

Keynesian approach to economy regulation: answers to the challenges facing the agro-industrial complex

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Abstract. The paper presents the main aspects of the Keynesian theory of state economic policy in the context of responding to global challenges and national barriers facing the development of the Russian agro-industrial complex. The purpose of the work is to explore the possibilities of the Keynesian approach to respond to the challenges facing the agro-industrial complex of modern Russia. The methodological basis of the study is an integrated approach. The study identifies the main postulates of Keynesian theory. On the basis of macroeconomic models of aggregate demand and aggregate supply, the Keynesian cross, the features of the Keynesian approach to the regulation of economic activity in terms of investment, savings, and consumption are formulated. The Keynesian macroeconomic model of state policy is presented, implemented by increasing the real volume of investment expenditures through fiscal and monetary policies; methods of increasing effective solvent demand; reducing the fiscal burden on the population and business. The limits of the application of Keynesian methods are defined: "liquidity trap"; the emergence of a chronic budget deficit; the attenuation of the multiplier-acceleration mechanism; "stagflation"; "inflationary spiral". The relevance of the application of Keynesian methods of regulation in the modern Russian agro-industrial complex is substantiated: fiscal methods can have a beneficial effect on the development of agriculture: the growth of investments in the agricultural sector by 1%, stimulates economic growth in the industry by 0.64%; monetary methods have a long-term significant impact on the agricultural sector development; an increase in effective solvent demand for food in conditions of insufficient demand for food products in Russia is of high importance; a reduction in the fiscal burden can have a beneficial impact on agriculture development.

1 Introduction

The success of responding to modern global challenges and macroeconomic barriers facing developed countries, including in the field of agriculture, depends on a well-chosen

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development strategy, which is determined by a combination of market and state methods of managing the economic activities of economic agents.

The choice of state regulation methods, the degree of development of market relations depends both on the specific economic situation in a particular country, and on the level of development of theoretical prerequisites (justifications) for choosing from various alternatives.

This paper presents the main aspects of the Keynesian theory of state economic policy in the context of responding to global challenges and national barriers facing the development of the Russian agro-industrial complex. In theory and practice, these issues have gained some popularity from the point of view of studying various aspects:

– Economic policy of the state from the point of view of the Keynesian approach proponents [11, pp. 6-21; 16, pp. 1-9; 22; 24, pp. 34-44; 27, pp.83-106; 28, pp. 6-35; 32, pp. 3-26; 34, pp. 18-30; 35, pp. 117-125].

– Some aspects of the Keynesian approach influence on various aspects of public life [12, pp. 1293-1306; 19, pp. 375-379; 20, pp. 45-50; 33, pp. 79-86; 36, pp. 126-129].

– Forms and directions of state regulation and state support of agriculture [1, p. 3-9; 2, p. 923-930; 3, p. 613-620; 4, p. 955-963; 6, pp. 279-286; 7, pp. 133-142; 9, pp. 204.1-204.5; 10; pp. 1212-1223; 17, pp. 133-137; 21, pp. 129-136; 23, pp. 713-729; 25, pp. 21-24; 26, pp. 10-12; 29, pp. 37-39; 31, pp. 96-100; 38, pp. 3-7;].

Nevertheless, less attention is paid to the study of the possibility of responses to global challenges and national barriers of the Russian agro-industrial complex using the methods of Keynesian theory, which determines the choice of the research topic.

The purpose of the work is to explore the possibilities of the Keynesian approach to respond to the challenges facing the agro-industrial complex of modern Russia.

Objectives:

1. To determine the main postulates of the Keynesian theory.
2. To formulate the peculiarity of the Keynesian approach in the regulation of economic activity.
3. To substantiate the relevance of the application of Keynesian methods of regulation in the modern Russian agro-industrial complex.

2 Materials and Methods of research

The methodological basis of the research is an integrated approach, in which the possibilities of the Keynesian theory for responding to the challenges facing the agro-industrial complex of modern Russia are considered.

3 The research results and their discussion

3.1 The limits of neoclassical theory

The validity of an economic theory is determined by how well it describes, explains and predicts various phenomena in the economy and how this is confirmed by empirical observations. The developed and applied economic models should be aimed at better understanding and forecasting the behavior of economic agents and changes in the economic structure components. Certainly, economic theory has its limitations and cannot always accurately predict what is happening. The events of real economic practice may indicate shortcomings in models and methodological approaches. Nevertheless, the applicability of any economic theory is confirmed primarily by the extent to which it corresponds to the current state of the economic system development, how correctly it

explains the facts of economic life and predicts possible future events. Thus, economic theory is a useful tool for understanding economic processes. It should be constantly developed and refined in accordance with new processes taking place in the real economy, new empirical data, changing economic patterns and conditions.

The global crisis of 1929-1933 dramatically changed the trends of economic development in the world: the volume of world trade decreased threefold; the volume of world GDP decreased to the level of 1908-1909, the industry of France – by 1911, the USA – by 1905, Germany – by 1896, England – by 1897; the unemployment rate in developed countries exceeded 10%; the system of international settlements and the gold-exchange monetary system has changed dramatically [18, p. 201]. Neoclassical economic theory failed to answer questions about the causes of the crisis, methods of reducing unemployment, and suggest ways out of the crisis situation. The theory itself has fallen into crisis. Joan Robinson emphasized: "The new doctrine is approaching a crisis... It was discredited during the Great Depression of 1929-1933... Neoclassical economists are unable to take any part in important discussions, because they have nothing to contribute to them, except for the pathetic remnants of the *laissez-faire* doctrine, according to which everything that is profitable is justified" [6, p. X; p. 50-51].

The crisis of 1929-1933 was not another cyclical crisis of the market economy overproduction, it was a systemic crisis when the old economic mechanism was unable to function and needed a deep restructuring. The new situation required new ideas, and new concepts led to the emergence of a new theory, which was called Keynesian.

a. The main postulates of the Keynesian theory.

1. A new goal of economic theory is formulated – ways of transition from part-time to full-time employment.

2. The economic theory subject has been expanded to include an analysis of the depressive economy.

3. The postulate about the relative inflexibility of prices is formulated: when the equilibrium is disturbed, prices change belatedly: at the beginning, the physical volumes of production change and only then prices.

4. A provision has been put forward on shifts in pricing mechanisms due to the action of monopolies: monopolists resist falling prices, and trade unions – lower wages.

5. The article substantiates the position about the imperfection of information, primarily price information, which leads to the impossibility of making optimal decisions about present and future production and consumption.

6. The thesis about the macroeconomic identity of savings and investments is criticized: the general logic of the discrepancy is that economic agents who invest and save are in practice different people with completely different motives of behavior. Due to the non-identity of savings and investments, fluctuations in the levels of production, income, employment, and prices occur, which exacerbates the problem of product sales and formation of inventories. Thus, market economy in conditions of underemployment is always characterized by an unbalanced state.

7. The position is substantiated that the size and dynamics of gross national production is determined not directly by supply factors, but by factors of effective (solvent) demand. Due to the growth of the share of savings with the growth of national income, the supply of goods (production) provides a certain income (demand), but they are not identical to each other. This causes market conditions to be disrupted by low demand, and, accordingly, the economy cannot be in a state of full employment.

8. The postulate is formulated that the insufficiency of effective (solvent) demand leads to forced unemployment, which leads to the fact that when economic ties are violated, the market economy is not able to automatically return to a state of full employment.

9. The position is put forward that insufficient demand leads to the fact that not one (at the level of full employment), but several equilibria (at different levels of underemployment) can be formed in the real economy.

10. J.M. Keynes is the founder of a new direction of economic theory – macroeconomic analysis, when the flows of income, investment, savings, consumption, production are analyzed on the scale of the whole society at the national, but not at the micro level.

11. The pragmatism of J.M. Keynes theory lies in the fact that the main task was formulated as an interpretation of the tasks and directions of state policy. Keynesian theory was able to turn the neutral neoclassical theory towards society and form a practical function of economic theory, which consists in substantiating the boundaries of state intervention in the economy [formulated by 27, pp. 86-88].

b. Keynesian approach in the regulation of economic activity.

The title of J.M. Keynes seminal work suggests that the main problem in theory is the problem of employment at the macro level [22]. The classical theory proceeds from the fact that it is unlikely that a situation is possible when aggregate demand is insufficient for aggregate supply, i.e. $AD \neq AS$. Even if such a situation arises, then immediately changing wages, prices, and interest rate again lead to equilibrium, i.e. the situation of $AD = AS$ in a state of full employment (Fig. 1). Before the crisis of 1929-1933, market mechanisms were characterized by a high level of flexibility, the phenomena of "hard" wages and prices did not exist in essence. Nevertheless, the Great Depression changed this situation.

The Keynesian approach states that it is possible to establish equality $AD = AS$ in a state of underemployment, when the equilibrium volume of production is less than the potential, in conditions of "hard" prices and wages (Fig. 2). These works became the basis for the modern theory of macroeconomic equilibrium, where the Keynesian (horizontal), intermediate (ascending), and classical (vertical) segments of the aggregate supply curve at the level of the national economy are distinguished (Fig. 3)

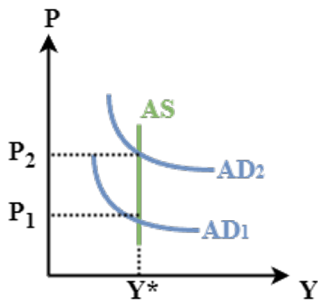


Fig. 1. Macroeconomic equilibrium in classical theory

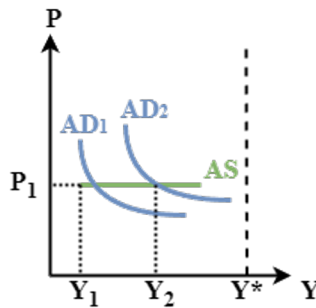


Fig. 2. Macroeconomic equilibrium in Keynesian theory

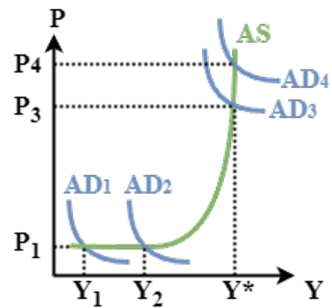


Fig. 3. Modern model of macroeconomic equilibrium

where – Y is the GDP level; P is the price level; P_1, P_2, P_3, P_4 are equilibrium price levels; Y_1, Y_2 are equilibrium GDP levels; Y^* is the GDP level at full employment; AS is the aggregate supply curve; AD, AD_2, AD_3, AD_4 – aggregate demand curves.

If the representatives of the classical theory believed that the factors of aggregate supply (the magnitude of the production factors: labor, capital, their productivity) determine the magnitude of national production (see Fig. 1), then representatives of the Keynesian approach formulate the problem exactly the opposite: effective demand determines how much and what will be produced and its increase shifts the equilibrium to the right and increases national income (see Figure 2).

In Keynesian theory, the main factor of the economy is aggregate (effective, solvent) demand, which affects the dynamics of all macroeconomic indicators: total income, output, employment, prices.

In the theory of J.M. Keynes, the dynamics of income, aggregate demand is determined through the movement of investment, consumption, and savings.

J.M. Keynes considered the size of investments to be the main factor of effective demand determining the movement of the main macroeconomic indicators. The main problem here lies in the discrepancy between investment and savings plans. The real volume of investments depends on the following:

- the values of autonomous investments AI that are not related to the growth of national income and are caused by innovations introduced in the process of scientific and technological progress: $I = e - dR$, where I is autonomous from total income investment expenses; e is autonomous from both total income and real interest rate investments determined by external economic factors (mineral reserves, etc.); d – the empirical coefficient of sensitivity of investments to the dynamics of the interest rate; R – the real interest rate;

- the values of induced investments II , the value of which depends on national income and increases with GDP growth: $I = e - dR + \gamma Y$, where γ is the marginal propensity to invest; Y is the total income (Fig. 4).

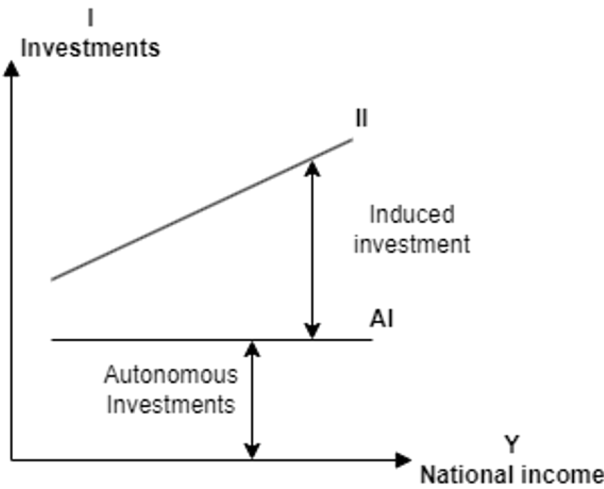


Fig. 4. Investment function in Keynesian theory.

Consumption is influenced by the "basic psychological law": with an increase in income, economic agents increase consumption, but to a lesser extent than income increases. Part of the income is saved by agents, and this share grows with the income growth. The problem boils down to the fact that investments are equal to all savings, which according to the theory of J.M. Keynes does not happen automatically, as with the classics, because of the difference in motives when investing and saving. Thus, the growth of national income leads to a decrease in the share of effective demand provided through personal consumption (due to the increasing share of savings), which shifts the demand curve to the left and leads to a state of underemployment and possible crises. Thus, the Keynesian theory of employment is the theory of effective demand.

Consider a simple model of the Keynesian theory of national income – the "Keynesian cross". Planned expenditures represent the amount that economic agents plan to spend on the acquisition of goods. Real spending differs from planned spending when firms are

forced to make unplanned investments in inventory in response to demand shocks or supply shocks. The function of planned expenditures $E = C + I + G + X_n$, graphically depicted as a function of consumption $C = a + b(Y - T)$, shifted up by an amount $I + G + X_n$ (where E is planned expenditures; C is consumer spending; I is investment spending; G is government spending; X_n is net exports; a is autonomous consumer spending; b is marginal propensity to consume; Y is the amount of income; T is the amount of taxes).

The aggregate supply (AS) in this graph is a bisector, assuming that the entire product produced is consumed by society (line $Y = E$). Accordingly, at point A, the planned expenditures (AD) are equal to the total supply (AS) and we get a point of macroeconomic equilibrium (Fig. 5).

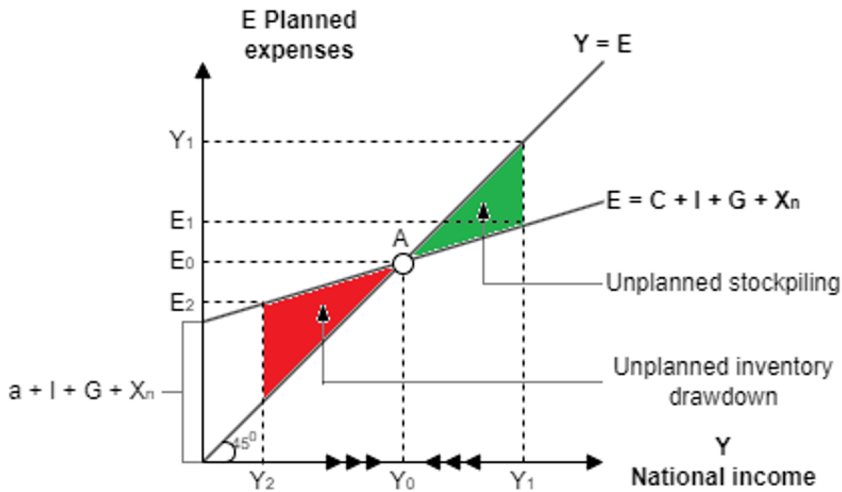


Fig. 5. The Keynes Cross.

At the same time, according to J.M. Keynes, point A does not necessarily coincide with the point of maximum use of resources, i.e. macroeconomic equilibrium may develop in quantities smaller than the amount of income at full employment. This may happen due to the basic psychological law of J.M. Keynes, which we have already written about, or due to insufficient investment.

In the case of insufficient aggregate demand, when the macroeconomic equilibrium is formed at a level less than full employment, a recessionary gap arises – the amount by which AD must increase to raise the equilibrium GDP to the level of full employment (Fig. 6).

In the conditions of the existence of the effect of multiplication of autonomous expenditures, induced investments, a situation may arise that the equilibrium level of output is greater than the potential at full employment, and then an inflationary gap arises in the economy – the amount by which AD should be reduced, which reduces the equilibrium GDP to the level of full employment (Fig. 7).

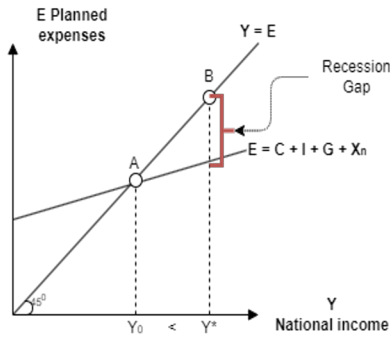


Fig. 6. Recessionary gap.

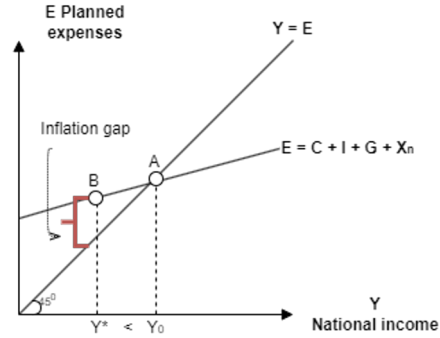


Fig. 7. Inflation gap.

The result of such a theoretical construction was a new model of the state macroeconomic policy. The main purpose of government regulation is to stimulate aggregate demand to reach the level of non-inflationary GDP with full employment of resources. The main methods here are the following:

1. Increase in the real volume of investment expenses due to:

1.1 Reduction of the effective interest rate by the state according to the following logic: an increase in the money supply reduces the interest rate, which leads to an increase in investment costs, and, consequently, employment and national income grow. This process is self-reproducible due to the action of the multiplier effect.

1.2 An active fiscal policy aimed at "socializing investments" - active financing, support, and lending to private enterprises by the state, organization of public procurement.

2. Increase in effective solvent demand, and accordingly an increase in planned expenditures and the economy is approaching a state of full employment, through:

2.1 Organization of public works: this increases the level of consumer and investment spending.

2.2 Consumption of civil servants: which contributes to an increase in the level of government spending.

2.3 Redistribution of part of income in favor of the poor, who have a higher average and marginal propensity to consume.

3. Reducing the fiscal burden on the population and businesses, which will increase consumer and investment spending.

Considering the development of economic activity, the limitations of Keynesian methods of regulating economic activity have also been determined:

1. Increase in the money supply may face a "liquidity trap" – a situation may arise when, no matter how much the money supply increases, the interest rate will not decrease.

2. Increased government spending, tax cuts, and other Keynesian policy measures can lead to chronic budget deficits, which negatively affects long-term economic growth.

3. The development of the economy will eventually face the attenuation of the animation-acceleration mechanism, which will lead to a decrease in the rate of economic growth, followed by depression and even a recession of the economy.

4. Keynesian policy did not envisage the emergence of such a phenomenon as "stagflation" – a simultaneous combination of such crisis phenomena as falling production, rising unemployment and inflation in conditions of over-accumulation of production and monetary capital in the country's economy. In such conditions, Keynesian methods, without reducing unemployment, lead to an increase in inflation.

5. In the long term, the application of Keynesian methods of counter-cyclical and anti-inflationary policies lead to contradictions and price increases.

c. The relevance of the application of Keynesian methods of regulation in the modern Russian agro-industrial complex.

The concept of macroeconomic regulation proposed by J.M. Keynes and his followers is relevant for the modern Russian Federation. Nevertheless, in domestic conditions, it is not a mechanical transfer of foreign experience to economic activity in Russia that is required, but considering the specific conditions of our way of life:

1. Insufficient degree of development of market relations in modern Russia, and especially in its agricultural sector. But the concept of J.M. Keynes is suitable for countries with a developed market (mixed) economy.

2. There is a special role of the state in the Russian agricultural sector, which is connected both with the scrapping of the former economic relations that developed in Soviet Russia and with the specifics of the institutional transformation after 1991.

3. A special role in government intervention and regulation, especially in Russia, in particular in the agricultural sector, should be given to structural policy: support for industries, sub-sectors with high added value production.

4. Due attention in carrying out such measures of state intervention should be paid to modern Keynesian concepts, especially in terms of shifting the emphasis on monetary instruments as less rent-oriented.

Let's consider the applicability of Keynesian regulation methods to the domestic agricultural sector.

1. Increase in the real volume of investment expenses due to a reduction in the interest rate and socialization of investments. Studies by specialists of the Central Bank of the Russian Federation show that the monetary policy has a special impact on the development of domestic agriculture and significantly affects the development of regions with a high share of the agricultural sector development [37, p. 33]. Domestic research shows that the growth of investment has a significant impact on the development of agriculture: the growth of investments in the agricultural sector by 1%, stimulates economic growth in the industry by 0.64% [8, p. 16].

2. Increase in effective solvent demand.

Assessments of the state of the domestic agri-food market conducted by the authors [3, pp. 613-622; 4, pp. 955-962; 13, pp. 104-116; 14, pp. 13-16; 15, pp. 2-10; 30, pp. 2-10] show that the Russian Federation is at the second stage of the development of the agri-food market with unsaturated absolute food needs. The consumption of food by the Russian population is less than the rational norms in almost all nomenclature items, with the exception of meat and meat products, sugar and confectionery. In 2019-2021, the situation with the economic availability of food worsened in most nomenclature items, which led to a decrease in the consumption of bread products, potato, vegetables and melons, fruits and berries, milk and dairy products, eggs, fish and fish products, sugar and confectionery, vegetable oil. Thus, the basis of the state policy of the conjuncture formation in the market of agricultural raw materials and food should be measures to expand demand from the population and the state, to stimulate the growth of volume and flexible regulation of the supply structure (the ratio of imported and domestic products in it). A special place among these measures should be given to the policy of increasing the competitiveness and efficiency of domestic production.

3. Reducing the fiscal burden on the agricultural sector in terms of producers will reduce the cost of production, and probably reduce the price of manufactured food, and reducing taxes on consumers will allow them to increase their real incomes, which will also potentially increase the demand for food products.

It should be especially noted that any such measures are possible only with the competent construction of an institutional environment for such transformations: rules,

norms, institutions, laws, controlling mechanisms, understandable systems of influence: taxation, support, investment.

4 Conclusions

1. The main postulates of the Keynesian theory are defined: the new goal of science is the transition to full employment; the provisions of effective (solvent) demand are substantiated; the subject is expanded by including the analysis of a depressed economy; the thesis is formulated about the impossibility of an automatic exit from the crisis only by market methods; the postulate about the inflexibility of prices, imperfection of information in the market, the possibility of several macroeconomic equilibria; the position on shifts in pricing mechanisms due to monopolization of the market is put forward; the thesis on the identity of savings and investments is criticized; the pragmatic function of economic theory is implemented as an interpretation of tasks and directions of state policy.

2. On the basis of macroeconomic models of aggregate demand and aggregate supply, the Keynesian cross, the features of the Keynesian approach to the regulation of economic activity in terms of investment, savings, and consumption are formulated.

3. The Keynesian macroeconomic model of state policy is presented, implemented by: increasing the real volume of investment expenditures through fiscal and monetary policies; methods of increasing effective solvent demand: organization of public works, consumption of civil servants, income redistribution; reducing the fiscal burden on the population and business.

4. The limits of the application of Keynesian methods are defined: "liquidity trap"; the emergence of a chronic budget deficit; the attenuation of the multiplier-acceleration mechanism; "stagflation"; "inflationary spiral".

5. The relevance of the application of Keynesian methods of regulation in the modern Russian agro-industrial complex is substantiated: fiscal methods can have a beneficial effect on the development of agriculture: the growth of investments in the agricultural sector by 1%, stimulates economic growth in the industry by 0.64%; monetary methods have a long-term significant impact on the agricultural sector development; an increase in effective solvent demand for food in conditions of insufficient demand for food products in Russia is of high importance; a reduction in the fiscal burden can have a beneficial impact on agriculture development.

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