

Theoretical Aspects of Innovations and Investments in Increasing Economic Efficiency

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Abstract. *The research is dedicated to the theoretical and economic justification for the impact of investment and innovation as an important factor in increasing economic efficiency.*

Keywords: *Investment, Innovation, Economic Growth, GDP, Economic Efficiency, Innovative Costs, Investment Activity, Innovative Economy.*

I. INTRODUCTION

Investments are necessary not only for the stable development of the economy, but also for the transition to an innovative, progressive path of its development. The scale, structure and efficiency of the use of investments largely determine the results of economic activity at various levels of the economic system, the state of production potential, development prospects and competitiveness of the economy.

In economic theory, the concept of "investment" is associated with the rejection of momentary consumption of the good by investing in objects of entrepreneurial activity in order to more fully satisfy future needs. This definition, theoretical in content, connects two aspects of understanding investment. Firstly, investments as capital expenditures at the current moment of time, and secondly, how to receive returns on realized expenses in the future. In this regard, investment is a stream of expenditures intended for the production of goods, and not for direct consumption [1].

II. LITERATURE REVIEW

The innovative economy was formed at the end of 1920 at the beginning of 1930 as an economic science. The scientist economist N. Kondratyev noted that the changes occurring in the technical field have a positive impact on the economy [2]. The scientist noted that an innovative "mass" had accumulated in the country and preferences were formulated for its implementation.

The essence of "innovation" for the first time in economic science, the Austrian scientist J. Schumpeter characterized the following way: "Innovation is a new look, approach to the existing process and involves the application of time, development, or progress. In the opinion of J. Schumpeter, a precisely innovative approach to economic activity determines the level of development of the economic system of each period. In his theory of entrepreneurship is considered as the fourth factor of production. It is also the task of entrepreneurs to use the invention for the release of new products or the conversion of old products, to use new raw materials or sources of materials or to open new markets, thereby reframing and improving production. The scientist predicted that thanks to innovations and entrepreneurs in the economy, revolutionary changes would be made [3].

American scientist economist Kuznets introduced in the 1980s understanding "epic innovations" in economic science according to his teachings, in a certain period of

development of the economy, the basis for ensuring sustainable economic growth and raising its level should be the introduction of modern innovations, and their source is science [3]. According to S. Kuznets, the introduction of innovations regarding a certain time or period does not only have a positive effect, but it can also have a negative effect. Therefore, the participation of the state in the development of innovations and their implementation in production is important in socio-economic relations. The constant introduction of scientific and technological innovations in the economy is not only an important factor for sustainable increasing economic efficiency, but it also leads to a breakthrough in society such as unemployment, hiring, and job placement.

“Innovation is a complex of innovations, inventions, discoveries, ideas and new approaches in the form of intellectual property, formed on the basis of human intelligence and productive experience introduced in the process of production” [4]. If an innovative idea comes up, but it has not been introduced into production, has not proved its economic efficiency, then it is not considered an innovation.

III. RESEARCH METHODOLOGY

In the process of research, methods of grouping, comparative and structural analysis, induction and deduction, analysis and synthesis, and monographic observation are applied.

IV. ANALYSIS AND RESULTS

In accordance with the essence of this definition, innovations do not only consist of ideas, development, inventions, but the composition of innovation includes completely new innovative approaches and principles of organizational and managerial character, relating to the organization and regulation of production, serving the general progress and the effective implementation of property.

As is known, the absolute growth of GDP is reflected in the market value of goods and services earned this year in addition to the volume of GDP of the last financial year. This growth is an absolute increase in GDP, but it does not mean effective economic growth.

Comparative economic growth reflects the stability of economic growth and shows, due to what activity or resource costs, GDP growth is achieved. The composition of such resource costs also includes the costs of innovative activities and the costs of innovative resources.

In identifying the effectiveness of innovative costs and its level, we use the generally methodical, theoretical basis for identifying economic efficiency. That is, the “result” of an innovative activity is revealed through the correlation of the “costs” of this activity.

The increased (incremented) part of GDP (ΔGDP) is the difference between the volume of GDP produced in the reporting year (GDP_2) and the volume of GDP of the base year (GDP_1):

$$\Delta GDP = GDP_2 - GDP_1, (1)$$

The absolute increase in GDP is achieved due to an increase in the cost of production (ΔW). Increase in expenses (ΔW) this is the difference between the volume of expenditures for the production of GDP in the current reporting year and the volume of expenditures for the production of GDP in the base year, that is:

$$\Delta W = \Delta W_2 - \Delta W_1, (2)$$

From this point of view, the effectiveness of innovative activities (E_i) is determined in terms of the ratio of ΔGDP to Δ innovative costs, and its level is expressed in percentages:

$$E_i = \frac{\Delta GDP}{\Delta \text{innovative costs}}, (3)$$

This formula expresses the growth of GDP at the expense of the costs of innovative activity.

If this relationship is expressed in the reverse form, then it is possible to accurately evaluate the effectiveness of economic growth:

$$E_{Ei} = \frac{\Delta \text{innovative costs}}{\Delta \text{GDP}}, \quad (4)$$

where E_{Ei} , – Evaluation of the effectiveness of innovative economic growth.

Such an estimate expresses the growth of GDP per unit of innovative costs.

Increasing the efficiency of innovative economic growth depends not only on the absolute growth of GDP, but also on achieving innovative development on the basis of the direction of investment on the activation of innovativeness.

The lack of finished products made in the leading industrial sectors of the country, able to compete in the global market, not to develop an effective system that positively affects the emergence of innovations and other negative effects on the development of innovations. This is confirmed by the low share of information and communication technologies, produced innovative goods, jobs and services in the structure of GDP (Table 1).

Table 1: The Separate Macroeconomic Parameters of the Republic of Uzbekistan (%)

<i>Indicators</i>	<i>Years</i>					
	2014	2015	2016	2017	2018	2019
The share of ICT in GDP	2	2	1,9	1,9	2,4	2,2
The share of produced innovative goods, jobs and services in GDP	3,7	3,8	4,8	4,6	4,4	4,7
Gross Accumulation Share in GDP	31,1	30,3	20,1	28,1	27,4	29,0
The share of gross accumulation in GDP	25,7	26,7	27,1	26,2	26,4	26,6
The share of joint ventures, property forms of foreign citizens and organizations in GDP	13,7	13,4	12,1	13,3	12,9	-
The share of export in GDP	26,3	24,9	21,5	18,8	18,1	29,4

From the data given in the table, we can see that one of the important criteria for the transition to an innovative economy is for the share of the produced innovative products in GDP. In 2019, in the structure of GDP, the share of manufactured innovative products relative to 2014 was only 1% of the age, compared to 2016, it decreased by 1.1%. It should be noted that, although there is more work being done in the field of development of innovations, the innovations are being commercialized very slowly; therefore, it is difficult to achieve practical results at a macroeconomic level. Subjects engaged in innovative activities are considered to be producers of intellectual products, the number of inventions, discoveries, useful models in the field of industry, techniques developed by them, and other inventors takes on great importance.

Table 2: Distribution of contracts registered in the republic for intellectual property

<i>Indicators</i>	<i>Years</i>					
	2006	2007	2010	2017	2018	2019
Discovery	21	25	8	12	16	10
Useful models	2	5	2	2	4	6

<i>Indicators</i>	<i>Years</i>					
	2006	2007	2010	2017	2018	2019
Industrial designs	3	7	4	17	9	9
Trademarks and service marks	86	110	160	260	294	363
Computer Software Products and Databases	3	2	3	2	7	2
The results achieved in the field of selection	-	2	2	-	1	0
Total	115	151	179	293	331	388

One of the final results of the innovative activity is the number of products and contracts developed and registered in the country for their commercialization. So, in Uzbekistan in 2006, 2007, 2010, a total of 445 objects of intellectual property were registered in the form of inventions, useful models, industrial designs, trademarks, etc. In 2017-2019, their total number was 962. Such an increase occurred mainly due to an increase in the number of trademarks and service marks. The number of inventions has decreased in relation to 2006-2007, 2010. At a fairly low level, the indicators are the development of useful models, industrial samples, software products for computers and databases.

The lack of competitive domestic technology products on the world market, the slow pace of diversification and restructuring processes in the industrial sector are also considered serious problems on the path to transition to an innovative economy.

There is a gap between the innovations developed in the country and their practical application, commercialization. This says about the lack of an effective mechanism for introducing innovative ideas and development into production.

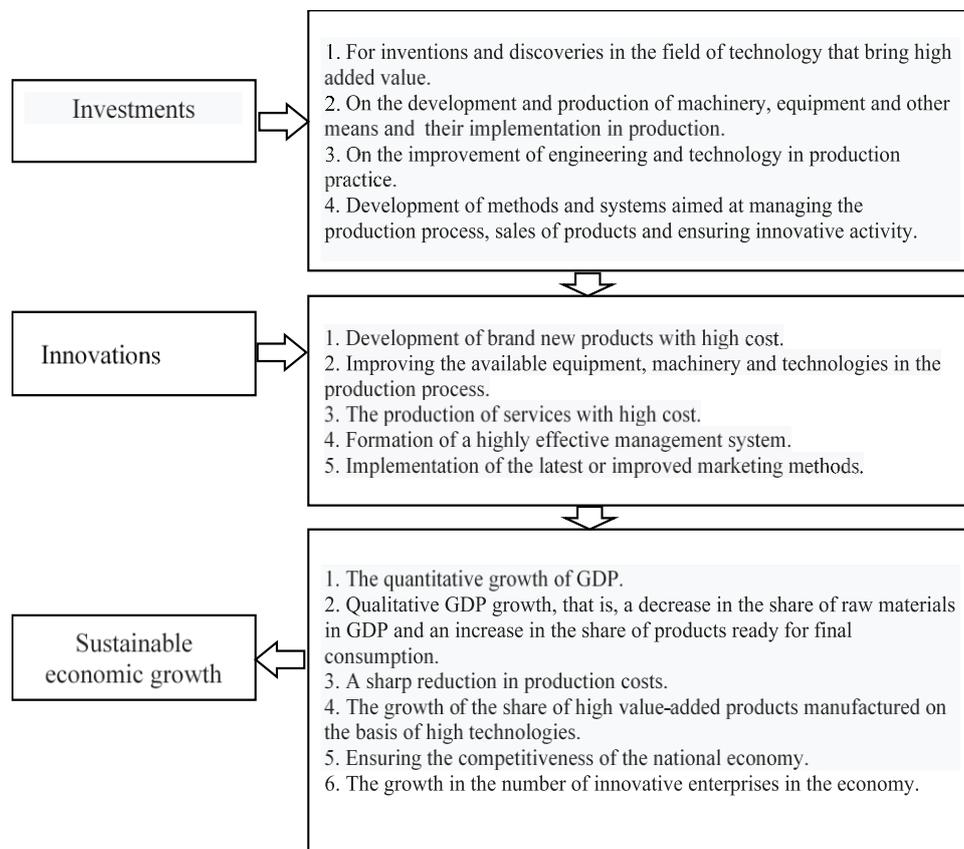


Figure 1: The relationship of innovative development with sustainable economic growth

As you can see from the Figure 1, the primary link in the development of innovations is to attract investment, including foreign investment in leading and promising sectors and sectors of the economy. World practice shows that without a well-thought-out investment policy and investment activity, it is impossible to switch to an innovative economy. The logical formula for innovative development related to sustainable economic growth can be expressed as

Investment → Innovation → Economic Growth.

V. CONCLUSION/RECOMMENDATIONS

The role of the state in enhancing investment activity is as follows:

- creating conditions for increasing the investment activity of business entities;
- creating conditions for the efficient use of production resources;
- Organization of scientific and technical cooperation with other states and foreign companies;
 - stimulation of innovative activity and the accelerated development of high-tech industries;
 - financing the implementation of innovative projects with the aim of intensively updating fixed assets;
 - providing guarantees and protecting the rights of investors; formation and development of innovative infrastructure;
 - stimulation of attraction of foreign investments for the development of domestic technologies;
 - activation of indirect methods of stimulating investment processes (tax, depreciation, investment policy);
 - motivation to improve the efficiency of business entities in the implementation of the investment process;
 - assistance to the processes of integration and the formation of large holdings while maintaining competition in the markets and the development of small and medium-sized businesses, especially venture capital ones;
 - strengthening anti-monopoly control in the process of restructuring natural monopolies, ensuring greater information transparency of the formation of their costs;
 - intensification of scientific activity of industry institutes, as well as attraction of the scientific and production base of the military-industrial complex for the creation and promotion of import-substituting and export-oriented high-tech products on the market.

An analysis of the theoretical aspects of the impact of investment and innovation on economic growth made it possible to formulate the following proposals:

1. It is necessary to restore the connection between science and industry, to ensure their lasting interconnection. The development of international and regional scientific and technical cooperation is seen as important. That is, it is necessary to take into account the low level of internal demand for scientific research in the national economy. In turn, this state reduces the economic interest in scientific research and negatively affects the development of this area. In this context, it is reasonable to further deepen the international ties between research institutes and centers.

2. It is necessary to ensure the participation in innovative activities of not only research and development institutions, design and development bureaus, but also of all individuals and legal entities. The development of new technologies and their introduction into production is a complicated process, in this process it is necessary to establish an effective mechanism for mutually beneficial partnership of scientists, entrepreneurs and the state. It is necessary to achieve openness of the economy, to form a class of private capital

owners, private investors making investments in innovations and to develop international economic relations.

3. It is necessary to develop the following aspects of the mechanism for ensuring sustainable growth on the basis of innovative development:

- It is necessary to urgently adapt the tax, customs, tariff, financial and credit system of state regulation to the requirements of the model of innovative development and the pace of development;

- It is necessary to develop a system of a particularly stimulating approach to the subjects of producers of innovative products, foreign investors, national producers, entrepreneurs, and the government for the use of non-government payments.

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