ECONOMIC TIME FROM METHODOLOGICAL POINT OF VIEW: ANATOMY OF CONCEPTUAL VISION

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If you ask me what the time is, I know the answer
If I want to explain you, then I don't know.
Augustin Aurelius (354-430)

Abstract

One of the most problematic areas in the economy is existence of inconvenience related to understanding of the notion of economic time. This article was dedicated to anatomic description the aspects of economic time. The research has eclectic characteristics and was based on disclosure the notion of phenomenon.

The basic limitation identified during the research process was the absence of the metric unit for the economic time. The basic innovation of this work was reveal of various "behavioral types" of economic time in various societies, the existence of economic time in form of complex hierarchy structures of external forms and variety of levels with the various processes.

The conceptual view to the problem let us evaluate it both from quantitative and qualitative aspects.

Key words: time, society, post-modernism, modernism, liquidity, model.

JEL Classification Codes: B41

Introduction

The changing processes within the existing global economic system incurred in the diametric direction.

The many manifestations, eventually penetrating into the essence of economic phenomena, leading to further multi-faceted "different" economies.

The many manifestations, eventually penetrating into the essence of economic phenomena, leading to further multi-faceted "different" economies. Identification of "common denominator" suitable for all states existing in various economic times is still impossible. The situation is in

such complex condition that there is linear correlation between the probability of fast economic growth and probability of crisis occurrence.

The problem is much more complicated by the impossibility to predict the direction of the flow of the economic processes. Thus identification the full cycle of the economic process and the same time reveal of the reasons behind its waved "chain" form created the large hampers during the research process. In some cases we are even not able to adequately assess the change processes themselves and their directions…

All previous works dedicated to this topic accumulated the information about the time flow. At the same time these works show the effect of the problem on our lives, but not the problem itself: does the time really flow? If yes, than under what kind of rules this flow occurs?

And… if the time in endless, that whether the overproduction of the time is existing? If yes, what is its meaning? If no, what is the source for the existence of endlessness?

Are there any correlations between dynamics of the time, its change process and change frequency? Or what is a variable there? All these questions remain to be a "headache" of the economic science.

The phenomenon of economic time

The existence of multiple aspects of economic phenomenon and complex relations between the causality, functionality and structural relations creates the number of problems with much more complex resolutions.

Economic time is:

- Socio-natural, socio-economical and socio-cultural phenomenon;
- The phenomenon created by the inter-systematic relations;
- The most scarce and expensive resource. Demand is unlimited and supply is limited;
- Not able to accumulate as traditional resources. It is impossible to reserve some interval of economic time.
- Eligible for "regulation" and "management". However it is not in ownership of one particular entity.

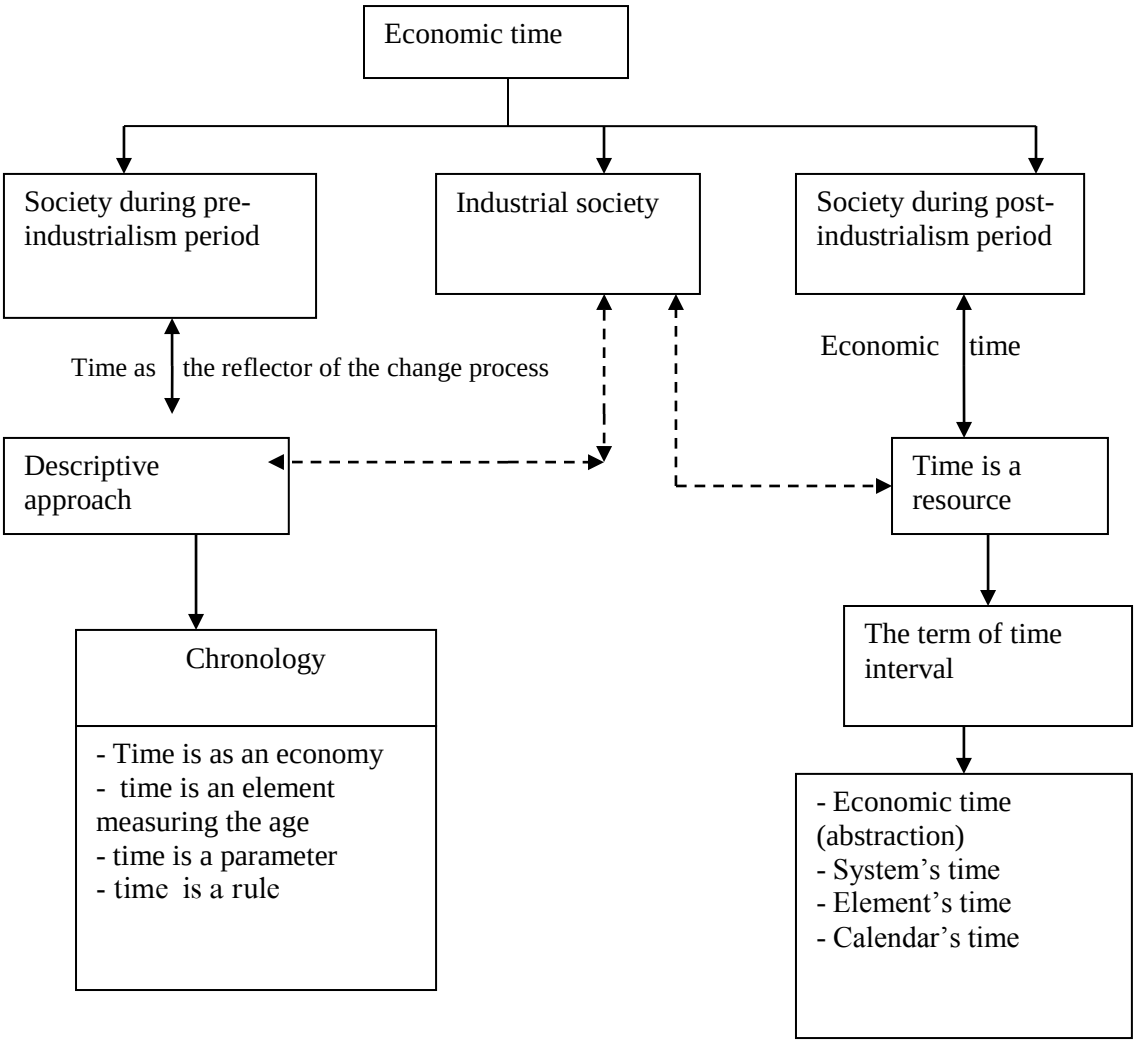
Karl Theodor Jaspers in his book named "The Origin and Goal of History" [Jaspers K. 1994] says that the hegemony of "present time" makes the life style and mental activity as "technical ability"… In reality, only unity of present and past time and at the same time unity of memories and ideas accounts for the real meaning of the presence…

It is obvious that the economic substance can be viewed from different points of view: social, political, cultural and etc. In any case the complexity of measurement units and "strange" patterns within its flow makes the substance of the economic time much more complex. The "complexity" comes from the multi-metrical substance of the economicA time. The economic substance consists of two parts: material and mental. The material part reflects the biological, physical, psychological processes, which are determined from genetic point of view. The mental component is the main reason for the methodology problems of determination of the economic time. There is no other substance which is closer to mental substance of the economic time than the direct personal, inter-personal, sensual relations and the purpose relations between the people. This aspect of the time makes it possible to manipulate the time, "return" the time, "return" the past or create the syndrome of "futurelessness". The syndrome of "futurelessness", i.e. the possibility that the future will not come is currently widely spread in the economics. In order to see it you need just transfer the economic substance to the global level.

The economic time consists of small parts. There is problem of its matching with the calendar one. The economic time is in form of flowing process. From this point of view the short-term process represents the "moments", the medium-term process represents the "present" of the economic system and the long-term process covers the entire structural changes within the process and reflects the future of economic system. As we can see there is not "past" in this sequence. The economic system works "today" and "in the future". Therefore it would be wrong to accept the artificial division of time chain as a separate time intervals. In other words, from economic point of view the question "how it was in the past?" was artificially inflated. From substance point of view there were two basic questions which did not lose their actuality throughout the history of mankind: How is it "now"? and how it will be in the future?

From this point of view, what is the meaning of speculation with the inheritance principal is still an open question. What kind of inheritance point can be viewed in example of the countries experiencing the systematic changes? If the system is significantly changing and the previous system does not reflect any consistent patterns, that where can we see the inheritance principles?

The abstraction which we call the "economic process" in reality is a substance which reflects definite directions, definite interests and processes which can be definitely measured. From this point of view it can be referred as meta-process. From location point of view meta-process reflects the global level, the macro, mezzo and micro levels are reflected in its sub-systems.



Picture 1. Different utilization of economic time in the different societies

In order to eliminate the discomfort related to definitions we can apply the variety of the mentioned above levels to the economic time as well. Economic time is one of the three basic conditions of its formation and the normal flow. In order to prevent the meta-process from the "blind valley" all sub-processes should be synchronized (both in vertical and horizontal directions)!

Even I.Progojin wrote that along with the normal dynamic time there is "internal time" within the macro system which has an ability to affect the whole system.

In other words, each economic process has its "own" economic time. Such types of views were presented in the works of A.Levanov, E.Mayminas, Y.Farinas, R.Belousov [Belousov R. 1992] and etc. Although the unity of time and location within the one economic process is widely accepted, the unity within the activity mechanism itself is absent. For example, there is

number of proofs regarding the nature of time's non-recoverability. My point of view regarding this issue does not coincide with the view of many researchers: the recoverability of economic time is possible! Considering that the economic process itself is cyclic and waved, there is no need for additional proofs.

The change in society type and transfer to more superior level faster that it is expected itself is an "acceleration" of the time.

We would like to emphasize certain specifics of the "acceleration" process of the time based on realized conceptual platform:

- The "atomic" structure or unit of the economic time does not exist. At the same time the metric units for measurement of efficiency of the economic time do not exist and in general preparation of the assessment methodology for this purpose is practically impossible. The researches dedicated to the measurement of the efficiency of the economic time came to the following conclusion: the formation of the best result during the shortest period of time and obtaining the sustainable situation. The typical approach for the efficiency of the economic time is the only possible and abstract assessment type existing in modern science.

The wording "the most abstract" makes the verification process impossible.

- There is variety of levels within the economic time. From this point of view the specifics and substance of the economic time on global – national levels, at the same time on national economic system and its internal elements differs significantly. Thus the variety of the economic time on the different levels is reflected in the following aspects:

1) The "density" and speed of the economic time is different;

2) The economic time moves in "out of synchronization" way. Thus from economic time point of view the present, past and the future are moving in different levels and in different ways;

3) The movement of the economic time on global level incurred in random way, while on the national level it is applicable for "regulation". The ability for being regulated is increased the closer the economic time on horizontal direction downside, or in other words when the economic time approached from the system to subsystem's elements or approaching to elements of micro-level. Saying that at the global level the economic time moves in random way does not mean that the processes there incurred in spontaneously. Its speed, "density" and effectiveness directly correlated with the competitive forces of the economic centers of the world. Thus it is "regulated" however not in direct way but by the means of the competition forces. Such kind of

"regulation" only in rare cases can be structures and purposive. The economic time has to fit into the "frame" created by the global economic forces;

- From the economic process context the specifics of the economic time can be shown in the following way:

1) The economic time in any form has non-linear specifics. Non-linear form can be explained from 2 views:

✓ Incongruence with the real time. We don't talk only the part of real time which became "economic". Such translation does not exist and impossible. Simply this part of the real time, unlike the physical time, has features of animate and conscious creature. Considering that the economic time can attain the synchronization implies about its consciousness. It widely known that the physical time cannot be synchronized.

Above mentioned facts can explain the non-linear form of the economic time.

✓ The non-linear features are also reflected in sub-levels of the meta-process. As we have mentioned above the each level of the meta-process that its own inherent economic time. From this point of view the non-linear features can be explained by the internal processes on each sub-level.

2) The inertness of the economic time as well as its speed has its own criteria and reflected in them in different ways. It is widely known that the countries located in the south of Sahara desert are within the pre-industrial period. If we would like to compare these countries with the developed ones we can say that the economic time there falls behind for approximately 500 years and moreover the economic time here is "stagnating". However, if we compare it with their past such tough conclusion cannot be derived… In other words, during the recent 500 years something has changed… From this point of view the economic time is "moving".

The same situation can be observed on economic micro-process (as well as mezzo- and micro-processes). For example, if the economic growth in the country is in range of 25-30%, it means that the economic time here is accelerated. However, if we take the formation of information economy as a starting point the speed of the economic time will decrease significantly.

✓ Economic as well as a physical time are not the substances which exists independently. Its existing forms are reflected only on real economic processes. The measurement unit of economic time within the "inter-process" does not exist, in other words its materialization is principally impossible. The "inter-process time" acts as part of the quality of the process. In other words, the

economic time is not in form of chronology, intervals and etc., it is reflected in quality of defined resources and factors. The methodological problems are created specifically by the point.

The attempts to equate the economic and physical time are coming from this point.

Thus the specifics of the economic time show that the speed of the economic time is the only important feature of this substance. From this point of view the important point here is not a quantitative, but a qualitative acceleration of the economic time.

The increase in the scale of the economic activity does not always mean the strong effect of the obtained results. In some cases this effect is totally eliminated. The thought that the increase in large scales can bring about the large positive effects is not out of dated and nowadays is not accepted in adequate way.

The hypothesis supported by us can be proved only from the point of view of the mentioned above discrepancy. Thus the increase in the scale of the economic process does not consist of 1 process: it is realized at least in continuum of time – location. From this point of view the expansion of the location cannot be neutral in respect of the time. In any case there is strong correlation between the expansion of the scale of the economic process and speed, "density" and cycle feature of the economic time. Moreover, the savings from the expansion of the scale play an important role in "expenses" of the economic time. The economic process in its any form can be described as time-consuming process. The time itself creates the determined dynamics within the economic process.

The economic time is the most important component of the economic process and moreover it is a specific resource for this process.

The economic projection of the philosophic time

In reality, the "static" and "dynamic" approaches to the time notion are quite abstract and simplistic, which creates discomfort for the understanding and acceptance of this notion. The source of misleading is the position towards the "movement" of the time. In order to prevent this misunderstanding we should consider the certain misleading nuances:

- The economic process is continuously moving. Notwithstanding the development stage, period, speed or incurrence of the crisis the economic process never stops. Even its inertness is not created by cease of the time, but formed from collision of time "flow" coming from the past to the present. We should accept that there is no such expression like movement → change in the economic time. There is movement, the economic process never stops, however the changes also do not occur.

At the same time in order not to mislead you, I would like to note that the "changes" above are considered as a transfer to the new development level or creation of necessary and sufficient conditions. In other words, the changes are denoted from the quality point of view. It is clear that from the quantitative point of view there is direct relation between the mentioned movements. The higher the speed of the movement the larger is the scale of the affected areas.

- The "static" and "dynamic" models are not realistic for the economic time model. Although both models are derived from the time flow process, they reflect the time flow only from certain point of views. The economic time is neither in static not in dynamic conditions. The economic time in all its reflections takes of spiral… Thus the attempt for comparison of this "spiral" with the static and dynamic forms creates the great gap between the reality and methodology.

At the same time there are contradictions in form of substantial → relativist which is not of current interest and had not actual power (from understanding point of view) during any historical period. The mentioned above dilemma and speculative discussion have nothing to do with the economic time. The economic time is not the "second". It is the substance created by the economic process and its "flow", which is directly related with it by the means of causality relations. There are at least two misleading points in this approach:

I. Economic time is the derivative from the astronomic time… However the interaction of these two substances occurred only in their names. It is obvious that the economic time, its stages and its flow have nothing to do with the millions of years before the neolith period. I would like to ask the researchers in this realm, whether the astronomic and economic time coincide during this period??? This is obvious misleading… There was not simply the economic time during this period! The economic time is a "created time". It starts from the economic events and processes…

II. Each economic system has its own economic time! This is one of the most wide spread misleading. The formation of the economic system is the movement which starts after the commencement of economic time flow. The economic time starts its flow far before the system itself, even when hypothesis and idea about the system is forming:

The economic time takes the resources, factors and process flow direction from the first and second rings of movement of idea → process→ system. The time is a feature which is applicable to the "moving" substance: the economic cycle, economic wave and economic lag can have different types of the economic time… the economic system is called "dynamic" based on

mentioned above movement. In other words, the “moving” is not a system, the system itself is moved (cycle, wave and etc.). The type of the system is changing in this direction.

The economic system can be shown as a reservoir for different types of times with different nature, direction and frequency. The deeper mentioned above “differences”, the more problematic are the change of the system type, its transfer to the other level and quality type. For example, in order to come to the post-industrial economic system the economic wave and economic cycle which be homogeneously synchronized. This is axiom. From this point of view the division of the economic time into the macro and micro levels is meaningless. The economic time within the macroeconomic system turns into the function of the economic time in the micro level. The time with the symbiosis feature is forming. The trajectory of the economic cycle and economic wave together with directly determined inter-subjective time level reflects the traditional hierarchical structure (time related), which reflects the all elements. And… from the first the time is chaotic however its “spiral” time form brings it to the absolute form.

The economic time became the mental result of the removal of the hierarchical structure and traditional methods of its measurement by replacement it with the “spiral” form.

It is obvious that the time cannot be measured by physical length metrics. There is no “moment points” within the “present” (unlike in natural sciences).

Stephan Klein wrote that physicians “...were not able to find the atoms of the time till now. Nowadays the most powerful chronometers are laser lightning. In order to measure the specifics of the time atoms lightening are used” [Stefan Klein.2011]. It is known that the shortest light impulses take several atom-seconds. One atom-second accounts for one billionth part of the second, i.e. 0,000000000000000001 second! (10-18 seconds).

At the same time from the theoretical point of view, they support the idea of division of the time to smaller parts. For example, Quant theory says that it is possible and the smallest time interval is called “Plank time” (10-43 second) named after the scientist Max Plank. Considering that this time overcomes the physical frames, it is called “God time”.

Thus the time has the borders! … There is lower border and upper side is limitless… If the time is not unique and if there is no “bottom” limits, then which time is upper limitless?

From economic point of view in most of cases “now” is accepted are certain time interval (not point of time).

In other words, depending on the application and understanding the economic time is

differentiated. The differentiation process starts from the segregation of the economic process into the different parts in accordance with their meaning and importance. In reality, mentioned process is related to ownership of the specifics of the economic time.

In economic time the borders separating the "present" from the past and future from the "present" is not in "point" form. There is a need for certain time interval and certain changes in the economic substance. Otherwise the economic time will "stagnate" or will be accepted in such form.

There are some transitions between the economic time intervals (past → present → future), during which the "memory" of the economic system starts to operate and past is accepted as past event.

The existence of the historic "memory" of the economic system makes possible the identification of past → present and the future in the condition of endless flow process of the time.

As we can see the "memory" of the economic time is the derivative of the economic time… At the same time, the memories occurred during the various time intervals (past, present of the past, future of the past) are accumulated in separate layers. In other words, it is impossible to evaluate the inheritance principle in one way.

Moreover, the development levels held in the "memory" are not always complete and are not in complete quality and at the same time it is not possible.

The historical projection of the economic time: acceleration phenomenon

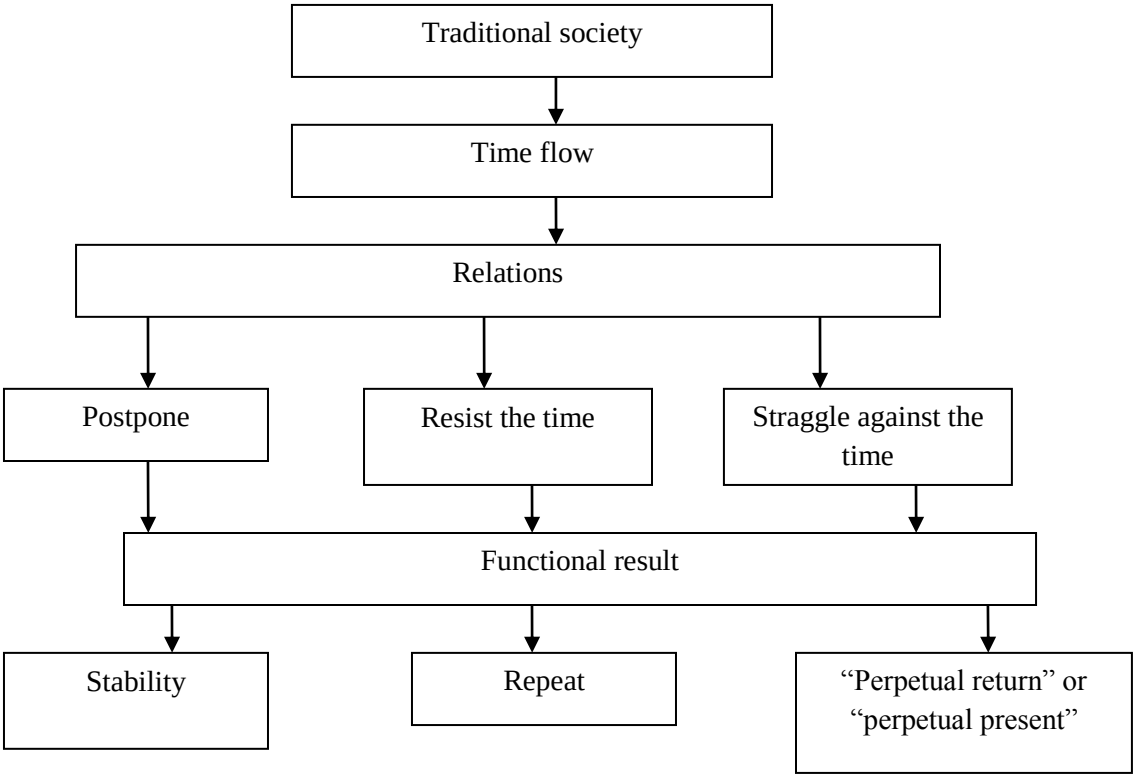
From the point of view of the historical projection of the economic time, we can observe the weakness of the connections with the real time during the evolution of the understanding process. On the other hand, you can see the slow formation of economic time in the womb of social time and a significant increase in the tendency of its transformation "thing in itself". From the historical researches we can derive the conclusion that the trends and tendency identified by the modernism terminology have a real base. In other words, the change of the type of the society from socio-cultural and socio-economic aspects can be shown on the pre-modernism → modern →post-modernism and it allows showing the retrospective and modern problems of the current situation.

It is obvious that the society during the pre-modernism period is featured as "traditional society".

At the same time it is misleading to characterize it (i.e. the "traditional society") only from chronological point of view, as a society which will transfer to modernism. During long-lasting period the primary societies were treated as a far "past" of the modernistic society.

The structural view [K.Lebu-Strauss. 1999] to the problem shows that this assumption is wrong and the primary societies have their own model and structure (mythological) and relate to

separate type of society. Nowadays it was fully proved that the chronological sequence of the modern society of not necessary for the formation of the traditional society. In other words, the believe that the "traditional" society will develop in spontaneous way into the more modern forms is misleading, although the transition to modernism considers the formation of modern society. At the same time the "traditional" society never "intends" to modernism. This society has such structure which postpones any possible changes and uses all necessary "tools" for it. Although it is quite strange, the situation described above is based on time and attitude to its "creatures". The notion of the "future" in the mental values of the traditional society is not understood as we do it (i.e. new, changes, system updates, and transfer to higher level of society). The "tradition" is accepted as a mental, socio-economic, socio-cultural and political notion which is a part of the time and which is also protected and desired part of society. Such kind of societies lives "today" and in "present"... "Present" is infinite, the "past" is constant and reflected into the "present". In cases when the protection from the innovations is weak, their impact is minimized as possible. From this point of view, the "future" is not a reflection the "present" but a direct copy of the "past".



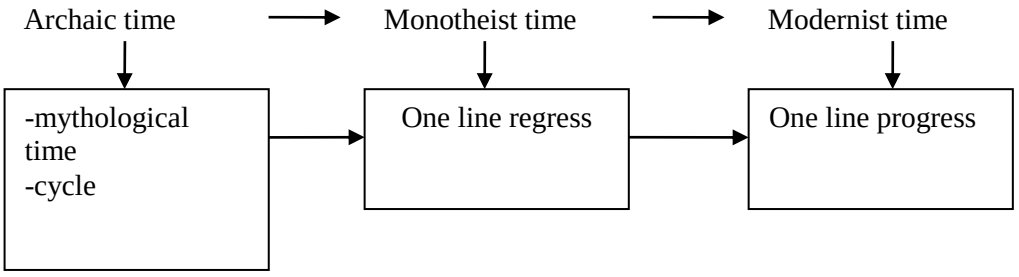
Picture 2. Time in the traditional society

In other words, the time is flow repeating every time, with small exemptions.

At the same time the substance of the "traditional society" does not reflect the same meaning, form and treatment of time.

Historically there are two types of the traditional society – archaic and religious. At the same time from the modernism line point of view they are allocated as the following: archaic society → religious society → modern society (only if the west-centralization approach was not applied).

We would like to note that the interpretation of the change of the socio-cultural and socio-economic type of the society is based on extrapolation of modern time to pre-modernism and post-modernism periods (our research is not exemption from this point of view). The understanding of the economic time is based on qualitative analysis of value system of modernism, which is used ad starting point of the mentioned system. There is only conclusion we can derive from the problem described in form presented above: the time flow comes from simple to complex, from primary to superior and each definite period can be accepted as the next stage in evolution. In other words, the time being the linear upgrade line should be accepted as the evolution only. The past stage simply disappears. The process can be shown in the following way using time terminology:



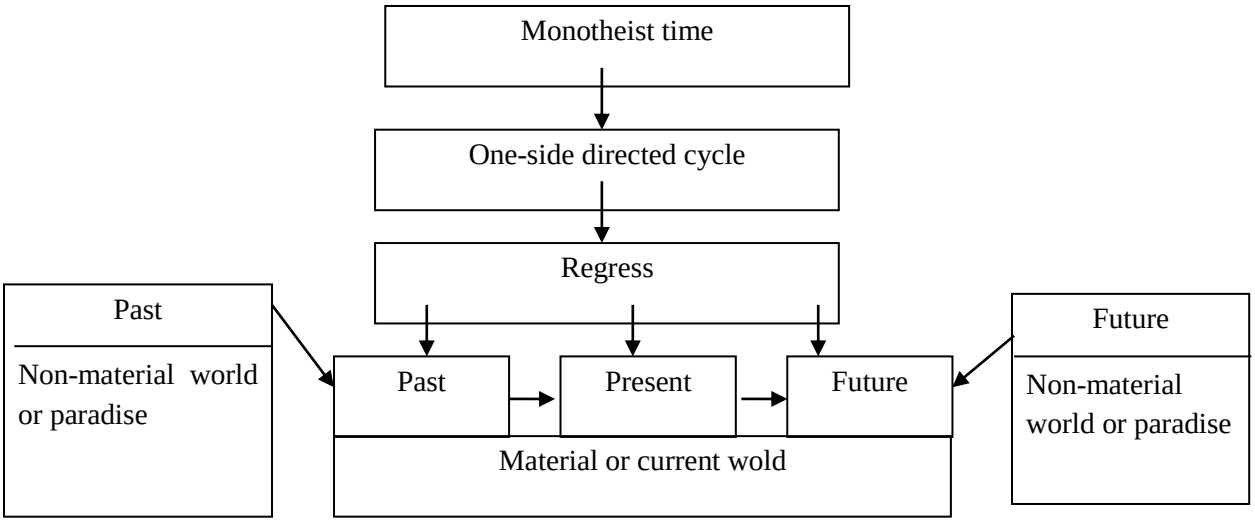
Picture 3. The direction of the time

Reflected above flow was ruling till the post-modernism period.

There is linear model of the time in modernism (it was invented in Judaism at the first time). The main religions – Christian, Judaism and Islam – are regressive. They come from the ideal condition (paradise) to sin and ultimately to the end of the world.

The treatment of the economic time in the modern society changes significantly. The modern society is directed to the future, the "present" is continuously tending for the "future" and this activity is considered as imperative. The transfer to the modern society is a creation of quality of socio-cultural and socio-economic situation, new values, formation of new horizons of the development and massive update of the entire system. The most positive trends within the society

are innovations. The accelerated flow of the time with the positive direction within the modern society is accepted as a progress. The modern society is based on the future and "breath" with its innovations, it sees itself and the world around it in continuous development, dynamics and it never stops; moreover all theories created during this period are based on optimism.



Picture 4. Theological time model

If the progress theory was treated as a movement from the primary stage to the more superior and a transfer to more development stages during the early periods of the modernism, during the recent periods it was treated as a basic theory for determination of historical dynamics.

In general from the economic time flow point of view the philosophical understanding of the idea of progress has two distinct forms:

1. Believe in endless, limitless and infinite development line;
2. Belief in development directed into the formation of high level society.

In general, during the understanding of the meaning of the "high level society", the identification of the difference between it and the first one is quite difficult task.

P.Tillich calls utopia the idea of the progress related to the second form of the "high level society: "The utopia being a form of the progress has a define goal: to reach such level of historical development, where all uncertainties of the life can be resolved" [Tillich P. 1995. p.239-240].

The endlessness of the historical progress was reflected by V.Hegel in his dialectic trine (thesis → antithesis→ synthesis). At the same time, the absence of the end in the process of the progress was mentioned by new Keynesians as well. According to this approach, the present is a

creative process derived from the total human activity, which never ends.

In general, the approach described in short above is similar to the theological approach to the future. Thus coming from the Marx-Hegel and theological approach we can conclude that the united world time will come to its end point (break point) after the certain period, end and transferring to the other measurement unit will lose its meaning.

Only after the large scale social disasters incurred during XX century we understand that the progress is not the universal historical rule. The obvious results of the reality and progress show that progress itself has not one-sided effect on the society.

"… we have lost believe in the progress and consider that the notion of the progress is wrong. The society is not developing limitless, in contrast, it is decreasing and each period is based on certain believe, subsequently we reveal that that believe was wrong" [Frans S.L.1990, p.141].

Y.Bokhenski [Bochenski Y. 1983. p.120] believed that the progress is "the most harmful" inheritance coming from the XIX century…

It is obvious that the progress was never systematic during any historical period from the point of view synchronized flow of the time. Only time "density" or the degree of "density" provides the grounds for the hypothesis regarding the incurrence of the progress. It also obvious that during some developments in one realm, there can be regressions in other realm, therefore due to shortness of the time it is hard to determine "what" is happened.

At the same time the reality of the progress is not single-valued in culture, human nature, national-mental values and social structures.

However these assumptions cannot provide a ground for the strict conclusions regarding the theory of progress being the erroneous assumption. In any case the development of humanity and the different societies and folks can be an evidence for existence of the progress notion…

We agree only with the acceptance of the qualitative part of the historical development of the progress… The progress is not a historical law (at the same time development is not a law of world economy). Not depending on location and the time, the progress is a product, result and conclusion of the mental activity of humanity.

Thus, even at the beginning of XX century the modernism started to be treated as an erroneous approach. The following nuances made the model limited and development being treated as a transition stage between the stages: the principles of free market and free competition being illusion, the acceleration of the capital concentration process and increase in gap between the

countries, inability to apply one treatment to all economies, the exaggeration of the optimism towards the non-stop development and absolute truth, the fact that none of the mentioned above facts is not world-wide spread and possibility to assess such period of time in some particular country. The time started to be assessed from the relative point of view.

The postmodernism as a theoretical approach which describes the society types after the modernism period developed in 70-80s of XX century. Although some portion of modern approached is widely accepted, points related to the time understanding were conceptually changed. The time already accepted the completeness feature. In postmodernism the time is revocable and repeating – unlike in traditional society – we talk about "postmodernism repeat".

The existence of time flows like past → present → future and wise versa are treated from discrete point of view.

The suspicion created by the some features of the modernist model resulted in "multitude" of the time. For example G.Curvitch said that there are 8 types of the social time and each of them has specific structure, types and flow directions [G.Curvitch.1964]. The proof of the evaluation of the time from its typological point of view is impossible.

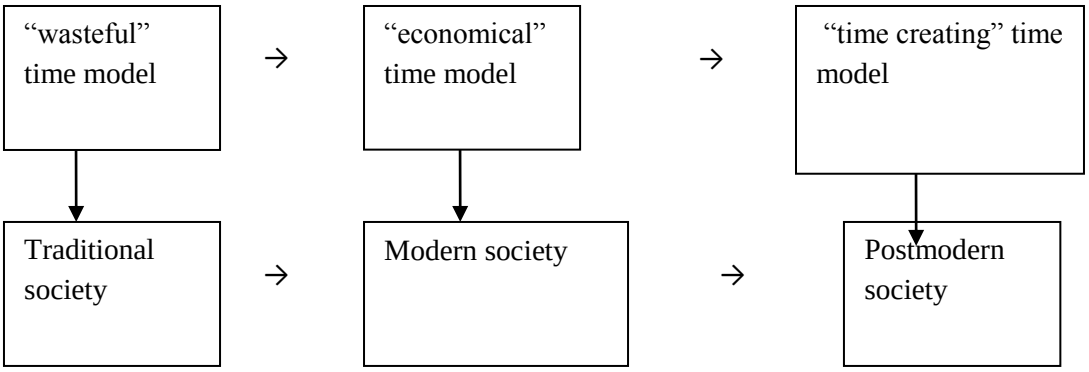
However Curvitch's model as a model for reflection of the realities of the various social groups, various aspects of various social events from various time aspects is quite valuable. The mentioned above classification reveals both different and contradicting aspects of such typological classification.

Table 1. Main types of the social time

Time types	**Relevant society types**	**Relevant time model**	**Position of the time in hierarchal structure**	**Direction of the time flow**	**Connection with the economy**
1."prolonged" time	Traditional	Dramatic myth	Local demography, the time of the life style	Everlasting «present»	-
2.«misleading" time	Traditional	Mystical	Time of daily activity	Everlasting «present»	-
3."lost" time	Modern	Progress	Time of non-regular event	Direction to the future	+
4.«cyclic" time	Traditional	Dramatic myth	Time of always repeating events	Everlasting «present»	-
5."delaying" time	Traditional	Myth of hero	The time of the social symbol and institutions	Direction to the past	-
6."changing" time	Modern	Progress	The time of rules, algorithm and codes	Direction to the future	+
7."pushing" time	Modern	Progress	Innovative time	Direction to the future	+
8.«explosing" time	Transitional period	Time "featheriness"	The time of systematic changes	Direction to the future	+

The approach to the time in postmodernism is coming from the phenomenology of E.Goessel. In other words, the postmodernists approach to the objects and the substance from temporality point of view. For example, Y. Dales [A.Dugin.2009] talks about two models of the temporality – Eon and Chronos. Eon is a time consisting only from the past and future and has no "present". Chronos consists on only "present" and has no past and future. It is at the same time meaningless and contentless time which is not related with logos. Moreover during the transfer from modern to postmodern the Eon changes its meaning. Thus the Eon which has social dogma, destiny and historical importance for the society for modernism, it became more relative during the postmodernism. The create objects can create their past and future. Chronos continues to flow and can give rise for buds in any point of its development. As we can see the time can lose all its qualities in retrospective and modern approaches, at the same time it become more subjective and as a result transfers to the next stage – post-time period.

From the historical point the sequence of the societies changes in accordance with the sequence of time models. From this point of view the change can be shown as following:



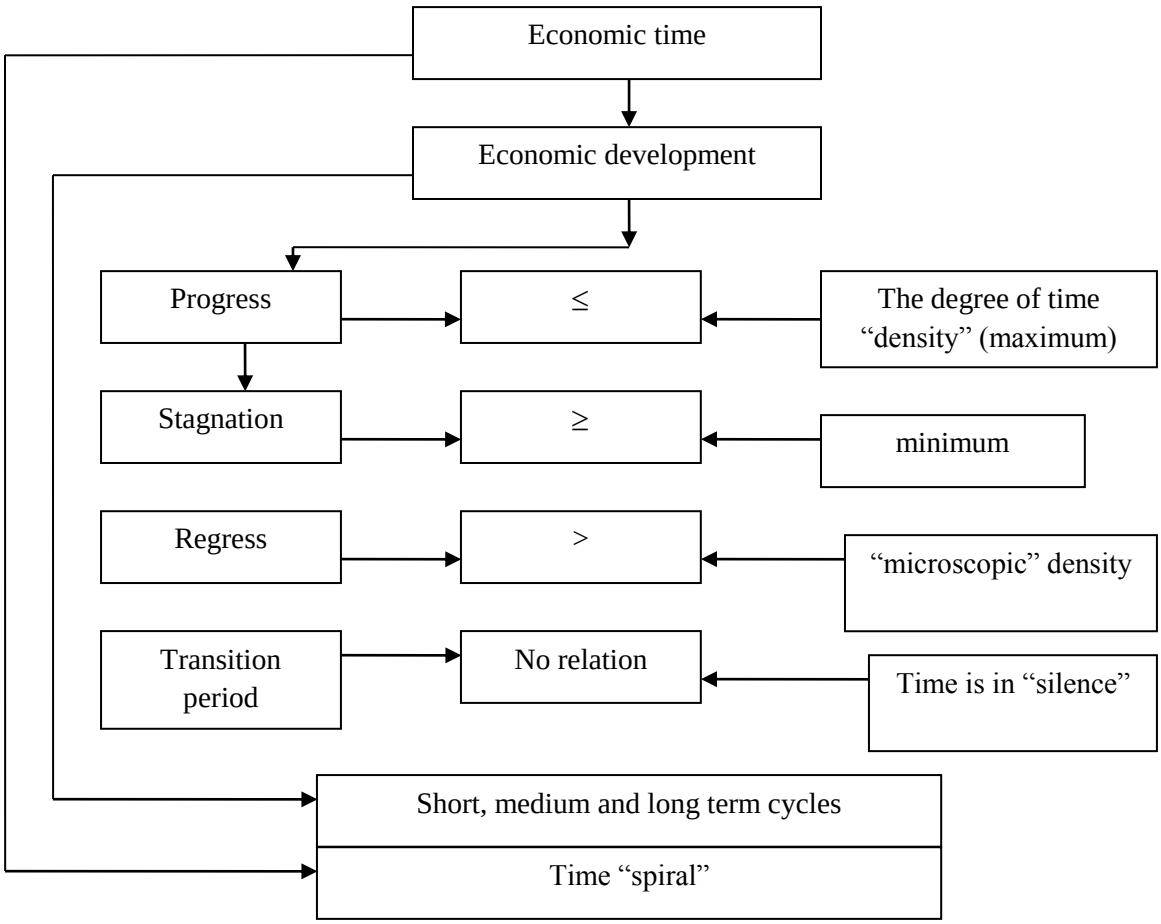
Picture 5. The chnage of the time model

The "post-time" model shows the process of the creating of "new time". Even if it characterized as a probability time model, the differences between the different society types does not decrease and even increases.

Economic development is the function of economic time

Depending on "density" of the economic time the economic substance changes both from quantitative and qualitative points. The correlation between its parts is also obvious: increase in density of the time brings about the progress and decrease to the regress. The crisis comes in excessive "sparse"

condition of the time density. The economic thought explains the aspects by the means of progress → regress terminology. The treatment of such approach as adequate reaction to the existing changes is misleading. At least in the mentioned scheme stagnation and time "featheriness" are not considered. In other words, the approach like the economy is ether developing or stagnating in form of "or" approach is anachronism and is not in line with the time "featheriness". In addition, we would like to mention that in economic situation time is not developing in linear form, but has spiral form.



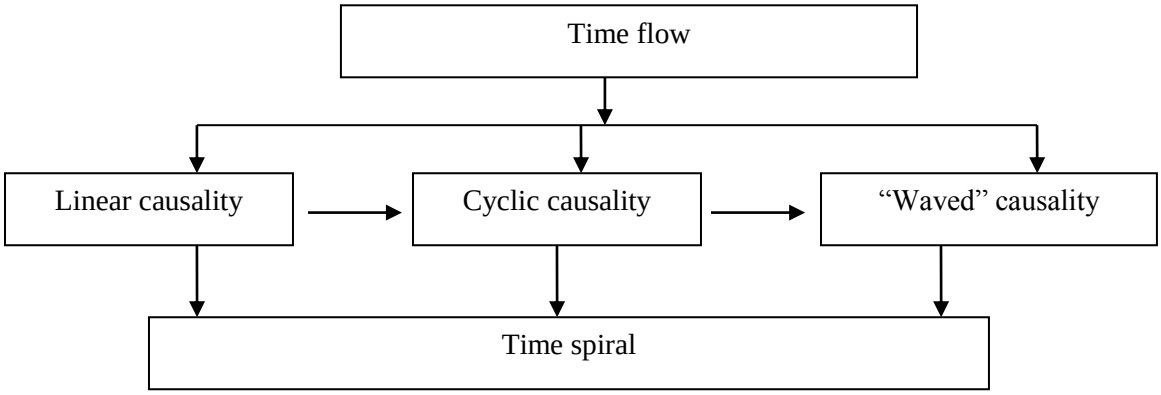
Picture 6. The simlified scheme of correlation between the economic substance and time

The density of the economic time is also changes in accordance with the direction of this time spiral. At the same time, the increase in the time density incurred not in the beginning and during the economic process, but at the end of that process. The source for this increase is conformity between the movement and destination or in other words it is in acceleration of the time flow. In other words, the higher the speed the higher the density is. However, it does not mean that the speed of economic time can increase endless. The endless acceleration of the

economic time is meaningless, it can bring about large consequences and it is impossible from physical point of view… Nowadays the reason for the processes taking place in developed countries is explained by the ignoring this matter.

From the wide economic point of view the unreasonable acceleration created by the economic process brings about the exaggeration of "coincidences", breach of the functional relations and stagnation. As we have mentioned before the economic time is "manageable" and "applicable for regulation". Therefore notwithstanding the subjective reasons of the "acceleration" (political, ideology and interests), it brings about nothing more than distortions. The speed of the economic time is in negative correlation with the "weight" of the purpose of the current society. It is not allowed to "load" the economic time more that it can carry out!

The causality link within the economic time model is considered not from 2 (as it referred in some researches), but from 3 aspects:



Picture 7. Time from causality perspective

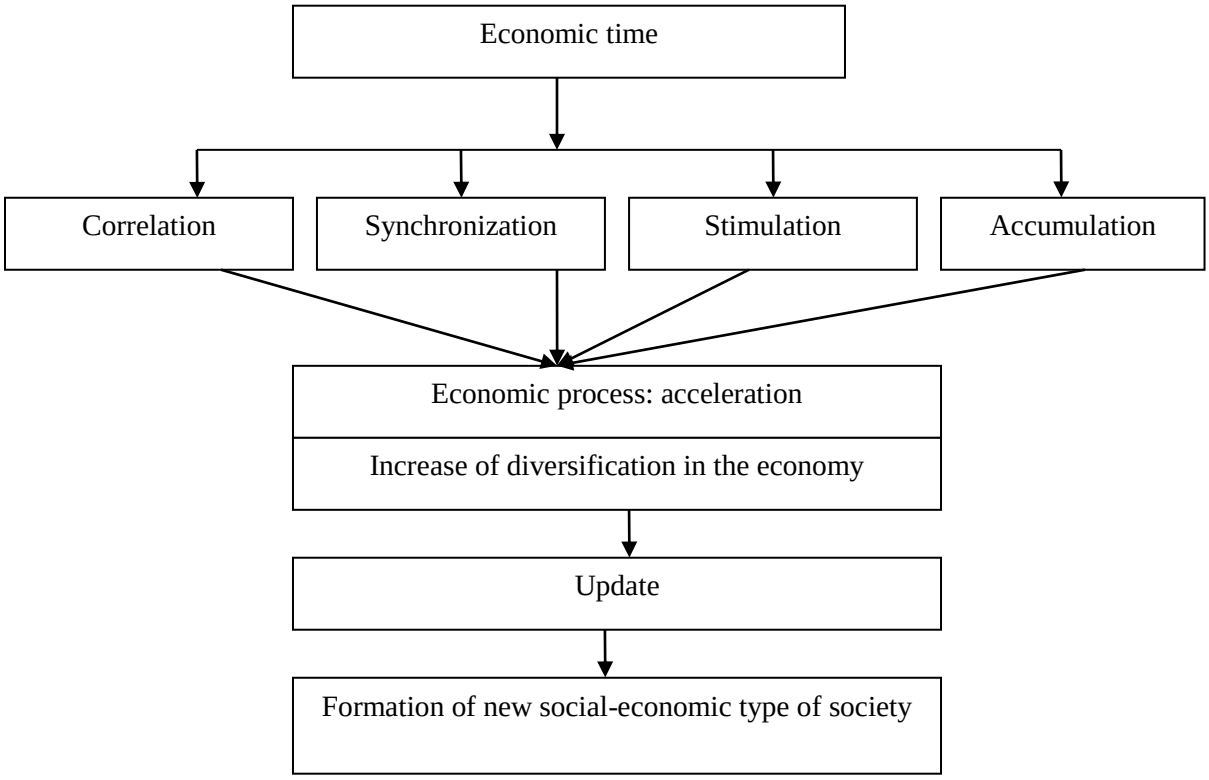
The linear causality is the main refernece point for the modern time disclosure [V.V.Biryukov. 2000, p.17-18]. The time flow is directed from simple to complex, from primary to high level. Even in second half of XX this approach was totally reversed. There is linear causality in the time flow of the economic process… however it covers only very short period of time and relates only to certain element of the system. Surely it is wrong to apply excessive abstraction to the linear causality.

Cyclic causality reflects the feedback received at the output point and reflects the repeated "reversal"… and mast take place almost on all economic processes. However, not depending on the length of the cycle, its separate existence does not reflect the real and adequate economic process. Although the economic cycle and cycles are reflected as periods with its beginning and ending, by their nature and substance it is an internal part of the economic "wave". At the same

time the transfer from one cycle to another one determined the internal logic of this "wave". From this point of view the cyclic causality is in close relation with the direction, rhythm, scope and speed of the "wave". The "waved" causality is based on epochal changes. For example during the transfer from agricultural economy to the industrial, then to post-industrial creates the new economic wave and it created the relative smoothness of the spiral.

Thus during the linear, cyclic and waved causalities creates an opportunity to understand even partially the trajectory of the spiral, bring the time to the more understandable condition, make it more local and measurable.

The functional role of the economic process can be reflected from 4 aspects (Picture 8).



Picture 8. The functional role of the time in economy

We would like to clarify the certain points related to usage of the economic time as a resource. The connection and synchronization functions of the economic time are widely and scientifically accepted. At the same time we would like to note that the economic time is independently synchronized itself. As we showed before the economic time is asynchrony. Thus synchrony is creased and formed. Stimulation is an activation of "mental" component of the economic time.

The functional relations between the expected level of effect and the speed of the process provide the stimulating effect on economic entities.

The accumulation is the effect reflecting the "density" of the economic time.

The economic time accumulates the qualitative changes only during the certain time intervals… The more the qualitative changes the higher the density of the economic time is.

The changes in speed of the economic dynamics and type of the socio-economic society and qualitative transfer to the other level are based in different proportionality between the expansions of the scopes, or in other words, it is the effect created by different levels of the economy (from development and expansion points of view).

At the same time, we should consider the errors which can take place during the application of unambiguously stated limitation factors:

- The economy is not divided into the sections with various levels, it has functional features. There is not identity like various levels = various speeds! In contrast, from the certain economic substance point of view various speeds mean not only expansion of the scale but also creation of deeper changes related with speed and is hardly resolved.

At the same time, the equality within the system does not mean the necessity of the effect mentioned above. The change of inter-system elements and equity between the development temps can create the effect of various levels and be the reason for the change of the socio-economic type of the society, only if:

1. All changes in the society have isomorphic structural feature;
2. There is priority of elements, which bring the system to the "future": there is no need for proof that the transfer to the new society type (post-industrial) is impossible by the means of the traditional methods. It is impossible to transfer to new society type with the speed of the traditional flow. Unless the portion of the services reaches 2/3 of total GDP the qualitative changes in society life are impossible. The conceptual change in labor, capital and other values does not incur and as a result the industrial society goes into the inertia, which results into the stagnation.

- On other hand, there is no relation between the effect of variety in the economy and the age of the economy.

The human capital – transfer to "new" time

The monetary reflection of the utilization of the human capital is final salary amount.

The salary can be reflected as structural function of economic time:

$S = f(W_t, P, T_e)$

Here: W_t – the length of the working time of the economic entity;

P – the productivity of the working time;

T_e– the structure of time expenditures

Similarly all other economic categories can be reflected by the means of the time.

Even approaching from the mentality of the post-industrial type of the society the correlation form does not change… however the nature of the functional dependence is changed. Thus in post-industrialism the length of the working period is an effect with the negative sign. The structure of total time expenditures is virtualizing, the measurement of the efficiency of the time became more problematic… economic time became number one factor for economic dynamics. The significant changes in labor, capital, money and other economic categories bring about transfer of variables to new qualitative realm (both from measurement and valuation point of view). Mutual effect between the realms and existence of alternative variants for meeting of total demand eliminate the classic understanding like expenses → effects, or minimum expenses → maximum effect. The increasing degree of the variety and impossibility of normative approach are the reasons for formation of totally different macro-economic condition: the same time expenditures affect the activity of the economic system in different ways…the dualism of economic time turns into the pluralism… the model for measurement of the economic process by the means of time is out of date, the future is replacing it. The "current moment" accepts each moment which is favorable and acceptable from benefits point of view: the economic system defends the "present condition" and starts its existence within the borders of the "moment".

One of the most important methodological problems is absence of adequate qualitative and quantitative reflection of utilization of time as economic resource. Consideration of the specifics of economic time shows that the traditional approaches to the problem are not sufficient. The most problematic point is inability to quantify the flow of the economic time. Therefore:

1) There is no measurement unit for identification economic time spent both for production and consumption realms… Marx' abstraction economic time = social-necessary time => money is more misleading. There is no difference between the ignorance of the problem and application the proverb "time is money".

2) There is no conceptual approach to the "production" of the economic time itself. The qualitative analysis cannot be carried based in length of interval only… There is not only

absence of quantitative measurement of economic time and its "production", but also the application of inter-process time factor does not resolve the problem.

3) The process of transfer of economic time into the economic factor is sufficiently uncertain. It is impossible to define the "expense-intensiveness" of the process in form of definite figure. The evaluation can be conducted only upon completion of the process … only in case when "accumulated" quality changes are "irrevocable".

The evaluation of the effectiveness of the utilization of economic time as resource can be made from two aspects:

1. The efficiency of certain factor during certain period of time:

$$E_f = \frac{\delta F}{\delta t}$$

E – efficiency;

δF - certain factor;

δt - time (length of interval).

2. The efficiency of the economic time itself:

$$E_{i/f} = F_{v/I} * D_{ö/v}$$

$E_{i/f}$ – efficiency of the economic time;

$F_{v/i}$ – wastages incurred during the utilization of factor; efficiency of factor utilization;

$D_{ö/v}$ – timely implementation of qualitative changes.

The efficiency of the economic time is not endless. The existence of time limits both from empiric and theoretical points of view make the limitlessness of time efficiency impossible.

As we can see from the formula, factor efficiency reflects the quantity and changes reflect the quality. It means that:

- ✓ The efficiency of utilization of the economic time as resource directly depends on two factors;
- ✓ Sudden changes do not bring about qualitative changes.

The main point here is what is changed in quantitative terms… For example, during the transition to the post-industrial society the major role play the information technologies…

Thus from the development goal point of view, if the efficiency is increased quantity of the

information technology, then we should expect qualitative changes in condition of other factors being adequate…

Notwithstanding the excessive complexity, multi-measurement, controversy of hierarchical structure and etc., the efficiency of time utilization can be measured:

If there is positive correlation between the level of free time and growth levels and increase in welfare, then we can conclude that the efficiency of economic time utilization is at high level.

Transition situation: actualization of future

The actualization of future is its transfer to present. It is future of presence. After this the future is realizing in the same way and as a result recent "future" transfers to future of the past. Time from this aspect from the future → present and past flow exists together with the stereotype flow – from past to future (by the means of "present")…

Thus depending from approach and set goal there are 2 types of "future":

1) The time flowing by its own (past → present →future);
2) Created future – the wise versa directed and regulated time flow (future → present → past).

From social point of view we face very interesting situation… Do mentioned time flows coincide in some point? The answer for this question can be found from pragmatic point of view. From the natural science point of view, the second flow is not actual and, in general, there is no sufficient basis for its realization. The direction of social or economic time from future to past and at least its direction to present are unavoidable. It is due to the fact that both economic and social futures are created. The belief that the unexpected processes take a source from past and present and can bring to desirable "future" is misleading…

Why direction to the "traditional" future is considered to be misleading? For this purpose we should pay attention to heterogenic nature of the world and natural substance of global "irregularity". The allocation of society type in line like traditional → industrial → post-industrial and postponing of certain large countries apart of the mentioned "progressive" process brings about nothing more than the misleading. In other world, the following of post-industrial society after the industrial one has definite meaning and purpose.

As we have noted before, the indicated process has no correlation with the progress process and "domination" of unexpected events. This is purposively managed (not regulated) process. The transfer from industrial to postindustrial society is not possible without the management of the process. On other hand the industrial society in XVIII- XIX centuries and in XXI century are

totally different societies, although the name is the same.

The global economic system is in such development stage, where the movement from simple to complex and from primary to superior level accompanied with only time wastage. Thus, the approach like "first simple then complex" is anachronism.

For example, the stereotype approach to transfer from industrial to post-industrial society and from modern to post-modern society is impossible. In other words, the transfer to post-modern stage cannot wait for completion of modern period as entire epoch. In general, the history of humanity development from primary to superior societies is not divided into the separate periods. The new social-economic substance started without waiting the completion of the previous period.

In other words, from socio-economic points of view (of course in respect of the development types of processes) future does not simply intervene into the "present", it reflects the past of the present time and play important role in it. In such case the future is not in role of "undesirable guest", it is a vector which brings the present to the future and supports its realization.

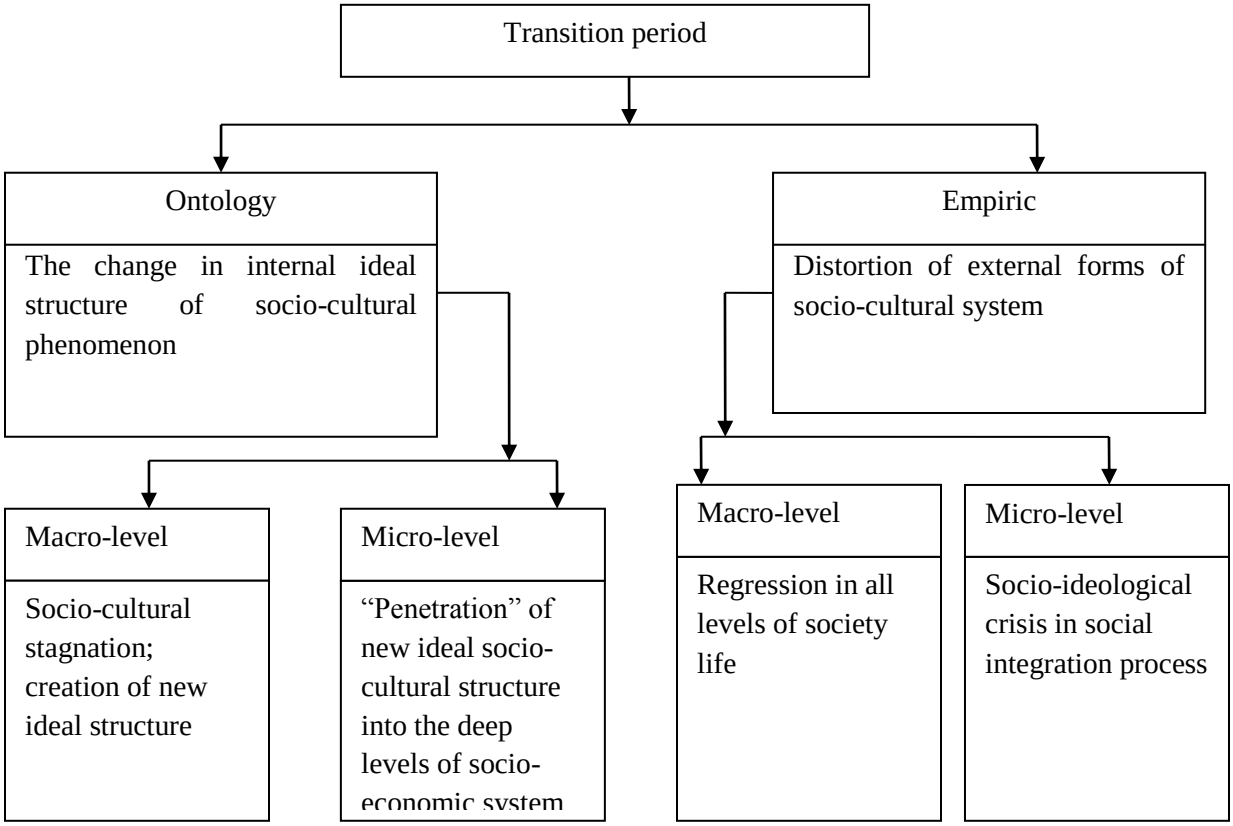
At the same time the transition period creates the disturbance between these two types of the future and in general creates discomfort as a result of changes in periods. It is obvious that the transfer from one epoch to another and even transition from one macro-economic situation to another cannot incur in one moment!!!

The "distance" between various economic situations called transition period. Although the transition period is used by the society for transfer from one socio-economic condition to another, this analysis is required for the qualitative changes in configuration. In any case we are interested not in disclosure of the nature of this process, but in bringing it into the understandable condition for the economic time related aspects. From epochal historical point of view the transition period represents the time "featheriness" (Picture 9). The localization of time flow incurs only in "present". It is like symbiosis between the remnants of the past and creatures of the future, which tends to deny the first more and more.

However, the wording "present" does not change its direct meaning (at least during certain period time). For example, in Azerbaijan transition period from the administrative system to market economy took almost 15 years. The changes in the system from time point of view remained in "present" almost 15 years, if we will evaluate it from begging $\rightarrow$ completion aspects. In other words, the time flow was located in interval of 15 years and the "present" continuously repeated during this period of time. However, if we compare the first 5 and the last 5 years of this

period, we will see that realizing "present" and "future" created different "presents". Thus if the transition period with epochal features can be treated as time **"**featheriness", on other hand from the point of view of internal relations of economic substance it is always moving process.

One of the most important problems is related with the different reflection of the future in social-economic aspects. Usually stereotypic views have no exact idea about the future. In other words, the future events are unknown. If there is no any assumption about the future, it can bring about the significant issues in "present" time. Although social cognition does not allow valuation of future opportunities in one way, it knows what we know and what the ultimate aim is.



Picture 9. Time "featheriness" of the historical process

From this point of view future is reflected from 2 aspects:

1. What is next? The far future creates the following question: for example, whether there will be the transfer from the post-industrial society? Or what is the nature and substance of the new transferred society? Considering that there is no exact answer and word "postindustrial" has no specific meaning rather than "period after industrial", we will understand the complexity of

the issue. Thus, there is not even name of the stage desired by us. At the same time we cannot call it transition period.

2. There is determined "future" in some regions of the world: for example, the current situation of the postindustrial developed countries is "future" for the developing countries. The economic time variety, speed and "density" degree brings about different reflection of the future.

As we can see, there is no unified future for entire humanity, depending on the type of the social-economic type of the society the sequence of the time realization may change significantly:

- In the developed countries the socio-economic sequence of the time is realized in the following way "far" future → present → past. This is due to the fact that there is no exact name of the present and it is presented as expansion of the past. It is clear that acceptance of "nameless" present as a starting point is nothing more that the attempt to simplify the situation. The name of the "present" will be probably defined in future. Therefore in the mentioned countries "far" future turns into the present time.
- In the developing countries the socio-economic sequence of the time is realized in the following way "far" future → future → present → past. As it was mentioned above the future here is considered as "present" for the developed countries.
- In the not developed countries the socio-economic sequence of the time is totally different and realized in the following way past→ present → future. Past is the period before the traditional society, present is period of the traditional society and the future reflects the industrial society. In other words, the future for these countries is a present time for the developing ones.

The views accepting the future as a natural continuance of the present time, even in case of elimination of relative limitations, it brings about the excessive simplification of the mentioned process. This is due to the fact that this process never goes in increasing linear path and future reflects the upper level of the qualitative change:

- ✓ In case of certain conditions the future can be a result of continuous repeat of the present;
- ✓ Future economic time is created time. Its independent flow is principally impossible;
- ✓ The division of the economic time to past – present – future can reflect the define inter-system counters;
- ✓ The reality of the "present" and "here" in the economy plays important role in its realization;

Thus the all aspects of the historical-economic process cannot be accumulated in one

place… the economic process can postpone, stop and ultimately not to start. From this point of view, the economy has cyclic relation and waved features. When cycle ends the previous genetic relation is brought and new one is forming. The process flow of the historical economic time is manageable… It can be directed, calmed down and even redirected.

Our research shows the hypothetic substance of the acceleration in for following relation form: the effect obtained from the changes by the society which is in border situation is in positive correlation with speed of the economic time and in proportional relation with synchrony of time rows.

At the same time we would like to note that we should not forget about the problems related with the past in the economy and its spontaneous feature. The shown actualization comes from the subjective inception in the economic substance. It is necessary to transfer the economic time to anthology level to see the not changing, universal and invariant tools of the economic substance…

Conclusion

Notwithstanding the spectral expanse of implemented research, the problem of the re-production of the economic time is still awaiting its researcher. The specifics of the economic time bring some complexity to its external forms and internal nature. The clear point is that the interpretation of re-production of the economic time by the determined chaos terminology is not only sufficient, but in some scientific circumstances (for example in case of structural relativism) can bring about harmful misleading…

The understanding of the problem is full of intriguingly issues and not answered questions:

1. The economic time is created, it is not material reality, which cannot be created spontaneously… However, whether this non-material reality – economic time – is created once? Whether its "re-production" transfers its "derivatives" into the economic process? Or re-production process is dealing with the copying of the process of the economic time?

2. Whether the economic time is endless? At the moment when the economic time comes from nano-economic level downwards or from global economic level in upper direction can it became "large"? In general, can any creature be endless in case when there is no any analogy?

3. Whether the re-production is related with speed of time flow and frequency of its changes? Considering that the economic time never stops, "stagnation" can be accepted as the minimum possible level of movement, should we even talk about the re-production of the economic time as an economic process?

4. Whether the re-production process of the economic time is a complete process? Or is it only a part of large re-production process and it is immanent to it? And if the both process incur at the same time inside each other and there is close causality relation, then the attempt for separate the re-production process of the economic time is not a theoretical speculation, what is it?

We stop the worldwide historical process when we try to evaluate the changes through bringing to one place the past and expected events. What happens as a result? The time is eliminating in similarity parade. If the time reflects the changes with the different meanings, then it does not exist. Time does not differ by its separate fragments, thus it does not exist. Such approach brings about the meaningless conclusion. The search of causalities of the real world in similarities means that the reality not depending on any changes will be always the same and will repeat. In other words, the substance we call reality will move from the past to future using its internal tools. Such condition means that time stops. From this aspect, the unitary interpretation of the historical process in any form cannot avoid the "trap" of the time.

From this point of view, it is meaningless to talk about the unique paradigm for the global level..!

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