

ІНФОРМАЦІЙНІ ТЕХНОЛОГІЇ В ЕКОНОМІЦІ

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THE INTRASYSTEMIC CORRECTION OF THE GLOBAL ECONOMIC MODEL

Abstract. The article investigates the strategy and mechanism of the functioning of the modern global economic model. It was proved that the system which was launched during the First World War represents the cyclical economic development by phases of "inflation - deflation and serves to concentrate and centralize global capital. It enhances the development of the global crisis to a global catastrophe. Out of the crisis is the elimination of its first reason - the disproportionality of economic development generated by manual operation, reinforcing the chaos in economic and political processes. Optimization of management decisions requires the introduction of modern IT in the process of calculating productive chains, providing the output of the final products ordered by final consumers (households, the state, exporters). The future belongs to those who will have time to introduce the economic cybersystem based on dynamic input-output model, iteratively matching end consumers and abilities of manufacturers.

Keywords: inflation, deflation, disproportionality, fictitious and real capital, economic cybersystem, dynamic input-output model.

Introduction

The book written by Thomas Piketty "Capital in the XXI Century", published in April 2014 in English (the 1st publication in French was in 2013) is at the top of the list of the best sellers at Amazon.com. She was recognized as the most striking phenomenon for the last 50 years and a watershed in the history of economical thought [1]. The main conclusion of Piketty that all the economic and political imbalances we face today are the direct consequences of the principles of the Market economy model, which causes the concentration of the capital, belongs to the author of the "Capital" – K. Marx. It is considered that the main discovery of Piketty is the result of the computations that he received from the standard economical model, based on the long statistical arrays for ten developed countries starting from the 18th century. They showed the significant advancing growth rates of larger capital over smaller and also the growth rates of redistribution of the national income in favor of 1% of the population - the recipients of the wealth concentration. According to Piketty these processes destroy the main myth of the reasonableness and the justice of the market system, which has a built defect within itself, leading to the wealth concentration.

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Not considering the problem of capital concentration on a national level (the USA, Europe, China or Russia), Piketty brings it to the global level. He thinks that

the globalization with the export of poverty to the periphery of the world economy and increased production due to lower salaries temporarily put off the military scenario of the crisis solution and aggravate it in perspective. As a result the in-country conflicts generated by the growth of social inequality in society are supplemented by international conflicts. It returns the world to the beginning of the 20th century with the repetition of world wars, if not will be found in-system solution combining the wealth and freedom of the individual. In this sense the book of Piketty returns to the discussions of the early twentieth century to solve the problem of poverty.

However, if we follow the author of the book "Capital" – Karl Marx, the reasons for the global economic crisis, as well as of any other economic crisis, are rooted primarily in the disproportionality of public reproduction growth.

It arises in the spontaneously organized economy as a result of the absence of coordination of the connections between the producers over time and space in the direction dictated by the final consumers. The break of the chain productive interconnections gives impetus to the "swelling" of credit relationships between producers and consumers. On the one hand, they are "warm up" the growth of the production but on the other hand they contributing to the unwinding of the various forms of fictitious capital for the financial speculations, further reinforce the disproportionality of the economy. The crisis as a forced balancing of fictitious capital and real capital is going to be unavoidable.

The main goal of this work is to show the basics of the intersystem correction of the actual global economic model which could eliminate the main cause of the crisis – disproportionality of the economic growth.

1. Crisis and capital concentration

In the course of the economical crisis, followed by a depreciation of shares and other forms of fictitious capital, the process of concentration and centralization of real capital is accelerating which means the absorption of the small capitalists by the large ones. The competition is increasingly forced to give way to the monopolies that are fighting for domination over the global market. The acute form of periodical process is replaced by more protracted, chronic form which affects different countries at different times. Thus, during the infancy period of the world trade the 5-years cycle (1815 - 1847) took place. Then it was replaced by the 10-years cycle (1847 - 1867). "I wonder if we are in a period of preparation to the new world crash of the unheard-of power? The colossal growth of the means of communication - ocean liners, railways, electric telegraphs, the Suez Canal - created a truly global market for the first time. Besides England, which had previously monopolized industry, a number of competitive industrial countries acted ahead; the investments of the excess capital in all the European countries received the fields more extensive and diverse in all the cardinal directions, so that the capital was distributed much more widely, and local speculation were overcome more easily. All this means that most of the old seats of crisis or the causes for the crisis were eliminated or weakened greatly. At the same time the competition in the domestic market retreats in the face of the cartels and trusts, while in the foreign market it is limited by the customs duties, which all the big industrial countries, except England, use to protect themselves. And all these duties are nothing but the weapons for general industrial war, which will solve the question of dominance in the global market. So each of the elements opposing the

reiteration of the old type crisis holds the germ of much more grandiose future crisis". – Friedrich Engels[2].

The conclusion about the inevitability of the protracted and, at the same time, more large-scale disruptions caused by crisis development of civilization, confirms the whole story of the 20th century, characterized by the dominance of transnational corporations (TNCs), owned by the world (supranational) financial oligarchy.

In the conditions of the expanding cyclical disproportionate economic development the essential tools for the centralization of all the global capital and the establishment of the total financial dictatorship are:

- the general chronic inflation that redistributes the income and property in favor of the transnational corporations and reinforces the social inequality;
- the international monetary systems based on the unsecured reserve currencies of the "selected" countries, where the TNCs are situated, and these currencies are exchanged under the guise of the foreign investments for the real values of so-called "developing" countries whose currencies are not "selected";
- the institutional reforms financed by the "selected" currencies having their aim to increase the chaos in the state (intergovernmental) management, leading to the increase of bureaucracy, corruption and illegal actions and then developing into open military operations;
- the monetary and institutional ideology, based on the assumptions of superiority of law over economy and the possibility of overcoming the crisis only by the monetary methods, which in reality means the service of the further intensification of the crisis.

The First World War, organized by TNCs, gave a stimulus to the replacement of the gold coin standard system by the banknote and paper money circulation. Since the beginning of the 20th century this allowed the states to pursue the economic policy according to the phases of the cycle "inflation - deflation" in order to centralize the global capital and build the global financial power pyramid. The cyclicity "inflation - deflation" is served by the theorists similar to "Keynes – Friedman" and the parties similar to "Labourites – Conservatives".

During the wartime the government of the belligerent states financed the military expenditures by the issue of paper money which cannot be changed into gold and the government securities that served as a pledge for the issue of bank notes. The availability of a huge short-term debt forced the government to refinance their loans by issuing new treasury bonds to replace those whose term had expired. The monetary circulation was expanding not only because of rising budget deficits, but also due to the growth of monopoly prices. From the first moment the wage-labor workers were at a disadvantage in the process, since they demanded a wage increase right after the increase of prices. Since its growth always lagged behind the price increase, in the conditions of inflation, the ratio between the share of wages and the share of profits in the national income is changing in favor of profits. The artificial overstating of prices, reducing the real consumption of the non-monopolists, inevitably leads to the crisis of overproduction, in which TNCs are buying up the assets for a song.

The swift inflation caused by an acute increase of the military expenditures and the monopoly prices for military production ordered by government, was justified by the presence of an external enemy and the need for the economic recovery of the state after war. However, having regard to the possibility of a marked aggravation of the social situation in the TNCs home countries, the government was interested in deflation (or slow inflation) that could lead to the

financial stabilization and the adjustment of the foreign trade. The international monetary systems based on the key reserve currencies of the Western countries were created. Today such currencies are the US Dollar, Euro, Pound Sterling and Yen.

To carry out the deflation process the governments reduced the deficit financed by tax increase, decrease of social costs and the wage freeze, which caused the rise of the social stratification. During that period, the Central Bank sold government securities to the commercial banks on the open market, raised interest rates, rate of mandatory reserves and limited credits, which reduced the investment resources of banks and companies. As a result the economic growth is decreases, unemployment is increasing, the solvency of the population and enterprises is reducing. The interest rates are growing and attracting the foreign capital, which improves the balance of payments.

However, the "sailed up" foreign capital is mostly speculative, promoting the import of inflation and the burden of losses from the disproportionality of the world economy on the capital-importing countries. This was the reason for the fact that the reserve (key) currency of the capital-exporting countries is a profitable product for itself, which costs virtually nothing. The intervention of the currency which has no commodity support means the fictitious capital that "are paid" for the institutional reforms in countries that are importing such capitals. The essence of the recommended reforms comes down, as a rule, to the launch of the chaos in the government management in order to "capture" the property of the capital exporting country and to destroy its competitive industrial production totally, and at the same time to decline the quality of life, to deepen the social inequality, to increase the bureaucracy and corruption.

From the IMF point of view the critical point for the change of the cyclic development phases "inflation - deflation" is the state of the balance of payments. When it is negative, and it is impossible to improve it within the framework of the current economic policy, the IMF demands the change of such policy in order to go to the next phase of the cycle. After the deflationary phase comes the inflationary phase of development that can bring humanity to a new and, perhaps, to the last global war.

2. The cycles and the disproportionality of the world economy

The permanent crisis development of the world economy in 20th – 21th centuries by the phases of the cycle "inflation - deflation" leads to the increasing economic chaos, acute stratification of rich and poor countries, local wars and global catastrophe. It is doubtful whether such a course of events is more preferable than a deflationary development. However, the continuation of deflation against the background of the destruction of the global strategic stability will be accompanied by a decrease of the opportunities to influence the process in the dependent states from the side of TNCs, their international economic organizations and the Western countries, but such situation cannot continue for the arbitrarily long time [3].

In accordance with the cycle phases "inflation - deflation" we can single out the following periodization of the history of the 20th century:

– 1914-1920 – destruction of the gold coin standard and launching of the rapid inflation in the countries - participants of the First World War;

– 1920-1933 – creation of the gold bullion and the gold coin standard and the transition to this standard of the participants of the First World War through the deflation finished with the acute phase of the global economic crisis in 1929-1933;

– 1933-1950 – launch of the moderate inflation in the United States, Britain, France and rapid inflation in the USSR, Germany, other European countries, that finished after World War II by the creation of the bipolar world with two types of international monetary relations - the Bretton -Woods system based on the gold and the US dollar, and the Council of Mutual Economic Assistance of the countries that had chosen a planned model of the USSR;

– 1950-1975 – Cold War, accompanied by the increasing inflation in the Soviet Union and reforms destined to dismantle its system, by the launch of global inflation through the US dollars, by the creation of the world's loan market (Euromarket), Fordist regime of accumulation in Western Europe (the identical rate of growth of the real wages and labour productivity), that finished with the structural economic crisis after the first oil shock;

– 1975-1991 гг. – the rapid development of the Euromarket due to the crisis of solvency in the developing countries, the transition to the market determination of the exchange rates and the coordinated policy of the Western countries of fictitious capital for the launching after the second oil shock, speculative financial instruments and the integration of their financial markets to the Euromarket intended to "capture" the capital of collapsed Soviet Union and its former allies;

– 1991-2008 – integration of the developing countries into the pyramid of Euromarket by means of the financial crises and the currency devaluations, the outflow of the speculative capital back to the "homeland" in the United States, which led to the mortgage crisis through the boom of mortgage and consumer lending, and then, after a rapid reduction in price of oil to the fall in the shares of the commodity companies in the developing countries;

– 2008 – up to the present, when we face the recession, characterized by the negative dynamics of growth of the world GDP, the unprecedented increase in unemployment, money emission of the reserved (key) currencies of the US, UK, EU and Japan jointly implementing the programs of the quantitative alleviation (hidden inflation) and by tightening up the IMF demands for the implementation of the austerity programs in the countries of the economic periphery.

Today, the volume of global stock market has exceeded 10 times the total annual product, the US national debt exceeded the national GDP, while in the developed countries of Europe it came close to 90% of GDP [1]. The continuation of politics of world inflation, conducted by the leading countries, launched during the First World War and the tightening austerity demand to the other countries (Ireland and Greece have also been included into this list) means the prolongation of the redistribution of the common "pie" in favour of the global financial oligarchy. Taking into account that the "pie" began to decline, and the growth of unemployment and population continues, the existing global model of the economy increases the risks of wars and revolutions.

Two World wars and the Cold War, which ended the collapse of the Soviet Union, led to a the unipolar world headed by United States whose currency is the basis of the current international monetary The further conducting of the strategy "inflation-deflation" has different consequences for countries (exporters and importers of capital). The crisis gives benefits to the world capital which captures "under the guise" assets and, on the other hand, to the leaders of the dependent countries, who enrich themselves by the new influx of speculative capital for

institutional reforms, reinforcing the chaos in the country. Different scenarios could be possibly performed. But finally all of them are fatal to everyone. If during the period of financial stabilization the capital exporting states may temporarily improve their positions by shifting the load of instability on the capital importing states, the subsequent transition to inflation will cause greater instability and threats of military actions in these countries too. The world community has to get out of this cycle. Otherwise, the world will plunge into chaos. The only way for our civilization is to eliminate the main cause of the crisis - the economy disproportionality [3].

Almost all modern western researchers do not pay attention to the root cause of the crisis - the disproportionality of the economy. That is why, associating its origin with the cyclic recurrence of economic development, they are trying to find an answer to the question "What to do?" in the application of the same monetary methods, which redistribute income and property, and in the institutional reforms related to the reorganization of tax and customs systems, financial markets, international financial institutions and others. According to Piketty, there are three periods from a position of the so-called middle class formation in the history of the XX century - from the First World War till 1950, then till 1970, and then till 2010. He saw a prosperous period of 1950 - 1970 associated with the appearance of the middle class and the correction of the basic market model that was also caused by the existence of the Soviet Union. Therefore, his proposal has been reduced to the introduction of a global tax on wealth in order to increase the purchasing power of the majority of citizens, which practically impossible to do because of the differentiation of the legal and tax regimes in various countries. Moreover, if the problem of the economy disproportionality will not be eliminating, its "swelling" and the concentration of capital will continue.

Historical experience shows that to prevent the approaching catastrophe the significant strengthening of the government role in the economy is required. Than heavy crisis, the role of the state in the economy needs to be stronger.

3. The way out of the crisis is integration of the cybersystem based on a dynamic interbranch balance model into the global economic model

At the moment there is no country in the world that has any plan as an algorithm of actions for recovery from the global crisis. Some attempts to solve the problem of proportionality of the economic development were made by the USSR. The Soviet experience shows that due to the management of the economy, based on strategic planning, the winning country in the Second World War became the leading power in the bipolar world, reached the greatest achievements in science, education and culture. However, to return to the old Soviet State Planning Committee (Gosplan), that operated in a manual mode, is impossible. To return to the Gosplan, that supported prevailing production in the manual mode by the balance calculations, we have to return to the Soviet Union and all its interbranch relationships. This problem cannot be solved only by the monetary methods of economic regulation. Thus, today, the activity of the Central Bank of Russia which, according to experts, overrates the interest rate, is the subjected to the great criticism. The scientific community of Russia, admitting the necessity for introduction of the strategic planning of the economy, limits itself with the enumeration of the same monetary "anti-crisis" measures with the proposals for the inflation launch in order to support the military-industrial complex. Such proposals are fully fit into the global crisis

economy development with the cycle phases "inflation - deflation", and in this connection we have already a real threat of a large-scale military solution to the crisis.

In the world where TNCs are dominating, the chaos becomes stronger on the territories of all countries. Thus, the increase of sanctions from the Western countries forces Russia to take the course to the policy of import substitution. For its realization in practice it is necessary to calculate the production chains that can ensure the manufacture of the final product substituting import. It requires a transition from the chaos of manual control, reinforcing bureaucracy and corruption, to the automated management system of the economy (economic cybersystem) which can optimize managerial decisions to ensure the proportional development of a mixed economy in the right direction. This transition considers the state as a single corporation, based on the mixed economy and realizing a new global economic project - implementation of the cybersystem into the public administration to support the proportionality of the economy development in the direction of cultural, scientific and technological progress of society.

The management of the economy system is characterized by the hierarchy in time (periods) and in space (executors). In the management of production the following types of management can be distinguished: 1) co-ordination – to answer the question: what should each link do to achieve the goal; 2) stimulation, responding to the question of how to influence each link to achieve this goal. The subject of management science (Economic Cybernetics) is the managing information processes. Management as a stimulation should be subordinated to coordination. Otherwise, the development management of the object turns into manipulation of human behavior [4]. The responsible leaders often speak about the negative consequences of such attitude such as the duplication of researches, impossibility of introducing the new technologies and complicated equipment due to the absence of required infrastructure, as well as the difficulties of supplying the continuity of production chains for import substitution, and, due to the lack of human resource.

The complicity in coordinating the planned calculations makes the introduction of the cybersystem based on the dynamic interbranch balance model (IBM) developed by the Soviet scientists-cybernetic N.I. Veduta, particular necessary [5]. The structure of the IBM scheme, that answers the purposes of management, is an economic table that systematically correlates the balance of costs and income of producers and consumers. The final consumers dictate to the manufacturers the structure of the order. The task of the manufacturers is to produce the final product, ordered by the final consumers, in the maximum possible quantity with the help of the introduction of efficient technologies. To produce the final product and to introduce the new technologies, the material resources are required, and such material resources, in their turn, must be produced, and so on – this means that the production interrelations chain in the economy, which has its aim to produce the maximum quantity of the final product in a structure ordered by the final consumers, should be calculated. This is the economic planning. If the production capacity is not enough, we have to correct the structure of the order. The iterative calculations of what we want and what we can have to be continued as long as we reach the point of equilibrium or balance of production linkages in the economy. It determines the efficiency of allocation of public productive investment between producers. At the same time the leadership of the country will be able to correct the aims of development in «online» mode,

depending on the specification of production capacity and the dynamics of structure of the final demand, taking into account the requirements of national and global security.

The existing corporate planning models include the system of material, labor and financial balances. The correct solution is found by the iterative calculations till the balanced plan for all types of resources is determined. But this plan will not be optimal. Carrying out the iterative calculations requires a lot of time, which does not allow the control system to respond flexibly to changes in the final demand and in the production capacity in order to supply the coordinated work of all parts of the system in its interests in real-time. Imitating the management process and significantly improving the efficiency of the control system, the cybersystem objectively takes a dominant position in relation to all existing models of corporate planning and accounting.

It is believed that a corporation needs planning, but the planning within the frames of government means the return to the Soviet past. But this is absolutely not true. The absence of the plan on the territory is profitable to the owners of corporations: the governments use inflation, that reduces the real incomes of citizens in favor of the interests of corporations. To increase the quality of life is required to implement the plan, which proportions can be adjusted with regard to the feedback - information on the equilibrium price of the consumer market (we didn't have such information in the USSR). In fact, such a plan becomes a model of the crisis-free competition, because in this situation the state creates conditions for the realization of the following principles:

- proportionality of the economic development in the direction of the dictates of final consumers;
- interest of the producers in developing and implementing new effective technologies;
- significant increase in the flexibility of response of the economic system to the final demand and supply of new technologies.

The coordination by the government (interstate alliance) of actions of TNCs, which are carried out on its economic territory, based on the cybersystem in a mode of sliding planning will support the balanced development of the national (global) economy in the direction that will increase quality of life. In this way, the conditions for the monopolistic producers, absorbing each other in the interests of profit, and for the launch of the fictitious capital with its concentration and the further global catastrophe for everyone, are eliminated. The integration of the cybersystem into the global economic model becomes vital for everyone. Since the TNCs from the economic periphery are primarily interested in it, its implementation in these countries will mean a transition to the multipolar world.

By improving significantly the effectiveness of management decisions the cybersystem, like any other machine, does not have any limits to its improvement. Of course, we can manage spontaneously in the interests of TNCs. In this case there's no necessity in the plan of economic development of the territories. The chaos and the corresponding ideologists are needed - that what we can see now in the major part of the post-Soviet states.

It should be reminded that the importance of science of management is growing in the progressively developing society. By the 50th there was a sharp increase in the number of managers in all countries. Starting from 1961 the United States could keep this rapid growth by the introduction of the automated management systems (AMS). At this time, the Soviet Union only started to develop

them. During the 60th the country was striving to create the AMS rapidly in order to overtake and surpass the United States. But if in the United States the automation of management was applied only at the level of firms, in the USSR the task to create the national automated management system (OGAS) was set for the first time. Its creation could significantly improve the quality of economic management of the country and secure a win of the USSR in the Cold War.

Unfortunately, the project OGAS headed by the academicians of technical and natural sciences, was doomed to failure. Academicians V.M. Glushkov and N.P. Fedorenko formulated the problem of the government as the creation of the uniform system of optimal planning and management on the basis of unified governmental network of computer centres in our country. But, unfortunately, it did not happen because of the unwillingness of the Soviet leadership to admit the primacy of economics, that was able to organize the development of the national production in order to improve people's lives, on their conjunctural interests. The country needed a strong concentration of forces on the creation of the dynamic interbranch balance model, which was to become the core of OGAS.

The failure also befell the famous philosopher and cybernetics St. Beer, who was trying to develop and implement the project "Cybersyn" in Chile with its president Salvador Allende with the aim of overcoming the bureaucracy. The setting of the goal defined the realization of the project through the institutional measures and this determined its failure.

Another negative experience is the introduction of IT for the automatization of present circulation of documents, but not for the management of the object. Today we can see such situation at all levels of management, not only in the post-Soviet space, but also in other countries. The ideological leaders of these processes are the largest international audit and law firms such as «PricewaterhouseCoopers», «Ernst&Young», «McKinsey&Company», providing services in the field of management consulting. The recommended corporate management models provide the centralization of global capital. The modern IT ideologues do not realize or consciously ignore the primacy of problems of automated management system of the object, replacing it by the problem of automation of documents circulation, which causes the chaos in management.

As the corporation becomes larger, it becomes more difficult to solve the problem of coordination needs for products with the possibilities of its production, the more necessary becomes the introduction of IT. During the Soviet period the GOSPLAN did not have such a model to respond flexibly to the changes in final demand (including the equilibrium price in the consumer market, which had been switched off in the Soviet Union for the political reasons), as well as to the appearance of new technologies. That is why there was stagnation, but not a breakdown. By the way, today the US Treasury is trying to make the fuel and energy balance with the help of iteration methods when it allocates the financial support to the Energy industry (fuel and energy complex). Future will belong to those who will be successful in implementation of economic cyber systems.

Conclusion

The realization of the proposed economic project is not directed at the subordination of small business to the governmental management, but at its stable development. It should be independent in making its decisions of development. The government coordinates the activity of the monopoly industries in the direction

of improving the lives of people in its territory, including the development of small businesses. The only thing that is required from the government when it makes investment decisions is the information from business about its plans for the future. Small business needs a stable growth of the economy, not the increasing chaos in the country. Otherwise it will be absorbed by the monopolists.

As soon as the society recognizes the importance of a new economic project, the loss will be less. We can remember the experience of the First World War, when the revolutionary change of elites lasted until the introduction of the mobilization model of the "war communism". The model can also be different – either scientific or military. In case of the military mobilization the losses of the country will increase even more.

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