results of their interaction with the attendant (complementary) forms of time organization of the economic system. In general, this leads to a multiplicity of describing and measuring of the economic time, and allows us to interpret it as coexistence with astronomical, social, historical, psychological and biological forms.

The study of economic reality is inseparable from the coexisting with it, natural, social, and personal systems forms in economics a multiple notion of economic time. Changing the meaningful cover in the transition from one count system to another, economic time gets a series of specific properties while retaining common ones, defined by general scientific concepts (Table 3).

Table 3 - Conceptions of economic time and its specific properties *

Conceptions of the economic time	The specific properties of economic time
Dynamic parameter of quantitative changes in the economic system	Asymmetry as a mismatch of the duration and speed of economic processes
Qualitative indicator of the level of development of the economic system and its components	Non-linearity as a multiplicity of non-additive elements of the economic system, different in metric and topological characteristics Multidimensionality as a manifestation of multiple forms and inhomogeneous structure of time
Factors of the formation and evolution of the economic system	Unidirectionality as a sequence and order of economic events Irreversibility as inability to return to the original state of the economic system and its elements Controllability as an opportunity to the implementation of influence on the time parameters of the economic system and its elements in order to move to a qualitatively higher level of development
Regulator of economic ties and relations	Synchronous / asynchronous as matching / non-matching in the direction, speed, frequency, rhythm, etc, various economic processes (events)
Limited non-renewable resource	Value as an indicator of the effectiveness of the use of time units in the implementation of economic processes

*Compiled by the author

As a result of the synthesis of economical and astronomical forms of time the idea of time as a universal parameter of quantitative changes in the system are born. At the merger with the social form, the economic time is converted into the index of qualitative changes in the socio-economic relations and relationships of the society, and in conjunction with the historical time - into the factor of the formation and development of the economic system, whose complex causal relationships get reflected in the temporal parameters. In the transition to a psychological form of time, there is a subjective "timing" of the economy, and the economic time acts as a regulator of economic behavior of the subjects. In the co-existence with the biological form, the economic time - is a unique irreplaceable resource, and because of its limitedness, economic entities seek to get the greatest results in time saving.

The variety of the manifestations of the economic time during the interaction with complementary forms reveals a number of its specific properties: asymmetry, nonlinearity, multidimensionality, unidirectionality, irreversibility, manageability, synchrony / synchronicity and value.

Acting as a parameter of the duration and rate of changes in the processes the economic times is characterized by asymmetry - the length and speed of the processes does not match. Being invariable in the same coordinate system, relatively to another economic system, the economic time can accelerate or decelerate: private processes of the economic system are implemented relative to each other and the system itself at different rates and duration, as well as the proper time of the system, differently from the time of the external environment. Such discrepancy of rhythms, tempos, time duration of different processes leads to instability situations, manifested in cyclical fluctuations of the economic system.

Economic time as an indicator of the level of socio-economic development of the system is expressed in the properties of nonlinearity and multidimensionality. On the content, the non-linearity is characterized by different direction, duration, tempo, the frequency of many private processes that are parts of a single system process. Multidimensionality of the economic time is reflected in the fact that along with the internal economic time of the system, an individual time of the economic subject is allocated.

The time of the economy as a factor of its development and evolution has the property of ordering or unidirectionality, which is used to identify the qualitative cause-effect relationships in the economic system. For example, the economic time of cyclical fluctuations, which is characterized by the "repeat" of various stages of system development, supposes a series of processes that occur due to social, political, economic, environmental and other reasons.

Invariable sequence of events means that there is a difference between the past, present and future state of the system, which leads to the formation of the most important property - the irreversible of the economic time of the processes and the system in general. This property allows us to assert the impossibility of a return to a certain initial situation in the economy. In terms of synergy, irreversibility of the process leads to a dual result: to the formation of order or disorder in the system. Both of these conditions are integral parts of the evolutionary process. According to I. Prigogine, in a complex no equilibrium dynamical system, order is the least probable state, and disorder - is the most probable state. The last one is the source of a concerted action of many elements, and their collective behavior, which allows the system to make self-organization - a transition to a higher stage of development. The process of self-

organization of the system is associated with time (duration) of destructions, required to achieve a better level of organization of the system: the more prolonged and intensive is the chaos, the deeper is the transformation of the system, and vice versa: a short-term disorder leads to slight transformations of the system. Thus, the economic time of the system has a very important property - controllability, both from the time itself, and from the time of self-organizing of the system. Changing time parameters of the system, namely- the intensity of the processes of interaction of the elements, it is possible to initiate a process of controlling the system and to move to a new, more sophisticated level of development [Rezhabek 1991].

The presentation of the economic times as a regulator of economic ties and relations reveals a specific property, which is no less important for the study of self-organization of the economic system - synchrony or asynchrony of time. The principle of synchrony, the essence of which is the coincidence of events separated in time and space, was firstly described by the eminent psychologist and philosopher CG Jung [Jung, 1997], who contrasted this phenomenon with the linear principle of causality, which is widely used in scientific researches.

Synchrony / asynchrony of the economic time manifests in its ability to provide / disrupt time correspondence in the flow of certain economic processes and its particular parts. Time correspondence means the ensuring of consistency and parallelism of economic events or processes. The most common way to synchronize various processes through time - is to establish a single count system in astronomical units, a single mode of labor and the work of technical means etc.

Various degrees of time synchronization is reflected in the cyclical fluctuations of the economic system: during the period of lifting and qualitative leap to a higher level of development, growth of production is synchronized, as well as the consumption, employment, money supply, etc., and one of the causes of the crisis is the asynchrony of the listed processes.

The last notion of the economic time as a unique limited and non-renewable resource reveals the key property of time for the economic study - value. Value of the economic time is determined by its costs, or more precisely - by the intensity or productivity of its use, when it is necessary to have time to make more actions in the time unit (get more products).

Within the frameworks of the economic laws, the misspent time is inefficient - it will not bring the expected returns in the future. These new behavior principles are formulated in the XVIII century by Benjamin Franklin: "the one who could earn ten shillings daily, but he walks or lazy at home half-day, should - if he spends on himself only six pence - to take into account not only this consumption, but he should think that he has spent or rather, moreover threw away five shillings » [Weber, 1990, p. 71].

Money is the reflecting of the effectiveness of the spent time in conjunction with its usefulness in the economic system. There is a close relationship between money, expressing the exchange value of the goods and time, because through money that embodies the value of goods in the exchange, the correlation of economic time value, spent on their production and consumption is expressed. Therefore, we can talk about the utilitarian value of time, which can produce results in terms of money (due to its ability to grow over time). In fact, the money that a person decides to spend or save - is the time of person's life, concentrated and converted into special papers that are a kind of imitation and substitute of his lifetime in the economic system. Money - is the ability to buy lifetime of other people, and to save your own lifetime.

Thus, these properties of the economic time reflect the specific of fundamental economic relationships between subjects, they characterize the organization and the rhythm of their lives, the time structure of the economy, the direction and tempo of the economic development, they reveal the ability to control and regulate the process of self-organization of the economic system.

5. Conclusion

The study of economic time in a complex and contradictory structure of its internal and external interactions, which is supported by general scientific concepts of time, leads to the following conclusions:

A lot of concepts of time in philosophy and natural science cannot be reduced to a single description, this indicates an ambiguous and contradictory nature of time. In general, we can distinguish six concepts - objectivist and subjectivist, substantial and relational (as directions of the objectivist one), static, dynamic, and the concept of multiple times - which are different in the features of the relationships between time and different categories. Ambiguity of relationships of the categories of time and consciousness resulted in the formation of the first two concepts, where time for the objectivist approach - is an independent of human consciousness form of matter existence, and for the subjectivist direction time - is the result of sensory perception of human consciousness. Contradiction of views on the relationship between time and matter led to a corresponding binary division of the objectivist concept: the substantial view considers time as an essence that is absolutely independent of the matter, but the relational - sees in time an essential attribute and a condition of the

existence of a material object. Reflections on the relationship between time and variability determined the origin and development of the fundamental areas of scientific knowledge - statics and dynamics: for the static concept time is - an illusion of changes, because it is ubiquitous and consistently, but in the dynamic concept time is identified with formation, movement and development;

According to the discussed general scientific concepts, time has a heterogeneous structure: objectively and subjectively, universally and relatively, statically and dynamically in terms of the ability to preserve and change, it is an indicator of quantitative and qualitative changes, and finally, it is inherently intrinsic of any objects, and externally - of their environment. Numerous multi-level systems: from the objects of nature, social structures, biological organisms to human beings and their moral and cultural values - have their own internal time. The relative nature of time and its heterogeneous structure leads to the existence of the economic time in the system of the coordinates of the economy;

Contradictory conceptions of time in the system of scientific knowledge, heterogeneous structure and multiplicity of forms of time requires the use of enhanced interdisciplinary methodology of the study of economic time, which allows to study the evolution of the economic system on the basis of the existing concepts. Synergy is such a field of knowledge based on the experience of interdisciplinary research processes of self-organization of the system in time, it which provides big opportunity to study the categories of time as a direct object of study in the methodology of economics.

References

- Backman, G. (1943). Organic growth and time. Leipzig.
- Braudel, F. (1977). History and social sciences. Historical duration. Philosophy and Methodology of History. M.
- Cottle, T. J. & Klineberg, S. L. (1974). The present of things future. New York: The Free Press.
- Dean, E. (1963). Economic Analysis and African Response to Price. PhD thesis, Columbia University.
- Gurvitch, G. (1958). The multiplicity of social time. Paris.
- Kydland F. & Prescott E. (1982). Time to Build and Aggregate Fluctuations, *Econometrica*, 50.
- Prescott, E. (1986). Theory Ahead of Business-Cycle Measurement. *Carnegie-Rochester Series on Public Policy*, 25, 11-44.
- Lucas, R.E. (1976). Econometric Policy Evaluation: A Critique. *Carnegie-Rochester Series on Public Policy*, 1, 19-46.
- Mincer, J. (1963). Market Prices, Opportunity Costs, and Income Effects. *Measurement in Economics: Studies in Mathematical Economics and Econometrics in Memory of Yehuda Grunfeld*. Stanford University Press.
- Owen, J. (1964). The Supply of Labor and the Demand for Recreation. PhD thesis. Columbia University.
- Thorntwaite, C.W. (1953). Operations Reserch in Agriculture, *Journal of the Operations Research Society of America*, 1, 33-38.
- Abulkhanova-Slavskaya, K.A. (1990). Personal regulation of time. *Personality Psychology in socialist society: Personality and its walk of life*. M.
- Stolyarov, I.A. (1993). Anthology of economic thought: In 2 Vols. M.: ECONOV.
- Balatsky, E.V. (1999). Free time as a factor of economic equilibrium, *Herald of the RAS*, 12, 1018-1028.
- Baskin, A.I. (2006). Time in the system of economic resources of post-industrial society. PhD thesis. St. Petersburg.
- Becker, G. (1996). Timing theory, USA: economics, politics, ideology, 1,2.
- Bergson, A. (1992). Experience on the immediate data of consciousness. Coll. cit., Moscow.
- Biryukov, V.V. (2000). Time as a factor of economic development in market conditions. SPb.: SPSUEF.
- Budanov, V.G. (2004). Method of cascade-rythm: about the fractal nature of time of the evolving systems. "Academy of Trinitarizm", M., EI № 77-6567, publ.11356, 20.07.2004.
- Zang, V.-B. (1999). Synergetic economy. Time and changes in the nonlinear economic theory. M.: Mir.
- Vallerstain, I. (1998). World-systems analysis. World time. Almanac of current research in theoretical history, macrosociology, geopolitics, analysis of world-systems and civilizations. Novosibirsk.
- Weber, M. (1990). The Protestant Ethic and the Spirit of Capitalism. Selected Works. M.: Progress.
- Veblen, T. (1984). Theory of the Leisure Class. M.: "Progress".
- Demin, V.V. (2011). Theoretical and methodological aspects of the formation of demand and supply on the working time, *Bulletin MGOU. Series "Economy"*, 2/2011.
- Detlaf, T.A. (2001). Temperature-time patterns of development of poikilothermic animals. M.: Nauka.
- Keynes, J. M. (1978). General Employment Theory of percent and Money. M.
- Kondratev, N. D. (2002). Big cycles of conjuncture and the theory of foresight. M.: Economics.
- Levanov, A.D. (1994). Time in the economic measurement. Kemerovo Society.
- Friedman, M. (1957). Theory of the Consumption Function.
- Majewski, V.I. (2010). Reproduction of the fixed capital and the economic theory, *Questions of economy*, 3.
- Majewski, V.I. (2000). Evolutionary economic theory and some of the problems of modern Russian economy. *Evolutionary economy: problems and contradictions of theory and practice (reports and speeches of the participants of the International Symposium)*. M.
- Majewski, V.I. & Malkov, S.Y. (2014). A new look at the theory of reproduction: Monograph. M.: INFRA-M.
- Marks, K. (1983). Capital. M.
- Marks, K. & Engels, F. (1955-1981). Compositions 2nd ed. M.

- Marshall, A. (1993). Principles of Political Economy: In 3 v. M.: Progress.
- Nelson, R. & Winter, S. (2000). Evolutionary Theory of Economic Changes. M.
- North, D. (1997). Institutions, Institutional Changes and Economic Performance. M.: Foundation of the Economic book "Nachala".
- Sorokin, P. A. & Merton, R.K. (2004). Social time: the experience of methodological and functional analysis, Sociological studies, 6, 112-119.
- Prigogine, P. & Stengers, I. (1986). Order from chaos. M. Progress.
- Rezhabek, E.Y. (1991). The formation of the concept of organization. Essays on the development of philosophical and science concepts. Publishing house of Rostov University.
- Ricardo, D. (1955). Principles of Political Economy and Taxation, M.
- Rubinstein, S.L. (1946). Fundamentals of general psychology 2 ed. M.
- Toynbee, A. (1996). Comprehending history. Collection. M.
- Tolokina, E.L. (2012). Free time as a category of theoretical economics, Journal "Theoretical economics",5.
- Toffler, E. (2010). Third Wave 1980. M.: AST.
- Toffler, E. (2008). Shock of the future 1970. M.: AST.
- Haken, H. (1980). Synergetics. M.: Mir.
- Hansen, E. (1997). Business Cycles and National Income (eng. Business Cycles and National Income, 1951). M.: Economics (series "Economic Heritage"; part T.I and T. II collection "Classics of Keynesianism").
- Schumpeter, J. (2007). Theory of Economic Development. Capitalism, Socialism and Democracy. M. EKSMO.
- Jung, C.G. (1997). Synchronicity: acausal unifying principle. In Proc. CG Jung. Synchronicity. M.: "Refi-book" K.: "Vakler".