

STRATEGY FOR ATTRACTING FOREIGN INVESTMENT IN THE SCIENTIFIC AND PRODUCTION SECTORS OF THE REPUBLIC OF UZBEKISTAN

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<https://doi.org/10.5281/zenodo.8306330>

***Abstract.** In this article, taking into account the peculiarities of the national economy of Uzbekistan, the analysis of stage-by-stage attraction of foreign investments in the republic is conducted and the mechanism of stimulation of scientific and production environment is given, taking into account the priority directions of innovation economy of the country.*

***Keywords:** investment, venture investment, scientific and production sphere, experimental and design developments, scientific research.*

INTRODUCTION

A huge research literature has been devoted to the problems of science, technical-production and other numerous aspects of its development over the past few centuries. Just one simple list of studied scientific in society questions spans many hundreds of pages. Based on the broad issues of research in the scientific and industrial sphere, it is initially required to determine the parameters of the subject area of our study in order to proceed to the argumentation of the modern macroeconomic function of the scientific and industrial sphere of the national economy of Uzbekistan.

The definition of the subject area of scientific research was carried out by us on the basis of a number of specific initial premises, which, being targets, at the same time determine relatively strict boundaries. Such prerequisites, taking into account the republican conditions for economic development, should be:

First, the study of the scientific and production sphere, based on the characteristics of modern macroeconomic processes taking place both in the world as a whole and in our republic, should reflect the characteristics of the national economy.

Secondly, when studying the stages of economic development of our country, based on the peculiarities of the national economy of Uzbekistan, one should also take into account the priority role of science and technology in each stage.

Thirdly, the study of organizational and structural forms of development of the scientific and industrial sphere in the national economy of Uzbekistan in terms of their focus on the implementation of its priority function.

Only in this case, the definition of the scientific and production sphere from methodological positions will be tied to a certain stage of the economic development of our country and reflect the characteristics of the national economy.

With such a formulation of the question, the allocation of the scientific and production sphere of Uzbekistan becomes not just a task of scientific research, but an urgent need for the development of the country's economy, for improving working conditions, for the development of each region and improving the social security of the country's population. This gives impetus to

the development of techniques and technologies for import substitution, reduces dependence on imports

Given these considerations, we will try to prove the need to attract foreign and other types of investment in the scientific and production sphere of the national economy of Uzbekistan.

MATERIALS AND METHODS

At present, one of the most obvious signs of scientific and technological progress is that technology (as an element of the productive forces of society) has become the materialization of scientific knowledge for the most part.

Thanks to this, there was a kind of integration of science and economics. This process can be defined as an innovative development of the economy. The technology produced by science turned out to be the link that began to determine the content of both of these spheres of the life of society. Let's try to show it in numbers.

If you pay attention to the static data, today the state of the republican trade turnover looks like this (see Table 1.)

Table 1.
Dynamics of the volume of exports and imports of the Republic of Uzbekistan (2018-2022)
(billion US dollars)

| | Indicators | 2018 | 2019 | 2020 | 2021 | 2022 |
|---|------------|----------|---------|-----------|---------|---------------|
| 1 | Import | 19.439bn | 24.3 bn | 20.412 bn | 17966.1 | 264.8 million |
| 2 | Export | 13.9bn | 17.9 bn | 5.1bn | 10357.2 | 2.96 bn |

The table was developed by the author according to the State Statistics Committee.

According to the results of January-February 2023, the volume of exports of goods and services amounted to 1982.6 million dollars. USA. In the structure of exports: goods - make up 82.2% of the total turnover. Of these, manufactured goods - 19.4%; food products - 7.0%; finished products - 6.0%; The volume of imports amounted to 5.783.3 million US dollars. In the structure of imports: machinery and equipment - 41.3%; industrial goods - 14.8%; chemicals - 13.8%; this shows that imports are dominated by equipment and machinery.

In international trade, goods are getting increasingly interconnected with scientific and technological development. Under the influence of scientific and technological progress in the structure of foreign trade of the main highly developed countries in 2018 to 2022, there have been noticeable changes, where the main forces of scientists, engineers and technicians are concentrated and where the largest volumes of R&D are implemented. These industries are called "knowledge-intensive". Science-intensive industries include chemistry, mechanical engineering (general, electronic, electrical and transport), as well as instrumentation. In addition to these, with the development of science and technology, the structure of high-tech goods has expanded, today these goods include:

- Patents for inventions;
- non-patent inventions;
- patent licenses for inventions;
- selection achievements;
- utility models;
- Know-how;
- trademarks;

- industrial designs;
- engineering services;
- research and development
- other achievements of science.

The main share of exports of science-intensive products such as chemistry, mechanical engineering and instrumentation (about 80%) is provided by developed countries such as the USA, Japan, Germany, Korea and France. Developing countries are estimated to account for 3.3% of world capitalist exports of high technology products. International trade in the products of the above industries is developing at a relatively high pace. High spending on R&D contributes to the emergence of new products on the world market, which are a factor in the development of merchandise exports in many countries. They reflect the degree of development of the economy of these countries.

This can be seen from the proceeds from technology exports and payments on technology imports by groups of countries in Fig. 1a, and b. At the same time, the number of countries supplying science-intensive products to world markets is increasing.

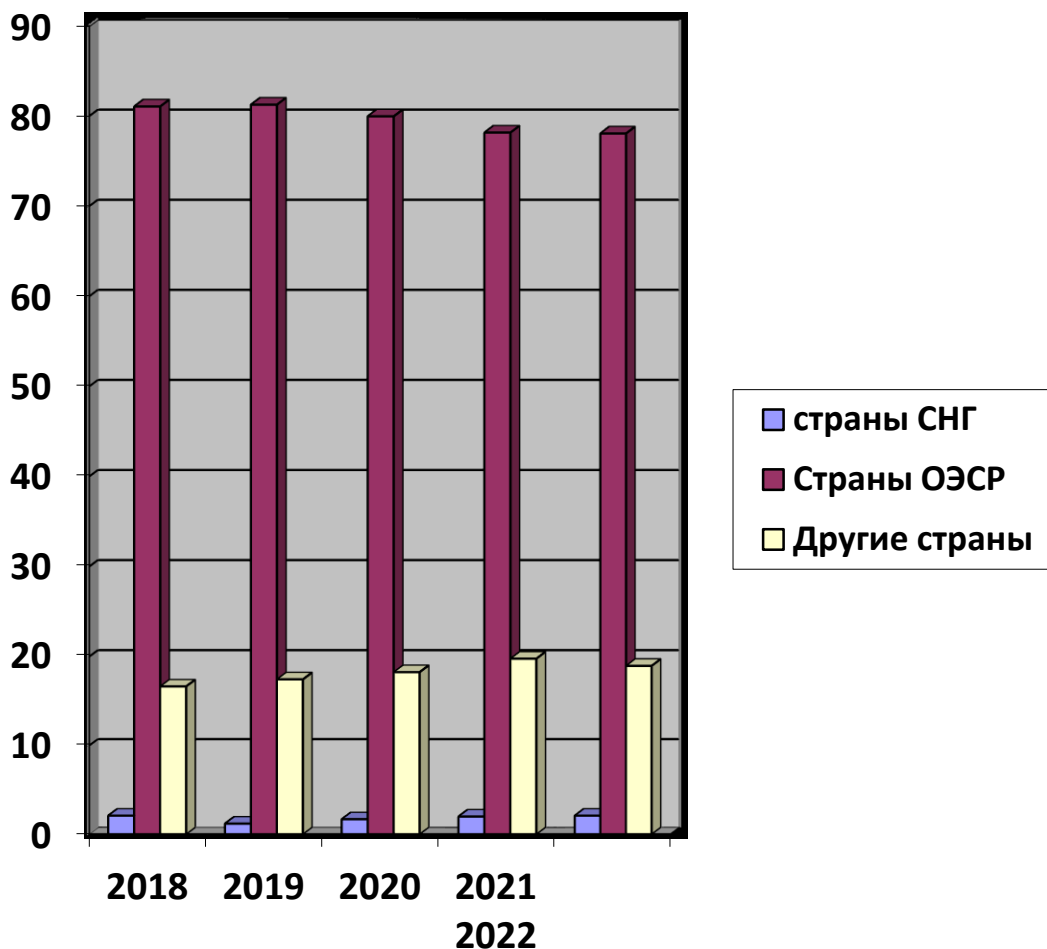


Fig.1.a Structure of payments for technology imports by groups of countries.

The diagram was compiled by the author according to the statistical data of the Republic of Uzbekistan.

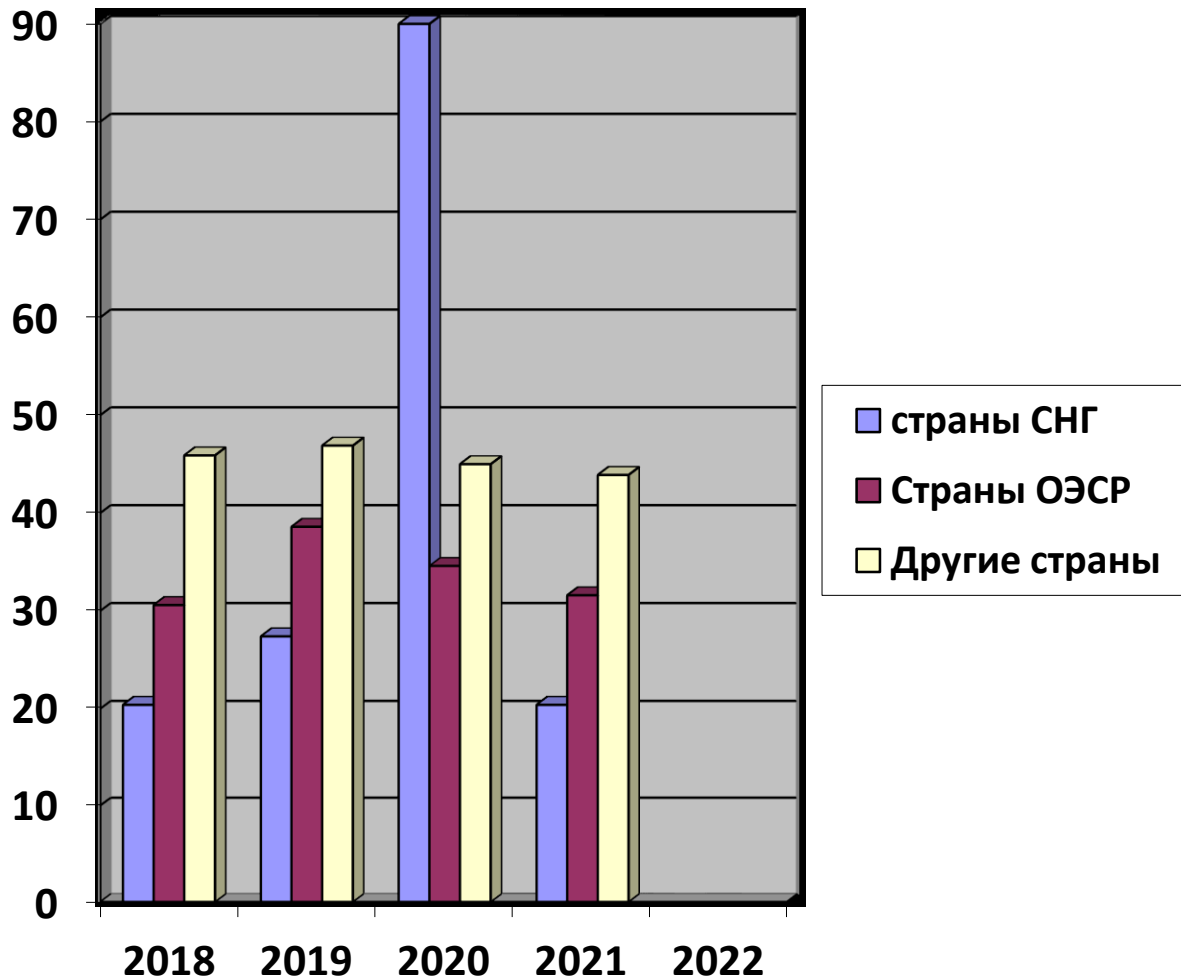


Fig.4.b Structure of proceeds from technology exports by groups of countries.

(The diagram was compiled by the author according to the statistical data of the Republic of Uzbekistan).

In the technological structure of investments in fixed capital in the Republic of Uzbekistan, 23,974.0 billion soums were allocated for the purchase of machinery, equipment and inventory in 2022, which amounted to 47.9% of their total volume.

According to static indicators, the analysis of the economic state of the Republic of Uzbekistan shows that science in the republic is singled out as a special specialized sphere of social labor with a characteristic outstripping development. It can be traced by the growth in the share of people engaged in scientific activities, by the growth of spending on science in the structure of the use of the gross domestic product (GDP), etc. (see Table 2.).

Table 2

The share of those engaged in scientific activities, by growth in spending on science

| № | Number of people employed in the economy | 2018 | 2019 | 2020 | 2021 | 2022 |
|---|--|---------|---------|---------|---------|---------|
| 1 | Population of Uzbekistan | 31298.9 | 33905.0 | 33905.2 | 34860.2 | 35603.4 |

| | | | | | | |
|---|--|---------------|---------------|---------------|---------------|---------------|
| 2 | Total population employed | 13.3mln | 13.5mln | 16.8 | 13.7 | 13.8 |
| 3 | Of them engaged in scientific activities | 2230 thousand | 2260 thousand | 4200 thousand | 5180 thousand | 5300 thousand |
| 4 | Spending on science in the structure of GDP (percentage) | 0.05 | 0.1 | 0.2 | 0.5 | 0.5 |

The table was created by the author according to the static data of the Republic of Uzbekistan.

The total number of employees at the Academy of Sciences of the Republic of Uzbekistan this year is: 5125 employees, including 2250 researchers, 66 academicians, 408 doctors and 770 candidates of sciences, 1600 engineering and service workers, 100 trainee researchers. There are 55 doctoral students, 238 basic doctoral students, 120 independent applicants [8].

Table 4 shows the dynamics of the number of research institutes, design bureaus, experimental design bureaus in the Republic of Uzbekistan by years. Here the number of scientific divisions is indicated, which are organizationally united into three divisions in scientific areas.

1. Physical, mathematical and technical sciences;
2. Chemical-biological sciences and geosciences;
3. Social and human sciences.

And 3 regional branches - Karakalpak branch, Navoi branch and Khorezm Academy of Mamun.

Table 3.

Dynamics of sectoral and academic scientific institutions by years.

| № | Types of scientific institutions | 2018 | 2019 | 2020 | 2021 | 2022 |
|---|--|------|------|------|------|------|
| 1 | Research institutes | 32 | 36 | 36 | 36 | 36 |
| 2 | Design offices with pilot production | 4 | 4 | 5 | 5 | 6 |
| 3 | Research Centers | 3 | 5 | 6 | 7 | 8 |
| 4 | Scientific organizations of a different type | 3 | 3 | 4 | 8 | 6 |

The table was created by the author according to the static data of the Republic of Uzbekistan.

Tables 2 and 3 show that, on the one hand, we certainly have a proper scientific sphere of work. This is evidenced by a rather versatile system of research institutes, higher educational institutions, design bureaus, design institutes, etc.

However, about the outstripping development of this sphere, i.e. implementation of scientific developments in production, at the present time it is not necessary to speak. One of the reasons for this, in our opinion, is the lack of funding for research and development, according to priority.

The foregoing shows that, firstly, the period of materialization of scientific developments does not meet the requirements of the time. That is, completed scientific developments are not introduced into production on time. Secondly, the financing of the scientific and production sphere

is not distributed in stages; thirdly, when financing, it is necessary to form a system of priority in the development of science and technology in the Republic

The degree of development of each country is determined by the degree of use of the achievements of science and technology in the priority areas of the country.

In the period of transformation of the national economy, as the history of the development of the countries of the world shows, it becomes necessary to regulate it at the state level, as a matter of priority. For our Republic at the moment the priorities are:

- technical and technological modernization of production, transition to a predominantly intensive type of growth; [7].
- integration of the national economy of Uzbekistan into the world economy;
- the transition from an economy with a predominantly administrative method of government to a market-type economy, that is, the implementation of economic reforms, national to the development of market relations.

The solution of all three tasks is directly related to the development of investment activity.

An important component of the social management system is the investment policy, thanks to which, both at the micro and macro levels, it is possible to solve the problems of modernizing the economy, introducing "know-how", improving the living conditions of people in Uzbekistan. This ensures the production and export potential of the Republic during the period of transformation of the national economy, allows you to create an economic environment receptive to innovation, which ensures the balance of the country's economic system.

RESULTS AND DISCUSSIONS

However, investment policy is not a magic wand that would automatically solve all structural adjustment problems. It is crucial, first of all, on the mind, skill and efficiency of people and, first of all, those who are directly or indirectly connected with investment activities. It is important not only to earn, but also to use them wisely, especially when it comes to the entire national economy, including the case of attracting foreign investment.

As in any society, financial resources in Uzbekistan are also limited, while needs are unlimited. Various ways are being sought to expand investment activity, an appropriate infrastructure is being created, and a legal framework for investment activity has been created. One of the main ways in finding resources is to attract funds from foreign investors in their various forms. Currently, foreign investments in the amount of more than 160 billion US dollars are circulating around the world. The main task of the republic, taking into account the above factors: the definition and selection of investment projects, in a skillful calculation of economic efficiency.

Naturally, the question arises, what should be the ratio of sources of capital investment financing at the macro level? It depends on the state of the economy, the budget, the hardness of the currency, the development of market relations, the taxation system, the assessment of fixed assets, and the depreciation policy.

Science and scientific developments are labor-intensive and knowledge-intensive sectors of the economy, since the equipment used in them is expensive, the output of finished products is a long period of time, this area is not entirely attractive to foreign investors. It is required to improve the mechanism of science management in terms of improving the attractiveness of R&D.

Currently, such new sources of financing capital investments are being involved in the orbit of financing, such as: funds from foreign investors, funds from the denationalization and privatization of state property, funds from the sale of securities, corporatization - the cheapest

source of financing, funds from investment funds, the use of venture capital and other non-budgetary funds, funds of various groups of investors.

The degree of involvement of these sources in investment is determined by the level of development of market relations in the economy. Analyzing the sphere of capital investments, it is necessary to single out and delimit their development through the following channels: state centralized capital investments,

- Capital investments of state-owned enterprises.
- Investments of legal entities
- Capital investments of individuals
- Capital investments of non-residents of the Republic of Uzbekistan.

If we take developed countries, then the share of state centralized capital investments in their total volume ranges from 13 to 35%. In particular, in Canada 13%, in the USA 14%, in Japan 25% and in Sweden 30%.

The structure of internal costs for research and development by funding sources [12] is distributed accordingly (Table 4) in this way.

Table 4.

Structure of internal current costs for research and development by type of work (2019)

| No | Countries | Internal spending on research and development | Basic Research | Applied Research | Developments |
|----|---------------|---|----------------|------------------|--------------|
| 1 | USA | 100 | 16.6 | 19.8 | 63.5 |
| 2 | China | 100 | 5.5 | 11.1 | 83.3 |
| 3 | Japan | 100 | 13.1 | 19.8 | 67.1 |
| 4 | Germany | 100 | | | |
| 5 | Korea | 100 | 14.2 | 22.0 | 63.8 |
| 6 | France | 100 | 22.7 | 41.3 | 36.1 |
| 7 | Great Britain | 100 | 18.3 | 42.1 | 39.7 |
| 8 | Brazil | 100 | | | |
| 9 | Russia | 100 | 17.1 | 20.1 | 62.8 |
| 10 | Kazakhstan | 100 | 14.7 | 59.9 | 25.4 |
| 11 | Uzbekistan | 100 | 20.2 | 30.0 | 22.4 |
| 12 | Tadjikistan | 100 | 40.5 | 34.1 | 25.4 |
| 13 | Kirgyzstan | 100 | 62.5 | 11.7 | 25.8 |
| 14 | Israel | 100 | 10.4 | 10.2 | 79.4 |

Source. Indicators of Science. statistical compilation 2021.

The table shows that applied research costs dominate. The structure of domestic spending on research and development by sources of funding consists of state funds, funds from the business sector, other national sources and foreign sources (Table 5).

Table 5

Structure of internal costs for research and development by funding sources. 2019
(percentage)

| № | Countries | Internal spending on research and development | State funds | Funds of the business sector | Other national sources | Foreign sources |
|----|---------------|---|-------------|------------------------------|------------------------|-----------------|
| 1 | USA | 100 | 23.0 | 62.4 | 4 7.4 | 7.3 |
| 2 | China | 100 | 15.2 | 77.4 | 7.4 | ... |
| 3 | Japan | 100 | 14.6 | 79.1 | 5.8 | 0.6 |
| 4 | Germany | 100 | 27.8 | 66.0 | 5.8 | 13,5 |
| 5 | Korea | 100 | 20.5 | 76.6 | 0.9 | 1.9 |
| 6 | France | 100 | 32.4 | 56.1 | 3.7 | 7.8 |
| 7 | Great Britain | 100 | 25.9 | 54.8 | 5.6 | 13.7 |
| 8 | Brazil | 100 | 49.7 | 47.5 | 2.8 | ... |
| 9 | Russia | 100 | 66,3 | 30.2 | 1.1 | 2.4 |
| 10 | Kazakhstan | 100 | 44.5 | 47.4 | ... | 2.7 |
| 11 | Uzbekiistan | 100 | 54.3 | 42.4 | ... | 0.3 |
| 12 | Tadjikistan | 100 | ... | ... | ... | ... |
| 13 | Kirgyzstan | 100 | 89.5 | 6.4 | 0.2 | 3.1 |
| 14 | Israel | 100 | 10.6 | 35.8 | 1.0 | 52.6 |

Source. Indicators of Science. statistical compilation 2021

CONCLUSION

Taking into account structural adjustment, the investment policy of the state is determined. In this case, the center of gravity of investment activity moves to the macroeconomic level. The state, in our opinion, should reserve the financing of priority areas of capital investments in the leading sectors of the economy through the state form of ownership and partially attract capital investments of legal entities, individuals, as well as capital investments of non-residents of the Republic of Uzbekistan

With such a distribution of financial resources and stimulation of R&D, the republic will lead to scientific and technological progress and the chain: "education - science - pilot production - implementation - mass production - commercialization" will work without interruption.

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