



## REPRODUCTIVE APPROACH IN ANALYSIS OF MACROECONOMIC IMBALANCE IN CONDITIONS OF ECONOMIC GROWTH

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**Summary.** The article is devoted to generalizing the main views of scientists on the causes of macroeconomic imbalances in conditions of economic growth based on the reproductive approach. It is established that it envisages explaining the processes of production and circulation as a cycle of production and sale of social product, which is a prerequisite for further resumption of production – reproduction. This approach allows us to find answers to questions regarding proportions that should be formed and maintained in the economy so that the flow of all goods produced by society corresponds to the counterflow of income, that is, under what conditions the volume and structure of the means of labour offered for sale correspond to the volume and structure of demand for them. The approaches of economists, from representatives of classical economic theory to modern economic thought, regarding the causes of disproportionate economic processes in terms of the reproductive approach, are considered. Firstly, the reproductive approach, as a cyclical methodology, is based on the analysis of the cycle of social production, which includes various units of actual production and the sales of social products. The focus is on creating the conditions necessary to resume the production process again. Secondly, the reproductive approach as the basis of the analysis of the chain “production – distribution – exchange – consumption”. In this case, the subject of the study encompasses individual phases (or stages) of the reproduction process with production and consumption being the primary focus. Third, the emphasis of the reproductive approach, based on the theory of sales and the “production chain”, is focused on the equilibrium movement of the value of the social product. It is generalized that, according to the reproductive approach, the proportionality of economic processes requires equality between production and income, to balance which the world market is necessary and the presence on it along with developed countries of those lagging behind, as well as methods to stimulate aggregate demand, able to cover the existing supply of goods and services.

**Keywords:** economic growth, macroeconomic imbalances, market balance, reproductive approach, reproduction of capital.

**JEL:** M 31, M 39.

**Problem Statement.** Economic growth on a global scale is a continuous process closely associated with the issue of economic imbalance. Such a situation has arisen because, during the evolution of society, some countries demonstrate rapid economic growth, while others are characterized by persistent economic stagnation and deepening dependence on developed countries. Often, this is associated with ineffective policies regarding capital reproduction and industrial development. Therefore, it is relevant to consider the issues of macroeconomic imbalance from the perspective of analysis of the legacy of political economy based on the reproductive approach. The reproductive approach envisages explaining the processes of production and circulation as a cycle of producing and selling social product, which is a prerequisite for further resumption of production – reproduction.

**Analysis of Recent Research and Publications.** The question of preserving market balance and, therefore, ensuring economic growth from the perspective of the reproductive approach has been studied by economists from various countries. The main works on this issue are from: Zhdanova L.L., Quesnay F., Lenin V.I., Luxemburg R., Milyutin V., Marx K., Reinert E.S., Robinson J., Smith A., Sismondi S.J., Tugan-Baranovsky M.I., Frank A.G. etc. Despite this, the conceptual principles of economic theory regarding the usage of the reproductive approach in the analysis of macroeconomic imbalance in the context of economic growth remain poorly structured.

**The Objective of the Article** is to summarize the main views of scientists on the causes of macroeconomic imbalance in conditions of economic growth based on the reproductive approach.

**Research Material.** “The theory of capital reproduction and accumulation evolves along with the development of social production itself, as an answer to the most complex questions of economic reality”, – as stated by Zhdanova L.L. (Zhdanova, 2014). In other words, the answer to the questions: what proportions should be formed and maintained in the economy so that the flow of all goods produced by society corresponds to the flow of income. From the perspective of capital, it concerns the alignment of the volume and structure of the means of labour offered for sale with the volume and structure of demand for them.

The concept of social production in general was formulated by Quesnay F. (Quesnay, 1960) in the beginning of 18th century. This concept was formulated by portraying social production as a system of macroeconomic circulation. In this context, social production was considered as the interaction of three sectors: the primary – resource-based and extractive sector, the secondary – manufacturing-based sector, and the tertiary – non-manufacturing sector. Therefore, Quesnay F. divided society into three classes operating in these specified spheres of production. The primary sphere is represented by agricultural producers, who create surplus value – “net product”. The secondary sphere is represented by unproductive class, which through its labour only compensates for its consumption, without creating surplus value. Finally, the tertiary sphere includes owners (landowners, officials, church servants), who produce nothing and only consume.

Moreover, Quesnay F. expressed the relationship between production and consumption of productive and unproductive classes in the form of a numerical expression, forming a scheme of exchange of goods and money between sectors called the “Tableau économique” (or Economic Table). This scheme became a prototype of macroeconomic circulation, which should occur according to certain proportions of the movement of products and incomes (in the form of monetary representation – circulation medium and means of payment). According to his opinion, social production will be efficient if a certain economic structure is maintained, within which specific economic proportions exist: produced goods will correspond to incomes.

However, in his own analysis, Quesnay F. sets several conditions: production is examined within an annual cycle, during which prices remain unchanged, and all incomes are spent on consumer prices (accumulation is not taken into account); the purchase and the sale within each class are not considered; production is viewed within a closed system without external trade; all land is assumed to be leased in agriculture; there is no division between farmers and workers employed in agricultural production; there is no division between industrial producers and hired industrial workers. Nevertheless, despite the significant level of abstraction in Quesnay’s reasoning, he made the first attempt to depict the process of social reproduction with a simple scheme, thereby laying the foundation for further exploration of macroeconomic circulation and the proportionality of the economic system as a whole.

Further development of the theory of production and its efficiency belongs to Adam Smith. Particularly, his 1776 work “An Inquiry into the Nature and Causes of the Wealth of Nations” (Smith, 1962). According to Smith’s theory, the total social product consists of two parts, the proper ratio of which determines market equilibrium and economic growth. The first part consists of fixed and circulating capital, used to support and expand production, while the second part is for consumption and accumulation by social classes indirectly involved in the production process (landowners, capitalists, government officials, military personnel, scholars, self-employed professionals, etc.). In this regard, he remarks: “Of the produce of land, one part replaces the capital of the farmer; the other pays his profit and the rent of the

landlord; and thus constitutes a revenue both to the owner of this capital, as the profits of his stock; and to other people, as the rent of their land. In the same manner, one part, and that always the largest, of the produce of a great manufactory, replaces the capital of the business owner; the other part pays his profit, and thus constitutes a revenue to the owner of this capital” (Smith, 1962).

The macroeconomic proportionality and prosperity of society depend on the ratio of these two parts. The larger the share of capital, the faster social wealth grows. On the contrary, an excess of consumption expenditure reduces the wealth of the nation.

Moreover, according to Smith, the equilibrium of the production process relies on the circulation, as all produced goods are consumed: “What is annually saved is as regularly consumed as what is annually spent” (Smith, 1962, p. 249), compressing the capital reproduction cycle to one year and equating capital with income, thus lacking a clear understanding of these categories.

This uncertainty in Adam Smith’s theory was noted by S. Sismondi, who criticized it for its inability to distinguish between capital and income and for its overly short reproduction period (annual production cycle), which did not take into account the impact of scientific and technological progress. The latter problem particularly intensified in connection with the Industrial Revolution, characterized by continuous production expansion, the emergence of numerous industrial innovations, and changes in the structure of social production.

Considering this, the researcher emphasized that the scale of production exceeds the demand formed by consumers due to technological progress and increasing labour productivity, markets become oversaturated, leading to difficulties in realization. This circumstance sabotages the possibility of normal economic development and results in decreased efficiency due to constant disruptions, expressed in the form of overproduction crises (underconsumption).

S. Sismondi saw the solution to this problem in ensuring that production fully corresponds to the society’s income in order to achieve complete realization of all produced goods. However, according to the author, with the introduction of technological progress and the increase in labour productivity, the luxury of the wealthy increases and workers are displaced from the production process, which leads to unemployment. This results in socio-economic disparities, caused by the low wages in the total society’s income and the reduction of incomes available for purchasing all finished goods. Sismondi, considering production and consumption in value terms, argued that the equilibrium of supply and demand is not possible because the former is restricted by income, which varies depending on its nature: income from labour and income from property (Sismondi, 1936).

According to S. Sismondi, overcoming these problems will be possible through unproductive consumption. Since with the increase in labour productivity resulting from the scientific and technological revolution, each worker produces more in natural-commodity form than they can consume, therefore, “any increase in labour productivity must be accompanied by a corresponding increase in consumption by those classes of people who either do not produce anything or whose production cannot be subject to buying and selling” (Sismondi, 1936, p. 211).

The author assigns a leading role in balancing social production and consumption to the government, which should create conditions for the utilization of surplus product by: 1) using excess goods to feed those workers whose labour has not been subject to sale, as well as constructing public facilities at government expense; 2) encouraging the wealthy to consume the products of the labour of the poor; 3) engaging citizens in leisure time, which has become available due to scientific and technological progress, in education, participation in state affairs, etc. (Sismondi, 1936, p. 211).

Further into the debate, S. Sismondi is joined by J. K. Rodbertus-Jagetzow and J.H. von Kirchmann, who study social reproduction, especially in the context of technological progress. However, these researchers abstracted from the constant capital consumed, equating reproduction with the volumes of national income. They concluded that structural imbalances are an essential feature of the macroeconomic circulation in capitalist society. According to the authors, resolving the problem of equality between flows of goods and income is impossible without government support and institutional influences. However, ensuring the proportionality of economic processes under conditions of scientific and technological progress is impossible, as society is characterized by a series of structural changes to which it must constantly adapt.

The new stage of social production research was Karl Marx's theory regarding the analysis of macroeconomic equilibrium, as elaborated in the second volume of "Capital" (Marx, Engels, 1961). He formulated the general conditions for proportional development of simple and expanded reproduction, clarifying the nature of the reproduction of productive forces and production relations in the process of production, distribution, exchange, and consumption. Additionally, he was the first to distinguish between the concepts of simple reproduction (a production process that is annually renewed in unchanged volumes) and expanded reproduction, characterized by quantitative and qualitative growth in final production results. In the context of expanded reproduction, the surplus product is used in certain proportions for both personal and productive consumption, for which one needs: additional capital goods; additional labour power; additional means of sustenance for labour power.

K. Marx considered the total social product as the final result of the reproduction process from both the natural and the value sides, which ultimately should coincide. He divided the entire total social product and social production in terms of material composition into two sectors: the production of capital goods (Sector I), which serve all social production and are used for productive consumption, i.e., the replacement of material factors of production consumed in the process of labour; and the production of consumer goods (Sector II), which are used for personal consumption by workers and owners. In terms of value, the social product consists of constant capital, variable capital, and surplus value.

Additionally, Karl Marx defined the conditions for the proportional realization of component parts in both simple and expanded reproduction. In the conditions of simple reproduction, the product of Sector I equals the replacement fund of both sectors; the product of Sector II equals the net product of both sectors; the net product of Sector I equals the replacement fund of Sector II.

In conditions of expanded reproduction, the product of Sector I exceeds the replacement fund in both sectors; the product of Sector II exceeds the net product of both sectors; the net product of Sector I exceeds the replacement fund of Sector II. Thus, the reproduction process is closely associated with the exchange of products between both sectors and requires a certain proportionality within and between them. When the conditions of proportionality are violated, disproportionality and imbalance arise (Marx, Engels, 1961, p. 565). However, considering reproduction as a source of maintaining economic equilibrium, Karl Marx overlooked the impact of factors of scientific and technological progress.

The followers of the Marxist theory of reproduction attempted to correct this omission. Attempts to develop the theory of social capital reproduction and to include the study of technological progress were simultaneously made by Lenin V.I. (in his 1893 paper "Concerning the so-called question about the markets" (Lenin, 1967) and Tugan-Baranovsky M.I. (in his 1894 monograph "Industrial Crises in Contemporary England: Their Causes and Influences on the Life of the People" (Tugan-Baranovsky, 1997). Using different approaches, they both came to the same conclusion about the leading role of the sector of the economy that produces capital goods, and the necessity of its primary development compared to the sector that produces consumer goods, thus highlighting the need to increase the share of production funds in the annual social product (Zhdanova, 2019, p. 158). However, these conclusions were rather abstract and therefore insufficient to address the problem of socio-economic disparities in society.

Criticizing Karl Marx's reasoning and addressing the question of proportionality in production and circulation, Rosa Luxemburg posed important questions for the development of the theory of reproduction in her 1913 work "The Accumulation of Capital" (Luxemburg, 1931). She argued for the impossibility of realizing a growing mass of goods without "third parties", that is, without external markets (primarily less developed countries) that would buy surplus goods. She also emphasized the inevitability of disproportions in technical progress, which leads to further expanded production and increased labour productivity, resulting in escalated negative social consequences such as the inability to increase wages and deepening unemployment. Moreover, there is a challenge in balancing goods and monetary capital, etc. These questions remain unresolved and relevant today.

This was also emphasized by Soviet scholars (including Bukharin N., Preobrazhensky Y., Varga E., Motylyov V., Milyutin V., Cohn A., Leikin E. and others). In the conditions of the command-administrative economy, they aimed to address the issues of capital reproduction and maintaining macro-



economic balance during the transition from a capitalist to a socialist society. Through their scientific and economic research, they determined that even in socialist conditions, technical progress primarily stimulates growth in the production sector responsible for producing capital goods, also increasing the accumulation rate, and deepening economic disproportions. Similar to Luxemburg R., some authors saw accessing international markets as a solution to these problems. For instance, Milyutin V. noted that the development of the global economy eliminates the material necessity of proportionality in the parts of an individual national economy, transferring it to the framework of the entire global economy (Milyutin, 1926).

In the 1950s, addressing the issue of capital accumulation, building on the ideas of Rosa Luxemburg and Karl Marx, Robinson J. presents the study "The Accumulation of Capital" (1956) (Robinson, 1956). The author raises the question of the nature of demand that drives continued capital accumulation. Regarding the impact of scientific and technological progress on the formation of social product, she argues that increasing production without any increase in capital value per worker is possible. This occurs when capital-saving inventions balance labour-saving ones. As a result, technical progress becomes "neutral", as wage increases correspondingly with increased productivity. According to Robinson J., these conditions shape the "golden age" of economic growth, where capital accumulation depends solely on the pace of technological progress and employment growth. If these conditions are disrupted, economic processes may face instability. As a means of balancing, the author considers increasing wages proportionally to productivity growth, which can be realized through pressure from labour unions (Robinson, 1956, p. 100).

At the same time, in the second half of the 20th century, among Soviet scientists, the problem of economic imbalance also acquired a socio-economic character and was considered in terms of the relationship between the growth rates of labour productivity and wages. It was believed that the growth rates of labour productivity should exceed the growth rates of wages, motivated by the necessity to create accumulation resources. When this proportion began to be disrupted, the Soviet economy faced a slowdown in growth rates, inflation, and increasing shortages of consumer goods (Zhdanova, 2019).

However, given the challenge of achieving economic equilibrium within the economy of a single country, most economists (including Bekrenev Y. and Ugryumova M., Dzasasov R., Kanarsh G., Latipov R., Petrov A. and others) have begun to highlight the importance of foreign trade to maintain balance. Within this context, the focus shifts to the concept of one country's dominance over others, which in the 1970s came to be known as peripheral capitalism. It was based on the notion that in the era of scientific and technological progress, sustaining consistent demand for fixed capital is still possible through underdeveloped countries, which lack the resources for independent innovative development (Reinert, 2011, p. 180–196).

The concept of peripheral capitalism, which is currently inherent in the global economic system, is extensively explained from the perspective of capital reproduction and accumulation by Zhdanova L.L. (Zhdanova, 2019, p. 8). The author notes that accelerated scientific and technological progress in developed countries, along with the spread of its achievements on a global scale, create a demand for modern goods in countries lagging behind in terms of economic and technological development. Subsequently, this creates the need for capital accumulation to acquire these modern goods and dictates the motives behind supplying their own products to the global market; the products would benefit from international demand. Competitive production typically occurs in raw material sectors such as mining and agriculture. However, these sectors require modern high-tech capital goods (machines and equipment) that national industrial complexes are unable to create. Therefore, producers seek to purchase imported technology, machinery, and equipment to pursue further competitive production.

In this manner, the capital of less developed countries, during the process of inter-sector competition from the production sphere of capital goods, shifts to the sphere of production of consumer goods, which is abstractly and theoretically considered as migration of capital. However, it is practically impossible to withdraw capital from a sector that is in recession, as the value disappears along with the destruction of its carriers - machines, equipment. So, this process of inter-sector migration of capital is accompanied

by the destruction of productive forces in sectors experiencing decline. Moreover, considering that capital is shifting to raw material sectors, the movement of capital is also accompanied by a simplification of the sectoral production structure, which, in the conditions of international specialization, leads to an increasing backwardness of countries. Therefore, “as a result of these continuous processes, developed countries face underdeveloped ones, which lack demand for elements of fixed capital. Thus, developed countries will encounter chronic overproduction of capital in productive form in the engineering sectors, and as a result, difficulties in selling commodity capital in general” (Zhdanova, 2019, p. 8).

Frank A.G. fittingly emphasized this in the theory of dependency, and “the underdevelopment of development” (Frank, 1996), explaining the disparity in economic processes in different countries under the influence of capitalism (accumulation and reproduction of capital). Using the example of Asian countries, he demonstrated that until capitalism “invaded” developing countries in the form of colonialism by European states, they typically had diversified economies at the time. However, colonizers transformed the production of these countries, reducing it to a few types of production advantageous primarily for the economies of the metropolises. By transforming the social structure of these countries, driving peasants from their land and turning them into cheap labour, the metropolises created a comprador bourgeoisie from the landlord class, which acted as mediators for the metropolises in exploiting their countries. As a result, a development problem arose, and then most countries began to make efforts to bridge the gap with the metropolises. However, under these conditions, achieving parity is impossible, as a significant percentage of the income generated by their population is taken by developed countries. Thus, these countries always remain behind (Lenin, 2019, p. 12).

Therefore, the reproductive approach assumes that the proportionality of economic processes requires equality in the volume of production and incomes, and for their balancing, a global market is necessary, along with the presence on it of both developed countries and those that lag behind in their development.

**Conclusions and Prospects for Further Research.** Thus, based on the results of the conducted analysis, we can make several important generalizations regarding the application of the reproductive approach in researching the problem of disproportionality in economic processes:

- the reproductive approach, as a cyclical methodology (Quesnay F.), is based on the analysis of the cycle of social production, which includes various units of actual production and the sales of social products. The focus is on creating the conditions necessary to resume the production process again. This way, economic laws of simple reproduction are formulated.

- the reproductive approach as the basis of the analysis of the chain “production – distribution – exchange – consumption”. In this case, the subject of the study encompasses individual phases (or stages) of the reproduction process (Sismondi S.J., Marx K., Engels F., Lenin V.I., Tugan-Baranovsky M.I., Luxemburg R. and others). On one hand, the initial significance of the production stage is emphasized, which is considered the beginning of the entire course of the economic process. On the other hand, it is highlighted that consumption serves as the ultimate goal of reproduction. In its pure form, the reproductive cycle is illustrated by the example of material production, where capital value progresses from production to consumption in a self-expanding manner. This involves an analysis of the relationships that arise among individuals concerning the production, distribution, exchange, and consumption of material products.

- the reproductive approach, based on the theory of sales and the “production chain”, is focused on the equilibrium movement of the value of the social product. When this commodity-functional movement is disrupted, various economic imbalances arise.

However, it is worth noting that in abstract-theoretical terms, the cause of economic imbalances is the difference in capital expressed in various forms and its socio-economic nature. Moreover, with the development of social relations, scientific and technological progress, and globalization, capital is not solely limited to the natural-commodity form; it also operates in the financial (often fictitious) form in modern conditions. This situation requires further research and outlines the prospects for scientific inquiry.

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