The synergetic structure of global capital markets

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Abstract. This article describes the synergetic model of the global economic system in the world of the capital market structure. Many scientists and economists focus on the new concept of synergy. They believe that the tools of synergy can derive an economics system based on a new path of development. It is being concluded that the methodology of economic synergy is not a problem of subordination between the market and the state. The aim is the development of the convergence of financial capital and the state. Through mechanisms that are based on the synergetic theory, a qualitative change in the system of economic security can be achieved. Modern conditions for the development of economic systems dictate the need for the development and application of a new methodology to ensure the economic security of the state. This can be the use of synergy, whose tools allow for the creation of an effective mechanism to ensure the economic security of the state in the structure of global capital markets.
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Introduction

The globalized economy is becoming a self-organizational hierarchic system comprising three structural levels. The highest mega level leads most of the world economy, and the macro and micro economies of every country. The leading role of the mega structures has determined that none of the local economies can function completely independently without inclusion, to a greater or lesser extent, in the international division of labor through export-import activity, as well as capital investment in the world's financial assets of varying degrees of liquidity. At the present stage, the mega structures' leading role is most dependent on the U.S. economy, as it accounts for 25 % of global GDP and 40 % of global imports. Furthermore the dollar is the world reserve currency, and most of the monetary and foreign exchange reserves of most countries are deposited in its banks or held as securities and other financial assets.

Table 1. Response of economic theory to the new realities of economic development

New factors of economic development	Corresponding innovations in economics
Globalization of the world economy	Involvement into the economic theory of the neural network theory
Qualitative sophistication of economic systems	Involvement into economic science of the complexity theory, chaos theory (deterministic chaos), the theory of fractals, obscure logic
Manifestation of the nonlinearity of the world at all levels of the economic process	Involvement of the theory of nonlinear differential equations, the theory of synergetics Haken G., Prigogine's theory of self-IR, theory of turbulence Kolmogorov L.N.
Total manifestation of equilibrium in economic systems	Involvement of the phenomenological theory of Landau- Ehrenfest phase transitions of nonequilibrium thermodynamics
Increasing level of uncertainty in the economic development	Involvement of robust programming theory of odd systems, chaos theory, the theory of fractals, multifractal theory
Manifestation of the emergence and synergy of time and space	Involvement of bifurcation theory, catastrophe theory and theory of positive feedback
Loss of meaningful essence of such concepts as "optimality" and "efficiency" in economic systems	Involvement of coherent theory and co-evolution systems, theory of synergetics, theory of synergistic development
Transformation of knowledge into a direct productive force, the transition of the industrial economy into "knowledge economy"	Theory of phase transitions, the theory of the new economy, the theory of synergetic management, theory of synergistic development
Promotion of information technology on the leading place among the branches of material production	Chaos theory
Separating the functions of owners and managers in corporations	Formation of the "new economy" theory based on institutionalism and institutional synergetic approach

Many scientists and economists are focusing on a new concept - the notion of synergy [1, p. 194]. They believe that, through using the tools of synergy, an economic system for a new path of development can be articulated. This would allow for the formation of a new framework, more resistant to exogenous shocks and endogenous fluctuations structure. From the point of view of the theory of synergy, an evolutionary economic system that is always stable does not exist. An evolutionary system is always subject to the transforming effects of external and internal forces. Synergetic theory and historical experience show that the instability of dynamic economic systems can lead to unpredictable structural changes, such as the Great Depression. To prevent such depressions in the competitive system, there must be a stabilizer.

Potential synergy enables the transition from a static understanding of economic security (the theory of functioning) to the introduction of a dynamic approach in this field (developmental theory) [2, p. 11]. Synergetic processes of economic security of the state have a nonlinear, non-equilibrium configuration, and accompany the emergence of synergy effects in the economy and the creation of new points of economic growth.

Table 2. Synergetic model of the economy

1. Scope of the financial capital	2. Scope of State
3. Scope of competitive market	4. Scope of mass economic, social and political entity

The efficiency of a synergetic model is defined by establishing a balance between autonomy and dependence of the economic system, which is a prerequisite for self-organization and maintain competitiveness. Synergetic theory allows for an analysis of highly organized structures, such as dynamic resistance [3, p. 41]. From the position of synergetic, the dynamic stability of a complex system is supported by diverse elements that prepare the system for a changing future. Namely, the modern economic system is functioning in such a rapidly changing environment.

The finance capital and the financial system of the globalized economy are not very effective, due to the rapidly growing isolation of two discrete and interconnected parts of the global economy. These parts are the financial system and the industrial system. Currently, the system is split into dynamic parts, resulting in the increasing isolation of these areas from each other. In the isolation of these components, the conversion of the financial sector to self-sufficiency in pursuit of highly profitable speculation produced a basic contradiction in the modern globalized economy. The severity of this contradiction and the reduced efficiency that it causes is due to a dynamic synthesis of mutually reinforcing complex internal and external components of the fundamental causes of the global crisis [4, p. 98].

Based on these findings, the problems of global financial synergy in relation to the exit of capital due to the crisis are primarily related to two main areas. The first is the rationale of a proximate effect of low forked substance of financial capital and the financial system of the globalized economy, along with the definition of an overall strategy and initiative to improve it.

The second is spontaneous recovery on the basis synergistic interaction and coordination with structures of the global economy [5, p. 3].

Financial capital includes all varieties of funds that are internationally convertible in any form, along with their productive assets and speculative self-expansion of its value. Productive financial capital covers all types of funds, including fixed and current assets, shares and other kinds of financial assets, operating primarily within or in relation to the industrial sector. Speculative financial capital includes all kinds of funds that operate mainly in the financial sector and are only indirectly related to manufacturing and productive financial capital. Its reflective price has a virtual character. It is formed on the basis of changes in the prevailing perceptions of participants in the financial markets about future trends in growth or decline of prices for specific products or real financial sphere purchased and used for speculative profit. In full it is characteristic of the goods of financial markets, at least - for the movement of capital goods production sphere, real or virtual purchased for a profit on their resale. This or that problem globalized economy is negative, if it eventually is accelerated and its metastases penetrate into all of its structure.

Let us start with manifestations of substances productive and speculative financial capital.

Hierarchic productive financial capital comes in the form of a commodity: a dynamic synthesis of a product interacting with other components - the ancient value of a price mechanism to resolve contradictions and determine the specific self-rising cost through predominantly productive methods. The first part is the lower element and the second the higher element of this bifurcation. Each component has its own set of inherent contradictions that allow for a synchronous linear stage of economic development and. to a large extent for asynchronous crises. The cost component of the product of this capital through its pricing mechanism performs a triple functional role – as a benchmark for economic decision-making subject to this capital; as a spontaneous coordinator of the interaction of micro and mega structures related to world production, finance and consumption; and as a catalyst for speculative tendencies that limit the higher components of this capital. However, the main threefold role of the price mechanism can be substantially suppressed in two ways [6, p. 94].

The first relates to the corporate form of capital. The main interest of management and shareholders of corporations in the production sphere is to maximize their profitability by reducing the costs of production, promoting innovation, understanding how to maximize cap stocks using a variety of methods, including advertising and technologically for the purpose of increasing assets.

In these circumstances, the suppression of a cost component of productive capital and its real price mechanism, along with a substantial weakening of the threefold function leads to a reflexive speculative pricing of shares. At substantial levels, these processes reinforce the tendency of growth dominance of speculative financial capital and financial markets into productive capital. This helps to explain why the management at corporations frequently panics when the price of their shares drops sharply.

The second component demonstrates how real suppression of the price mechanism in the largest structures of the world economy can contribute to crisis. A striking example is the debt boom of housing construction in the West and especially in the U.S., where mortgage debt has reached close to $9 trillion, amounting to 75% of GDP. It was driven by rapid growth in cap stocks in construction corporations, a powerful tide of speculative financial capital in the mortgage market, and increasing speculative demand for housing, which, to a large extent, was converted into an investment - capital goods to be resold at a profit. This speculative demand contributed to cheap loans to enable purchases. Reflective investment caused speculation in housing prices, doubling its real value. It is almost completely prevented prices from reflecting the real value, so building corporations and their spontaneous interaction had a serious impact on other sectors of the economy and consumption. Nonetheless, this powerful debt demand had its limits. The excessive scope led primarily to severe housing debt. Overproduction now has caused a precipitous decline in housing prices, and the share of the mortgage market. The financial bubble created in this market denoted, touching off a chain reaction leading to a global crisis. This example shows how closely productive and speculative financial capital, and the productive and financial sectors of the economy, interact in a globalized world.

In most industrial spheres in both globalized structures and local economies, the cost component of productive financial capital and its price mechanism remains part of the controversial threefold structure, which subordinates its most vital component - productive self-expansion of value. To a large extent, this contributes to self-organization in the event of a crisis. We emphasize that the duration of the transition from depression to revival can significantly increase due to the beginning of the transition of the economy of advanced countries of the fifth order in the manner of the sixth micro fabrication of nanotechnologies – through much less material and energy consumption. This effect, however, can be curtailed because speculators and financial capital from producing countries inevitably will take advantage of the next jump in energy prices [4, p. 99].

The essence of speculative financial capital contrasts radically with the substance of productive capital, in its structure and orientation of social functions and mechanisms of both its highest and lowest of its components. It is a dynamic synthesis of contradictory interactions increasingly repressed and emasculated by their structures and functions of the lower component cost and completely dominated by its highest component – the speculative self-expansion of value. [7] This dominance is the highest component in the conversion price of the ancient mechanism of the objective-subjective cost component in the subjective-reflective. It is linked to the pricing mechanism in the real economy only through a series of intermediate links.

A reflective pricing mechanism in the financial sector can be affected by small and medium operators of financial markets, influencing dynamics to increase or decrease the price of investment goods in these markets, such as currency , securities and derivatives. This also impacts conscious speculative operations in these markets on the part of talented largest financial speculators. Their decisions and actions, of course, are one of the causes of the financial and economic crisis. The functional role of the threefold real price mechanism was retained only as a guide, and the possibility remained for financial speculators and the wealthy population of all countries to invest their savings in speculative transactions in the financial markets. The work of this pricing mechanism is not completely subordinated to the productive and speculative self-expansion of higher cost component of this capital. If in productive financial capital [8] costs the lower component substantially retains its controversial structure, the functional role of a triple price of its mechanism that of speculative financial capital, has led to the almost complete loss of the threefold functional role of the price mechanism. The main cost component of the social role – the mediation cost- is lost, affecting socioeconomic price mechanisms, including on the basis of the international division of labor with respect to international exchange of equivalent labor and its results. This holds important implications for the future of the global economy.

If the lower components of any contradictory hierarchic social systems feel that their intrinsic properties, structures, functions and freedoms are threatened, the system eventually will become more and more unstable. This eventually will reach a breaking point, after which these systems no longer can return to their former state. Only by passing through macro bifurcation and chaos to their structure, properties and functions can a new order and hierarchy of a higher level be created [9].

The global financial system is dominated by speculative financial capital. It has become an extremely unstable system, since its substance is most strongly affected by the problems of the global financial system [10]. The most important manifestations of these problems are:

1. In rapidly growing isolation, the lower component of productive and speculative financial capital of ancient inherited their cost basis and its transformation into at least first and fully for its second real price mechanism associated with the production, with the absence of monopolies and speculative demand, reflexive in the price mechanism. Work contributes the largest share of the latter chaos in spontaneous interaction of micro-, macro-and mega structures globalized economy.

2. In a significant suppression of dominance and higher profitability of speculative financial capital cost component substance of productive capital in its corporate form in two ways discussed above.

3. The full conversion of the financial markets pricing mechanism cost component substance of speculative financial capital reflective pricing mechanism, i.e., probabilistic prediction of the direction and pace of the dynamics of prices and real output , securities and derivatives. In these markets, he became a probabilistic tool speculative gambling games, which introduces worldwide chaos in spontaneous interaction unsustainable patterns of production, finance and consumption of the world economy and socio-economic metabolism.

4. In pumping financial resources of the world of volatile energy-producing countries by monopolizing their work mechanism speculative reflective energy pricing and the use of its geopolitical purposes. When the coincidence of interests is eliminated and collusion with the largest financial market speculators. And enhanced tendency to monopolize the prices of oil-producing countries.

5. In the inevitable in the near future repetition of the global financial and economic crisis with even more disastrous consequences if not taken stringent measures versatile these and other manifestations of substance problems bifurcated world financial capital. Theoretical and applied development and especially the implementation of these measures - the most urgent and most difficult problem to be solved to prevent the recurrence of the world financial and economic crises.

For the treatment of this substance forked financial capital required all current century. Prevention will also be needed in the next century, as part of the natural inherent higher speculative financial capital self-expansion of value can not be avoided. Therefore it is necessary to strengthen and inner - restrictive regulatory role cost component directed against the self-expansion of speculative value more typical for productive financial capital, and external state-legal and institutional adjustments.

Since the focus of the issue of the globalized economy is concentrated in the global financial system, and that is from where the results of this problem affect all of its structure and a bifurcated substance of financial capital, it is necessary to identify the most significant of its manifestations.

Financial system that provides functioning of both productive and speculative financial capital includes three interacting and bypassing funding flows of varying liquidity degrees and market-communicative framework in which these flows function. Three flows of this system: monetary and foreign exchange, securities and derivatives, function similar to financial blood of its kind, that brings the subjects of global financial capital a vital oxygen. Infrastructure, including all varieties of financial markets, banks, investment funds and other funds, exchange, Internet , etc. , functions as a provider similar to the human's blood-vascular system.

In order to better understand why it is the financial system that becomes a hotbed of issues of financial capital's substances and, as a result, penetrate into this substance, it should be first briefly considered what the difference between social substance and economic institutions is. Social substance is a peculiar kind of deep variety of institutional formations, but with more stringent objective and subjective performance of the rules and regulations inherent features than their commercial varieties and with the narrow boundaries of degrees of freedom in performing these functions. Such rigidity and limitations of freedom is generated by the fact that the period of formation and development for social substances, such as of a cost, is many thousands of years, and for separate substances of modern financial capital is equal to several centuries. Their main functions are not dependent on the characteristics of national economies. And economic institutions are more dynamic, variable, and multiform in local economies and are more dependent on changes in the economic and even political situation. Substance of the global financial capital in its division into two hierarchic and contradictorily interacting substances of productive and speculative financial capital represents mega structural formation, which include as components the substances of local varieties of financial capital. However, by themselves, these substances are only potential structural formations, and only during the exercise of their functions in social activities of people they become real, constantly reproduced , combining elements of constructive and de - constructive interaction, order and chaos, and their impact on cyclic transitions of linearity development into bifurcation nonlinearity.

Monetary and foreign exchange flow is least susceptible to the problems, whereas derivatives are affected to the greatest extent. In the first flow the financial resources are dynamically and symbolically synthesized since ancient cost basis, but are still getting more and more detached from it in their forms of the dollar, the euro and the national currencies. Of low cost component of their substance is still prone to problems, since these funds are a kind of monetary investment goods, which have the peculiarity of reflective pricing: prediction of the dynamics of their prices. Depending on the probability dynamics determined, the accounts and interest rates on interbank loans, deposits and loans are set by the bank. Due to the difference of rates in assets and liabilities of banks, the speculative self-expansion of finance capital cost, operating in banking and foreign exchange markets to this or that degree takes place. The banks operating as an overly active multipliers of conversion of deposit and other funds in the credit form and setting unreasonably low interest rates and risky lending conditions, contributed significantly to the critical unbalancing of the interactive structures of all three levels of the world economy and the collapse of several major U.S. banks gave an impulse to the escalation of financial crisis of the world economy into financial and economic crisis. It should also be emphasized that a huge mass of other species funds with fully reflective pricing pass through banks.

The most common treatment strategy for the first flow is a gradual transition to a new global reserve currency based on a basket of currencies of the Western countries, Japan and the BRIC. The share of the latter accounts for more than 20 % of global GDP, and 41% of the world's gold and foreign exchange reserves and other financial assets.

The quantity and dynamics of transition of funds from the first flow and from the population to the second flow (securities and especially shares), almost entirely dependent on the fluctuations of the stock market index. The price of the shares as investment goods is determined by the prevailing views in every moment of stock market participants on the direction and pace of dynamics -cap stocks in the long term and, therefore, is purely reflexive speculative. Only a minority of funds that flow is used for productive purposes issuing firms. The greater part, distracting from the domestic and industrial consumption and reducing commodity market products and services is used in the financial markets for speculative purposes, periodically generating bursting financial bubbles. They are filled with mostly fictitious virtual money, almost completely detached from the cost basis of gold. Representing a problem in which the problematic financial resources circulate, they act destructively and for the very financial system and the real economy. The faster this second flow of funding is filled with fictitious money, the more it affects the cost of deconstructive constituent substances, both productive and speculative financial capitals, disintegrating and destroying their structure and function of the price mechanism as a guide, spontaneous coordinator and the stop of speculative self-expansion of their value. As a result of increase in the intensity of this process fundamental cost basis of the globalized economy gets destroyed and when its main conflict escalates to a critical level the global financial crisis erupts.

General treatment strategy in this case is based upon the international legislative restrictions of such speculative activities that lead to the formation of financial bubbles in the largest mega structures of real economic sector of the globalized economy, which is the major parameter of its relative stability.

The highest degree of financial resources problems is typical for the youngest third of the flow, operating in the derivatives market. Investment contract price of goods on the market has the highest degree of speculation and reflexivity, as it is almost impossible to predict price movements in the real sector, and especially in financial and global economy due to many incalculable factors. The main distinctive problems of financial resources of this flow come down to the following three main manifestations.

First. By increasing the delivery of problematic funds in the manufacturing sector of the economy and accelerating the turnover of productive financial capital, thus leading mainly to the growth of the largest speculative mega structures of globalized economy, and in the future to overproduction and over accumulation of capital in them, this most lucrative speculative financial capital of the derivatives market ends up benefiting mainly players of various sizes in this market. It diverts the fastest-growing share of the world's financial resource to conduct speculative operations; with a fierce acceleration detaches financial sector from the real one; reinforces disparities in self-organization of the productive reallocation of financial capital between the different entities of the world economy, causing the largest share of chaos. This chaos is further enhanced by the fact that the most of its speculative operations is purely illusory, virtual and reckless, since no real movement of funds between the structures of the global economy takes place.

Second. Derivatives market with its significant impact on reducing the riskiness of business operations displaces foresight, prudence and innovativeness of the subjects of the productive financial capital and form a mentality of gamblers and adventurers. Moreover, venturesome spirit of the market, acting as a priming dose of a drug generates a radical change in the psychological climate of the globalized economy and transforms it even faster from productive to speculative. This is especially true for the U.S., where among the senior officials of major banks, investment funds and industrial corporations, the proportion of young speculative generation of it is rapidly growing.

Third. This financial flow to the greatest extent affects the conversion cost of composite substances of both productive and especially speculative financial capital from the self-expansion speculative value limiter into the accelerator, and its price mechanism from a real landmark for the subjects of capital into a probabilistic landmark coordinator, from the spontaneous interaction structures at all levels of globalized economy into the biggest source of chaos.

Annual turnover of the worldwide gambling market before the crisis was 10 times higher than the world's GDP. Together with the major speculations in the stock markets, it became the main source of global financial bubble inflating and creating chaos in the world economy. Thus, removal of this very problem of the world financial system and the cessation of speculative operations of inefficient financial resources, in other words, legal prohibition of this market and the transformation of derivatives transactions into illegal ones, will largely prevent repetition of the global crisis. However, due to the economic interest of the global financial elite to maintain it, futures and forward contracts for oil, gas and other scarce vital products for the global economy must be prohibited in the first place.

Justification of several issues set in this part of the article leads to the general conclusions:

First. The global financial and economic crisis was caused by synchronized development of financial, industrial and debt crises. This synchronization crucially influenced the depth and duration of the crisis, the fundamental cause of which was the aggravation of the major collision of the globalized economy and the chronic problems of its financial system to the critical point. The essence of the problem and the danger of it were in increasing spread of chaos inside of its internal communication structures as well as on the interaction between them with production structures.

Second. The main feature of the financial crisis is that the most colossal in the world's history global financial pyramid built on rampant excessive issuance of debt funds and liabilities faced a complete fiasco. Attempts to rescue its main components - the largest banks on the verge of collapse, through the infusion of financial resources only exacerbate the problem of the global financial system and encourage excessively risky speculative activities.

Third. Among the outcomes of the subjective reasons of the global crisis is that a significant share of the rapidly increasing global financial flows is controlled by the secret oligopoly of leaders of the banks and investment funds in New York, London and Tokyo. They decide on what conditions and where the investment funds controlled by them would be made. Therefore there is an urgent need for a new international system of regulation, supervision and control over the movement of financial resources of the world and the largest of the participants of financial transactions.

Fourth. The interaction of all the abovementioned processes and almost complete domination of the financial sector over the manufacturing, the world economy is being transformed from productive to speculative, into a global gambling establishment. If not to restore domestic regulatory and coordinating role of the cost component substance of the global financial capital and the normal operation of its real price mechanism and if not to start a comprehensive study of long-term problem of the global financial system, no external regulators can radically prevent this establishment from functioning. Therefore, the theoretical and practical development of the strategies to heal the world's financial system, and most importantly to solve the problem of *forked* substance of the financial capital as of the deepest institution that ensures functioning of the globalized economy and its capital, by the most outstanding teams of economists, governments of the world community and the major international economic organizations is crucial. Only such treatment will prevent new, more destructive world catastrophe. Identification of the main directions of the radically renewed global economic policy and its role in the treatment of both financial system, and *forked* substance of financial capital is of a strategic importance. In development of this policy the experience of China must be taken into account, where favorable climate for economic incentives in prioritizing the development of productive rather than speculative financial capital.

As part of the methodology of economic synergy the problem of subordination between the market and the state does not occur. The aim is the development of the convergence of financial capital and the state. Through mechanisms that are based on the synergetic theory we can achieve a qualitative change in the system of economic security.

Prospects for further study of the topic are seen in the design and rationale of synergistic mechanisms for economic security.

Thus, modern conditions of development of economic systems dictate the need for the development and application of a new methodology to ensure the economic security of the state. Such is the synergetic, the tools which allows to create effective mechanisms to ensure the economic security of the state in the structure of global capital markets.

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References

1. Zhang, V.-B., 1999. Synergetic Economics. Time and changes in nonlinear economic theory. Moscow: World, 335 p.
2. Haken, H., 1980. Synergetics. New York: Wiley.
3. Glansdorff, P. and I. Prigogine, 1971. Thermodynamics of Structure, Stability and Fluctuations. N.Y.: John Wiley and Sons.
4. Senchagov, V.K., 2002. Economic security: geopolitics, globalization, self-preservation and development. Moscow: Finstatinform, 128 p.
5. Prigogine, I. and I. Stengers, 2008. Order out of Chaos: Man's new dialogue with nature. Moscow: Publishing LKI, 296 p.
6. Zwinkels, 2008. The impact of horizontal and vertical FDI on host's country economic growth. International Business Review, 17: 452–472.
7. Hayakawa, K. and K. Tanaka, 2011. Export Platform FDI and Firm Heterogeneity. IDE Discussion Paper, # 310. JETRO. Japan, 3–15 p.
8. Protsenko, 2003. Vertical and Horizontal Foreign Direct Investments in Transition Countries: Inaugural–Dissertation zur Erlangung des Grades Doctor oeconomiae publicae (Dr. oec. publ.). Munchen, 159 p.
9. Aizenmana, J. and N. Marion, 2004. The merits of horizontal versus vertical FDI in the presence of uncertainty. Journal of International Economics, 62: 125–148. Hanover, 2003, 100–120 p.
10. Glass, 2011. World Economy Vertical versus Horizontal FDI. Department of Economics: Dissertation. Texas A&M University.

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