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**MODERN GLOBAL TRENDS OF SOCIAL AND ECONOMIC
SYSTEMS**

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Abstract

The article makes the case for theoretical and methodological explanation of the modern global socio-economic phenomenon essence in terms of both social and natural sciences. Today the entire planetary system of human coexistence is entering a deep systemic crisis, threatening the further global calamity with the most unpredictable consequences. The purpose of the study is the identification of modern global trends in social and economic system evolution, the further statement of the positive ones and substantiation of means to overcome the negative ones. The authors consider the problem in the sphere of distribution of incomes and benefits both within and between countries under the entire world community. The research methods applied in this article are political and economic analysis of modern socio-economic phenomena based on the principles of materialist dialectics, evolutionism, non-equilibrium methods in the study of economic processes.

The specificities of the economic and socio-political systems evolution mechanism are revealed. The trend of slowing down the pace of evolution in the human civilization development is emphasized. The necessity of preventing the movement of modern society from the declining and evolution decaying is substantiated. Consequently, the horizons of the future, which would be able to concentrate all modern human socio-economic and socio-political passions, are described.

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1. Introduction

Today the entire planetary system of human coexistence is entering a deep systemic crisis, threatening the further global calamity with the most unpredictable consequences. The main causes are not underpinning in external to human society circumstances, where the problems of overpopulation of the planet, insufficient production resources, and the threat of natural and man-made disasters usually come to the fore. Indeed, we believe, they underpin in the planetary society itself, in conflicting social and socio-economic relations between people, their different groups and communities. Negative manifestations of these relations have already long gone beyond the religious denominations frames, national-state entities, regional countries unions. Thus, the need for a theoretical and methodological explanation of the essence of socio-economic phenomena from the position of both the social and natural sciences appears in economic theory.

“Capitalism is unconditionally guilty, unconditionally criminal, because, in the historical process logic, capitalism turned out to be the first socio-economic formation that, by its economic, technical, and scientific power, could provide sufficient food for the entire world population. It could have, but never will, that it no longer needs proof; everything depends on the material goods distribution; the accumulation of material wealth from someone at the expense of others is not the principle to save humanity” (Zabelin, 1970).

All this is happening while persistent attempts of the planet progressive forces to counteract the crisis vector of events. At the same time, it seems that the subjects and parties involved in the analysis and regulation of crisis phenomena do not try to understand the real causes of the systemic crisis and its growth consequences in order to stifle its deployment. And this happens even though there are numerous analytical calculations, forecasts, concepts and theories regularly which frequently are very diverse points of view, arising from the subjects of geopolitical confrontation.

To address the global socio-economic sciences, here is the necessity for the unity of the all countries national government. However today, many governments not able to redress the socio-economic problems, even their own, not to mention an international scale. Friedman and Schwartz (1963) wrote about the inability of national governments to deal with domestic economic problems. Later, Milton Friedman claimed that government policies suffer fundamental problems related to the loss of time to make an effective decision, which ultimately leads, instead of stabilization, to destabilization (Friedman, 1961; Friedman & Schwarz, 1963). Later this was associated with bureaucratic failures (Niskanen, 1971), the concentration of regulatory functions in the state (Stigler, 1971), inefficient rent distribution in the economy (Tullock, 1967; Krueger, 1974), and the powers-that-be self-interest (Barro & Gordon, 1983).

All this evocate the situation of the Tower of Babel construction by people speaking different languages. In this particular case, there are different political, economic, social and cultural languages of communication. Clearly, the human society has not yet ready for mutual understanding in the need for solving the most acute problems in the mode of consensus. And one of the reasons for this is, in our opinion, the imperfection of theoretical concepts in the sphere of social relations, including economic ones. Often it appears that they are captured by their original postulates, incapable of further progressive development.

2. Problem Statement

The negative impact of social, economic, financial crises on the life and development of society is obvious. Within this article, we will consider the problem in the sphere of distribution of incomes and benefits both within and between countries under the entire world community. Nowadays, the world productive forces based on the natural resources efficient use can ensure the complete satisfaction of the material and spiritual needs for all members of the global community in accordance with physiological norms and average social standards almost completely and without crisis anxiety. However, this task, beginning with the relatively simple food supply for the population issue, has not been fully addressed. And, moreover, due to the certain geopolitical players' persistent actions it won't be solved.

3. Research Questions

1. To explain the essence of modern global socio-economic phenomena from the standpoint of social and natural sciences in theoretical and methodological terms.
2. To identify the characteristics of the evolution mechanism in economic and socio-political systems.
3. To determine the trends of evolution in the socio-economic sphere.
4. To describe the promising future of the humanity socio-economic and socio-political system in terms of further evolution.

4. Purpose of the Study

The purpose of the study is to identify the modern global trends in social and economic systems evolution, the further statement of the positive ones and substantiation of means to overcome the negative ones.

5. Research Methods

Political and economic analysis of modern socio-economic phenomena based on the principles of materialist dialectics, evolutionism, non-equilibrium methods in the study of economic processes.

6. Findings

6.1. Theoretical and methodological explanation of the modern global socio-economic phenomena essence from the position of social and natural sciences

Although the history of economic studies claims that many terms of economic theory are drawn from the natural sciences, primarily physics, nevertheless, their penetration into theoretical economics also has not yet led to a satisfactory explanation of the essence of socio-economic phenomena, which would allow providing the sufficiently effective proposals for their governance in society and the world community.

And this in spite of the fact that the natural sciences can perfectly acceptable explain the causes of the emergence of both the earthly universe and the space one, to predict their development, including life

on Earth, which organically constitutes the same socio-economic relations. But, similarly the social sciences, they are able to adequately influence on their development and improvement. What is the origin of this situation in the social sphere of human society, which quality is still weakly influenced by the trends of the natural sciences and their modern highest achievements in their fields, as well as by the social sciences themselves?

It's better to answer this question from the position of the natural and social sciences interconnection. Perhaps, this approach will have some degree of impacting the thoughts and actions of people, first of all, those who are endowed with the appropriate power, while solving global and local crisis social problems.

According to the stated problem of the unsatisfactory condition of socio-economic relations and the social sphere and the planetary human community in general, studying the problems of evolution in the economy and society requires their wide consideration in terms of the evolutionary processes deployment not only in time, but also in the context of their establishments in other systems. And, most importantly, in terms of answering the question, what determines their trends, who kind of guiding them?

Is there such an automatic regulator of the economic flow and other processes that would be contained the mechanism of their cyclical evolutionary development, in human society, as well as in nature? Its purpose would be to provide the socio-economic systems adaptation to changes in the external and internal environment in time.

It should be noted while answering the question, the economic system, as any other system within the terms of their huge diversity, develops evolutionarily, passing through its internal cyclical phases of this development - variability, selection and heredity. These phases have certain oscillations amplitudes and in their framework the system adapts to external influences and internal disorders anyway, which bring it out of a stable position. It is not hard to imagine the evolving system, reports to the Le Chatelier-Brown principle, to a steady, stationary path, considering this the state that it is able to achieve its goals by the shortest way (Bridgart & Kemp, 1985). That is being provided by the interacting with forces that in one or another way bring the system out of a stability, purely oscillating balancing processes occur in the form of counteraction to them in order to ensure the return of the system to a stable, steady state that in the system dynamics leads to an effort to go back to a fixed path (Afriat, 1972). In nature, the mechanism that provides a stationary state is called homeostasis.

Such aspiration is not always realized immediately and simultaneously. Depending on the magnitude of the impact, the backlash can stretch out over several evolutionary system's development cycles, occurring in the form of stretched reproduction processes in time (Fare, Grosskopf, & Lovell, 1985). As any economic system is always impacted by external or internal forces, this adaptation process is a constant natural phenomenon for the system, as an evolving system.

Thus, the evolving system adapts to the external and / or internal influence, affected it, not simultaneously, but through cyclical procedures of evolutionary adaptive reactions. The system, passing through the cycle of its development, changes to some extent. It adapts to the magnitude and nature of the impact, for example, changes the production process of goods, implements some new technology or the way of labor organizing. The quality of modification is reflected in the goods and through them is tested for its vitality in accordance with the principle of market selection, which either "approves" it or rejects without being able to provide reliable consumer demand. If the modification has passed the market

selection, then it is hereditarily fixed in the technical, technological and organizational process of production in the following reproduction cycles.

Entering another cycle, the system incorporates the previous adaptation size and nature in order to establish the parameters of the next adaptive response. Implementing new parameters, it enters the next cycle. This will continue until the system re-entry to a stationary path that best meets the requirement of the criterion — the minimum of energy dissipation. At the same time, the new “stationary point” does not have to coincide with the former stationary path. The main thing for the system when it moves through the stationary point is to meet the criterion of minimum energy dissipation.

The system runs through the stationary point until it begins to experience significant overloads from the external and /or internal environment. In this case, the system again launches its adaptation mechanism, which, in accordance with the Le Chatelier-Brown principle, regulates the phases’ amplitude of the evolutionary cycle of variability, selection, heredity.

6.2. About the features of the evolution in economic and socio-political systems mechanism

We believe, that the adaptation mechanism and deployment of the described type systems evolution is inherent in all organized systems, both biological, and economic and other social systems. For example, the socio-political systems and systems of government, and regulation. Their functioning is also predominantly cyclical in nature, connected with some temporal periodicity, for example, the periodicity of the electoral process. There the evolutionary aspects of the preparation of elections can be identified as a stage in the implementation of the variability principle; election as a selection stage. Then, the intermediate activity of the elected governing structures represents the process of consolidating the inheritance obtained as a result of the preparation and conduct of the election.

If, as a result, the governing structures activity is effective, then heredity is fixed in the subsequent reproduction cycles of the evolutionary process, if ineffective, then, it results in the next more or less significant rotation of personnel as a new elections result. So passing a new cycle, the variability in the electoral system principle will activate, in order to eliminate low-quality heredity.

In economic and sociopolitical systems, the minimum energy dissipation criterion takes on different forms. Thus, in the technological aspect within the social production frames, the minimum dissipation criterion of energy acts as the minimum resources cost per goods produced unit. Or, likewise, in the form of the maximum goods production per unit used in the resources production. But in the social aspect, this criterion can be strongly modified in accordance with the need to adapt the various interests of subjective character, which often become contradictory depending on the expression of interests of a particular subject.

For example, in socialism, in industrial enterprises it acted as the need to fulfill a planned task in accordance with the state plan of production and increasing productivity. In a market economy, he is already taking the form of maximizing profits for entrepreneurship, rental income for absentee. In both types of socio-political system for employees, it gets the form of maximizing earned income per labor expended unit.

Thus, the subjective factor acts as one of the main internal factors of evolution in the economic and sociopolitical systems. Due to the possession of intelligence, as a catalyst for the processes with which it connects, it can actively influence the character and pace of social and economic systems evolution in

accordance with their subjective interests and criteria. The subjective factor in order to meet its interests sometimes purports to circumvent or overcome the natural phases of evolution, which simultaneously act as the controlling elements of its organization. These attempts, of course, accelerate the evolution process, if they act synchronized with the objective function of the natural order system— trying to minimize energy dissipation. But, if they contradict it, according to the Le Chatelier-Brown principle, they will encounter an equal and opposite reaction, which will goes from strength to strength when the subjective factor influence will contradict the objective function. Consequently, in analyzing the crisis situation in the economy and society, the subject of management must first begin with an analysis of the shortcomings and merits of its own activities.

The Le Chatelier-Brown principle is likely to have a backlash on the excessively active and expansionist development of living systems, in particular, socio-economic. And then they may experience environmental counteraction, in particular, from natural ecosystems, this is actually happening now with our planet, judging by the increase in natural and man-made disasters, climate change, the emergence of epidemiological nature of unknown diseases.

External and internal impacts on the system, including the natural and other surrounding systems backlash, can exceed its adaptive capabilities. In this case, a situation of a bifurcation of the system, its descent from a stationary trajectory and even destruction would happen.

It is obvious that the stability of the system to bifurcation is proportional to its dimensions. However, in nature, the emergence of any force that can provide it is possible. The difference of living systems endowed with intelligence from inert matter and other forms of life that are not endowed with consciousness is that they are able to provide themselves with more or less effective systems of protection against any bifurcation, starting individual socio-economic systems of a national or regional scale to planetary level protective systems.

And there the role of social intelligence, which has a huge potential for solving any evolutionary issues, including the self-preservation of humanity from bifurcation crisis, is unambiguously great. However, the evolutionary development of the intellect itself has not yet reached the level to be turned towards bifurcation constantly, by its potential, like an automatic mechanism, similar to the Le Chatelier-Brown principle.

The huge potential of social intelligence, vice versa, is a quite controversial factor of evolution very often. It can be directed both towards creation and towards the destruction of socio-economic systems and their development path. Therefore, it is obvious that the intellect itself on a planetary scale must evolve in the direction, allowing having an intrinsic property to preempt possible bifurcations, downplay and eliminate their prerequisites that may disrupt the stable process of socio-economic systems evolutionary development.

The emergence of intelligence caused a powerful, one might say, biocatalyst, accelerating the processes of negative entropy formation. Whereas previously the system had evolved automatically in accordance with the Le Chatelier-Braun principles and the energy dissipation minimum, that is, as synergistic, now it turned into a cybernetic one that, in addition to automatic self-organizing controllers, acquired a control subsystem that guided the processes of self-organization in the direction of activation and conscious regulation, which is directly a functional product of the intellect. “Everything that today

happens to the humanity brings him close to the realization of really inherent to him and inherent mission of the natural processes management, first on the globe, and then in the circumsolar space. ... Humanity is not only self-cognizes nature, as we used to believe, but also self-control nature. Reason endowed life as a higher force is opposed to the core laws of nature. Naturally, it does not repeal them, but it uses, manages and directs them” (Zabelin, 1970).

On the one hand, evolutionary processes began to go faster now and they accelerated as social intelligence improved. On the other hand, social intelligence began to develop countermeasures to catastrophic effects and successfully implement them, trying preventing these effects from bifurcation. At the same time, these do not contradict the formula of the intellect self-organization in accordance with the indicated Le Chatelier-Brown principles and energy dissipation minimum.

At the same time, some humanity representatives are trying to go against this inclusive tendency within the frames of the earthly universe, pushing the powerful to destroy the carriers of the intellect, contrary to the universal tendency to streamline matter through the negative entropy production emanating from the carriers of intelligence, who are people within the earthly universe.

Moreover, it has been proved at the highest scientific level with the computer technologies involvement that the overpopulation of the planet is impossible, since the biology of the human community itself is the demographic processes regulator, including overpopulation.

Thus, the problem of resources depletion within the frames of the overarching ability of the intellect to streamline matter is completely solved by their renewal in the necessary volumes within our own earthly universe. This eliminates the need of the excessive numbers of humanity formation, which supposedly creates an excessive load on the planetary reserves of resources.

6.3. About the trend of slowing the evolution pace

If we turn to the evolutionary thinking, then it concerns moving along the “stationary point” in the absence of any serious influences from the external and internal environment in accordance with the minimum energy dissipation principle leads to the evolution processes slowdown, an increase in the accumulation entropy, reducing the rate of negative entropy production (Brooks & Wiley, 1986).

Obviously, according to the described reduction of the external and internal environment “bombarding” effects on the system, for its maintenance at the stationary point a minimum of energy is required, the amount of which only decreases as the evolutionary tasks of evolution, selection, heredity continue to be solved. So the system in this case decreases the susceptibility to evolution, appears a slowing down tendency, as Shcherbakov (2004) writes, for example.

Consequently, the acute problems that human civilization is faced in all historical eras are natural and even justified. And this is the main condition for its evolutionary development, the evolutionary processes existence for the adaptive reactions to changes in the external and internal environment development.

So the access to a stationary point and development in the fluctuations absence is a factor of regression, decline, reduction in growth rates and growth, a fall in the development vector, a deflection of the “line” down. In this case, it turns out that “evolution works against itself” (Shcherbakov, 2015).

However, in economics, the criterion of “minimum energy dissipation” ultimately does not fully work, due to the virtue of the control action intellectual essence, it transformed into its opposite — into the criterion of maximum profit (wealth, utility, etc.), into psychological indicator that is not directly related to the natural environment and the laws governing it. In particular, Le Chatelier-Brown the principles and the minimum energy dissipation. Therefore, the economic system, in general, does not characterized by the attenuation evolution property, as this psychological criterion requires a constant increase in negative entropy, which is the main feature of evolution.

In this case, we go beyond the natural laws and turn not just towards the biological environment of living nature, or life, but towards the rational, conscious, intellectual life sphere, that is, the functional intellect activity sphere, where the additional laws that are not inherent in the nature operate. These are the laws of society, the laws of intelligence and human psychology.

According to the established dependence of the evolution pace on external and internal impacts, in order to revive an economy that is falling into a crisis, it is necessary to launch a certain impulse, which would aim the economic imbalances activation, earning profits and stimulates business entities activity. The launch of this impulse is a function of the economy governing system – the state with its subordinate structures – the government, the Central Bank, etc. It can be, for example, the stimulation of consumer demand by reducing the incomes differentiation of the population, the improvement in its low-income part, the reduction of bank interest regarding loans, the innovative business processes activation, strengthening domestic producers protectionist policies, etc.

Creating of a non-equilibrium situation will first revive the most efficient part of the economy, causing a tendency to reduce production costs in the active part of entrepreneurship, then in distribution of the rest, allowing increasing the share of current profits and the also rate of saving and then throughout the economy.

It necessary should be stated that the main goal of the evolution of any nature systems is the production of negative entropy, that is, the creation of more ordered structure objects. And the ordering of the structures occurs under the conditions of constant disturbing influences on the system. However, the system itself has an objective mechanisms (Le Chatelier-Brown principles and minimum energy dissipation), aiming to process these perturbations and direct them to support steady-state increasing development.

However, there are some cases, as mentioned above, where the stabilizing evolution situation begins to develop working conditions against it, causing a slowdown in the evolution pace. The evolution itself is the subject of cyclic self-organization processes, when its factors and preconditions meet their limits, this can direct evolution towards slowing down and even termination. And this will mean the dominance of the reverse process – the production of entropy, which means attenuation and death of the system.

Thereby, there is an activation and strengthening of forces those contribute to the evolutionary processes attenuation, and characterized by anti-negative-entropic character, are accompanied by more frequent and sufficiently powerful socioeconomic fluctuations, lead the economy and society into a state of catastrophic bifurcation with an uncertain outcome. The planetary transition to the trajectory of the entropy increase with the planet transformation into an entropy system can become one.

How to overcome the increase in entropy in this case? It is necessary to change the evolution direction by the shift of its dead-end, blind branch to the progressive branch. This requires a fundamental transformation of the issue from public intelligence, shift its concentration from the accelerated development of productive forces, based on selfish criteria of maximum profit, wealth concentration, as practical forms of the self-organization criterion realization – minimum energy dissipation, to the production development, socio-economic relations, which should already be based on another embodiment of the minimum energy dissipation criterion, this could stimulate economy and society evolution processes again.

This requires not the concentration of wealth in the separate stratum of people hands, but its dispersal across a wide section of the population. It means the necessity of wealth accumulation for storage as an inactive reserve, as well as its increase in order to use more efficiently in the production of the negative entropy needed for the effective implementation of the same purposes of the planetary system Earth evolution. Launching the many competing layers of the population activities, multilayered processes of the evolutionary human development will arise, and hence the social intelligence, which now will be able to solve new problems arising at this stage of the evolutionary human nature of our planetary system more effectively.

6.4. Horizons of the future, which able to absorb all human socio-economic and socio-political passions

What are the new strategic and tactical purposes of the human functioning in terms of its future development that is being revived at this stage? In our opinion, they are following.

A human being in the general civilizational scale goes into space, turning a practical reality into a space civilization. During this process, the strategic humanity purpose would be to conquer the nearest space on the scale of solar space, tactical – to prepare humanity, educate it and its people as a substrate of this process (Nusratullin & Nusratullin, 2016).

In such strategies and tactics, humanity immediately proceeds to their implementation and solution. In particular, people are working on the implementation of the task of upgrading (improving) human being towards his transformation into a physically and spiritually developed, intellectually enriched, ideologically and culturally harmonious.

Moreover, this process should have a mass character, presuming the sure exodus of mankind into space, starting with nearby planets. Man and all of humanity in general must face the fact of their breakthrough into outer space, as the greatest achievement in perspective and a comprehensive, all-encompassing task in the present. So, humanity must be warned in advance and prepared for the possibility of inevitable human losses and, maybe, large-scale, during the space exploration. People will certainly have to accept this and understand in advanced that in order to avoid big losses, they will have to carefully prepare for the fulfillment of this mission, learn to overcome cosmic difficulties and adversities. Mankind will have to comprehend the indisputable fact that the cosmic stage of its development will be incredibly difficult, but necessary in order to overcome the process of its own degradation and disappearance as one of the extraordinary subjects of the universe. This stage of human development will be associated with

incredible difficulties, comparable to the Russians, for example, with the greatest difficulties of conquering victory in the Great Patriotic War, experienced and overcoming its difficulties by the Soviet people.

The ideologists of this development option in a global scale have to understand and ideologically justify the fact that the formulation of the above-described strategic and tactical purposes in all their scale confronting humanity are the tasks not caused by the humanity attempts to overcome the circumstances of planet overpopulation, the natural resources limits or any other bifurcation order, but caused by the desire of humanity and all its constituent people, to form a bright future, not only for themselves, but for future generations, both in the short and long term. To provide the future, which would be better than their the past and present.

In light of this, it should also be noted that not everyone will be given to participate in the solution of ambitious space tasks. The best representatives of the human race, the best representatives of our planetary people community will solve these tasks, even though they can be affected by all sorts of hardships and difficulties, sometimes doomed to death, but they will be dignified for the sake of the future of all humanity, although they themselves will unlikely to be able to live up to it.

According to the image of the future development of mankind reviving at this stage, new strategic and tactical tasks of its functioning will consist in the following:

- 1) a human being in the whole-civilizational scale goes into space, turning into a space civilization;
- 2) within the this process frameworks, the strategic task of mankind will be to conquer the nearest space on the scale of the solar space;
- 3) a tactical mission on preparing humanity, educating it and its people as a substrate for space exploration;
- 4) the problem of upgrading (improving) a person will be solved towards this issue;
- 5) a human being will have to comprehend the indisputable fact that the cosmic stage of its development will be incredibly difficult, but necessary.

7. Conclusion

The creation of cosmic civilization constitutes the upgrade of mankind, which many respected political scientists and publicists are dreaming about today. It will be a long-cherished dream of many generations of young people who, undoubtedly, will live the dream of space, aspirations to space, and the feasible contribution to the common cause of space exploration. And then, if the cosmos will turn into state and world ideologies, international politics, human again will revive in a new regular substrate quality so that they will shine again in the sky of the earthly universe with a bright light of hopes and accomplishments with which it has always been identified, especially in the most difficult years of its existence. And the world economy regarding, for example, the military-industrial complexes, will be gradually transformed and grow towards the development of the ecological-industrial complex (EPC), the military space forces will be transformed into civilian space forces (GCS), space technology and equipment will be produced instead of various types of weapons, military camps will be transformed into space places, naval vessels will be rebuilt into oceanographic research and environmental-natural vessels.

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