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Digital and intellectual potential of economics as a result of modern investment processes and limitations

Abstract. The article has ranked and systematized some factors influencing business decisions on future capital investments. The research is based on sociological studies related to decision-making process on investments made in Russia. Factors' systematization was carried out by the authors in accordance with the established modern economic methodology and theory which makes compromise solutions between investor's requests and the ability to customize the economic system possible. The article proves the necessity of investment processes state regulation in Russia which can mainly be achieved by improving institutions, including tax sphere, and by regulating macro parameters mainly with the help of the Central Bank of Russia. This regulation is necessary since investors do not have the full information, and requests for cheap loans can cause macroeconomic balance disruption, as well as the national currency depreciation. Besides, the modern digital economy state should stimulate investments in innovation projects in this sphere.

Keywords: investments; digital economics; economic growth; macroeconomics; microeconomics; rational expectation theory; government regulation of the economy

Introduction

Введение

Nowadays the investment problem is getting topical. The states and their leaders are concerned about investment processes intensifying within the country for the reason that fixed assets investments themselves play a role of the development driver in the whole country, and it causes economic growth and development. A country's economics growth within a macroeconomic process leads to a higher realization of its production capabilities level. At the same time, economic growth can be considered to be a component of the economic cycle [1]. Economic growth is a phenomenon which is studied on

the basis of some data such as gross national product dynamics or gross domestic product, both in absolute size and per capita. This dynamics is characterized by annual growth rates (or gain).

Theoretical and Methodological bases of the study. Methods

Теоретические и методологические основы исследования. Методы

A polymethodological approach based on modern macroeconomic models and theory of rational expectations.

Results

Результаты

The economic growth and investments studies is based on two main approaches: Keynesian and neoclassical [2; 3].

Savings and investments play an important role in the *Keynesian model* of economic growth. The logics of economic growth as a macro process, is the following: fixed assets investments are a mechanism for economic growth triggering. The necessity for updating and investment goods stimulates economic growth in the sectors that are entitled: "production of means of production". These economics sectors' incomes are growing, increasing their demands for materials and labor. An employment increase leads to an increase in demand for consumer goods. Production and revenue start growing, and more and more industries are involved in this process. And as a result, the growth in production volumes and net domestic product exceeds the initial investment. This phenomenon in the economy is called the "multiplier effect", which manifests itself at the macro level, but depends on processes at the micro level, on decisions of owners who are guided by the future rate of return, bank interest, lending rate, economic expectations and risks, the effect of new technologies, etc. The state may also act as an investor and in this case a multiplier effect can be evident.

The multiplier effect can also develop in the opposite direction: with a reduction in investment and a large-scale decline in production.

Keynes's multiplier is a coefficient that is equal to a fraction there is one in the numerator and the so-called MPS indicator (marginal propensity to save) in the denominator, therefore, the smaller it is, the higher the multiplier effect becomes; this phenomenon is called the "thrift paradox".

There exists a well-known Harrod-Domar economic growth model within the framework of the Keynesian concept. The mechanism of economic growth as a factor in increasing supply and demand in economics in this model, is positioned as investment growth. Equilibrium economic growth is achieved when aggregate demand and aggregate supply are equal (AD = AS), and based on formulas logics, the investment growth rate should be equal to the product of the marginal capital productivity and the marginal propensity to save.

Neoclassical theories of economic growth were formed in the first two post-war decades as a response to neo-Keynesian growth theories with their conclusions about the inevitable instability of the market economic growth, and the necessity for government intervention in the economy. Neoclassical models of economic growth as a tool research use the production function, which was proposed in 1928 by American scientists – a mathematician C. Cobb and an economist P. Douglas.

The most famous in classical theory was the model of Robert Solow, which allows to reveal the relationship of the three economic growth sources – investment, labor force and technological progress. The state influence on economic growth is possible, according to neoclassicists, through its influence on the rate of savings and on the speed of technological progress.

The development of scientific and technical progress caused new factors inclusion into the model. The Tinbergen model is the most famous, including not only capital and labor, but also the rate of scientific and technological progress in the considered time period. J. Mead transforms Tinbergen's economic growth model into an equation of growth in which the overall growth rate of GNP is the sum of the growth rate due to capital, labor and technological progress. Thanks to a new production function version the Ministry of Foreign Affairs managed to solve a very important problem: how to make the economic steady balanced growth possible without government interference.

The neoclassical models practical application of economic growth based on the Cobb-Douglas function should also be guided by the diminishing returns law of production factors (the law of diminishing returns), which has never been strictly proved, i.e. this approach is heuristic. This law says that under the increasing of one production factor (in our case, investment in fixed assets) and keeping the remaining production factors unchanged, the marginal product will begin to decrease from a certain stage. This is significant not only at the micro level for one business entity, but also investment business decisions will depend on previous investments of other business entities in the industry, which are characterized by high capital intensity. The law is applicable in the short term and for a particular technology. It does not apply to intellectual property objects that are transformed into intangible assets that can cause technological shifts in the industry, and, as a result, shifts in the production function.

This conclusion is confirmed by the outstripping growth of the so-called "Digital economy", based on the introduction of "digital intellectual" innovations and on the capture of a new market associated with the technologies of the fourth industrial revolution and new economic patterns. It is one of the practical conclusions from the theory, which should determine priorities in state investment policy and should be a guide for business.

Further we will show what factors limit investment activity in Russia according to potential and real investors (fig. 1).
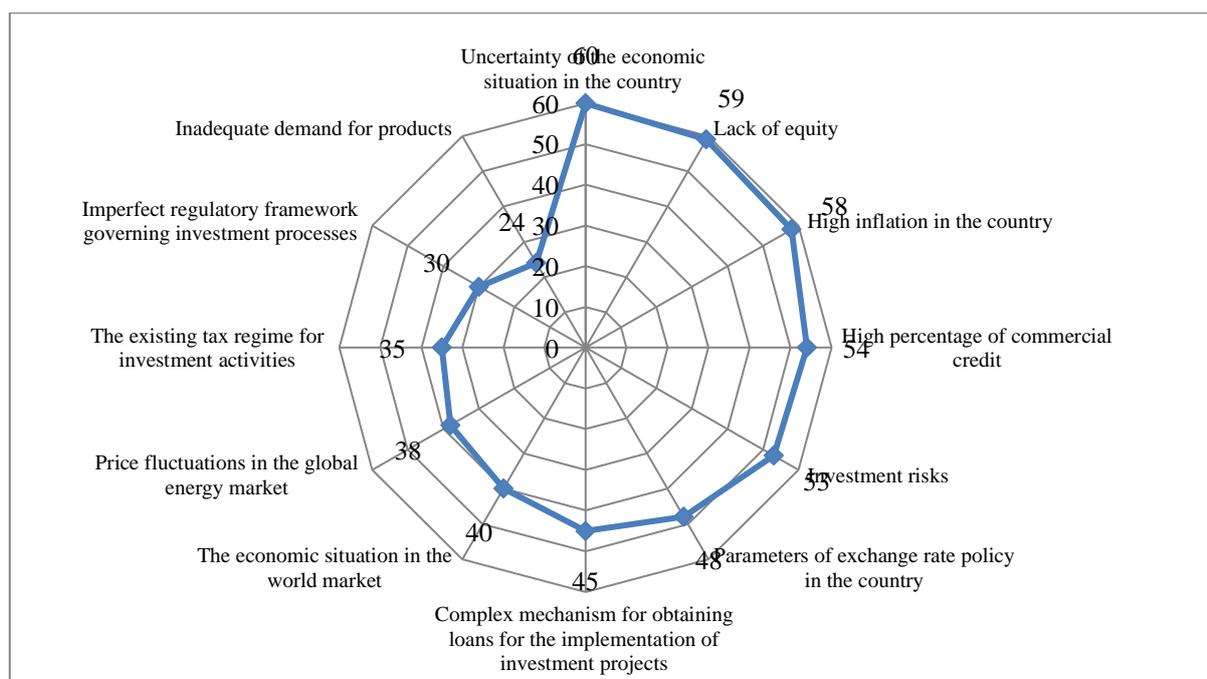
Figure 1. In% of the total number of organizations, according to a sample survey,
on average for 2016–2018 (compiled by the authors according to official data from Rosstat: source,
URL: http://www.gks.ru/free_doc/new_site/business/invest/Graf-iap.htm)
***Рисунок 1.** В % к общему числу организаций, по данным выборочного обследования,*
в среднем за 2016–2018 гг. (составлено авторами по официальным данным Росстата: URL:
http://www.gks.ru/free_doc/new_site/business/invest/Graf-iap.htm)

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From the point of view of determining the possibilities of the state investment policy, it is important not only to rank, but also to systematize the limiting factors in conjunction with theory and methodology. *Systematization of factors limiting investments in accordance with modern theoretical and methodological approaches* (developed by the authors):

- *institutional (including tax)*: complex mechanism for obtaining loans for the implementation of investment projects, existing investment taxation regime, imperfect regulatory framework governing investment processes;

- *macroeconomic*: high inflation in the country, high percentage of commercial loan, country exchange rate policy options;

- *internal market conditions*: uncertainty of the economic situation in the country, lack of equity, investment risks, insufficient demand for products;

- *external market conditions:* the economic situation in the global market, fluctuations in prices on the global energy market, insufficient demand for products.

Discussion

Обсуждение

Such a systematization allows us to determine the instruments for regulating investments [4], as well as to seek compromise solutions between investor requests [5–9] and the possibilities of customizing the economic system [10; 11]. A sociological study confirms the importance of institutional conditions in Russia to ensure increased investment including foreign [12–15], this is the potential that can be used [16–18].

Conclusion

Заключение

Thus, this study demonstrates the necessity for the interconnection of theory, methodology and practice in economic research. The polymethodological approach allows tochoose tools for solving economic problems, in particular the problem of activating investments. The limitedness of rational expectations the theory in making decisions in the capital investments sphere, which contradicts macroeconomic proportions, is shown. Investment decisions sociological studies – is the factual, empirical material, the analysis of which on the basis of modern economic theory and methodology allows us to identify reasonable trends in state investment policy.

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Цифровой и интеллектуальный потенциал экономики как результат современных инвестиционных процессов и ограничений

Аннотация. В статье на основе социологических исследований по проблеме принятия решений об инвестициях, проведенных в России, проранжированы и систематизированы факторы, влияющие на решения бизнеса о будущих капитальных вложениях. Систематизация факторов была проведена авторами в соответствии со сложившейся современной экономической методологией и теорией, что позволяет искать компромиссные решения между запросами инвесторов и возможностями настройки экономической системы. Показана необходимость государственного регулирования инвестиционных процессов в России, в основном это может осуществляться за счет совершенствования институтов, в том числе в налоговой сфере, и за счет регулирования макропараметров, в основном с помощью Центрального Банка России. Данное регулирование необходимо, так как инвесторы не обладают всей полнотой информации, а запросы на дешевые кредиты могут привести к нарушению макроэкономического равновесия и обесцениванию национальной валюты. Кроме того, государство в современных условиях цифровой экономики должно стимулировать инвестиции в инновации в данной сфере.

Ключевые слова: инвестиции; цифровая экономика; экономический рост; макроэкономика; микроэкономика; теория рациональных ожиданий; государственное регулирование экономики

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