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ВЫЯВЛЕНИЕ ФАКТОРОВ, ОГРАНИЧИВАЮЩИХ СПРОС НА НОВЫЕ ТЕХНОЛОГИИ И ГОСУДАРСТВЕННАЯ ПОДДЕРЖКА ИННОВАЦИОННЫХ ПРОЕКТОВ

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IDENTIFYING FACTORS LIMITING THE DEMAND FOR NEW TECHNOLOGIES AND STATE SUPPORT FOR INNOVATION PROJECTS

Аннотация: Инновации являются движущей силой роста и конкурентоспособности современной экономики. Ни для кого не секрет, что страны, которые инвестируют в новые технологии и поддерживают исследования и разработки (НИОКР), часто лидируют на мировом рынке. Но что часто упускается из виду, так это решающую роль государственной поддержки в этом процессе. Расходы на НИОКР в процентах от ВВП Развитые страны увеличивают расходы на НИОКР, тогда как страны Центральной Азии неуклонно их снижают. Инновации – это не просто создание новых гаджетов; речь идет о решении проблем, повышении эффективности и открытии новых рынков.

В заключение отмечены, что спрос на новые технологии и роль государственной поддержки инновационных проектов переплетаются в сложном танце динамики рынка и политических решений. Понимая факторы, влияющие на спрос, и реализуя стратегические меры по поддержке НИОКР, страны могут создать среду, в которой процветают инновации.

Ключевые слова: Инновационные проекты, Государственная поддержка, НИОКР, Экономическая либерализация, Научная политика.

Abstract: Innovation stands as the driving force behind the growth and competitiveness of modern economies. It's no secret that countries that invest in new technologies and support research and development (R&D) are often the ones leading the charge in the global market. R&D expenditures as a share of GDP developed countries have been increasing R&D expenses, while Central Asian countries have been steadily decreasing them. But what's often overlooked is the critical role state support plays in this process. Innovation is not just about creating new gadgets; it's about solving problems, improving efficiency, and opening up new markets.

In conclusion, the demand for new technologies and the role of state support in innovation projects are intertwined in a complex dance of market dynamics and policy decisions. By understanding the factors that influence demand and

implementing strategic measures to support R&D, countries can foster an environment where innovation thrives.

Keywords: Innovation projects, State support, Research and development (R&D), Economic liberalization, Science policy.

Carrying out innovation activities requires the development of a number of measures. These measures include improvement of the state investment system, credit and tax policy, off-budget financing.[1]

Both public and private funding of innovation and its development has benefits and drawbacks. On the one hand, the efficacy of private finance is typically better since the investor oversees and manages his assets and has little interest in financing inefficient projects. However, because the private sector is more selective about the direction in which it directs its investments, it may not be interested in initiatives with poor growth potential or high risk.[2]

The state policy in the field of innovation should be focused on the formation of a productive structure of state expenditures. Their total level should not be less than a certain share of GDP.

Advanced technology is not always effective for the market of developing countries. Therefore, the novelty of the invention, the richness of the patent, is not of primary importance here. In these countries, it is related to the cheapness of loans for obtaining orders for the supply of products that require in-depth knowledge, the possibility of covering them in exchange for goods, financial cooperation based on the use of national currency, providing service after the delivery of the product, and the price and quality of R&D. Other conditions are of special importance.

Demand for scientific products depends not only on R&D expenditure and its quality, but also primarily on the financial capabilities of the customer network, its investment potential, that is, on factors not directly related to science.

Of course, currently there are sectors with high investment potential in Uzbekistan (oil, gas industry, energy, etc.). The quality of research is of great importance to them.

Nevertheless, here, too, attention is paid not to the scientific innovation of the project, but to the quality of its final state expressed in new products, technologies and machines.

At the same time, scientific research is an intermediate product, which should be used and commercialized in investment areas. Therefore, customers who have the opportunity to finance R&D prefer ready-to-use production equipment and equipment from abroad rather than our own. These points are even more obvious when it comes to foreign investors.

It can be said that as the results of scientific research become ready, the demand for them increases (if other conditions remain the same). Most scientific research does not have free competition in the domestic market. Monopolies prevail in narrowly specialized branches of science.

President of the Republic of Uzbekistan Mirziyoyev Sh.M. "Critical analysis, strict discipline and personal responsibility - should be the daily rule of every leader's activity" Education and science in the work of the state implementation of youth

policy. The state of affairs in the field of introducing new modern methods of education, including information and communication technologies, was critically analyzed.[3]

Information technology can develop organizational communications both internally and externally. Information technology avoids interruptions in communication and improves feedback. The use of information technology in competition can have positive results as well as some negative consequences. The system may not be suitable for some external partners. If HEIs become dependent on information technology, they may experience major errors when the technology fails. It should also be remembered that technology alone cannot ensure long-term competitiveness. Therefore, HEIs should also develop ways of using information technology correctly.

Another feature of the organization of the innovation process is its high level of inertness. This inertia is reflected in the long time it takes to establish scientific resources, research areas and design teams. The state is obliged to maintain the demand for scientific products regardless of fluctuations in market conditions and investment activity.

State regulation of science is carried out through the financing of projects and research programs, state orders through the allocation of loans, the provision of grants, and the introduction of tax incentives. The more active the state policy in the field of science, the lower the impact of the price and quality of scientific products on demand. State funding leads to separation of R&D from the customer investor, and scientific and technical policy from investment policy. In such a situation, there is a risk that the results of scientific research will not be implemented, and the economy will lose budget funds.

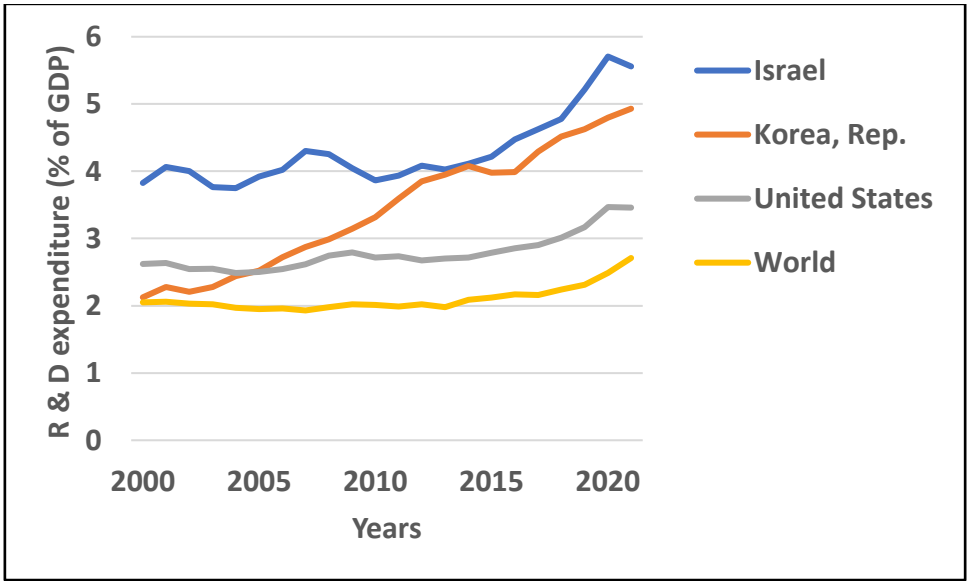

Figure 1. Spending on research and development in the world as a share of GDP.
Source: World Development Indicators (WDI)

Gross Domestic Expenditure on Scientific Research and Development, which is one of the indicators of world development of the World Bank , expressed as a percentage of GDP benchmarking their figures , they include both capital and operating expenditures in four main sectors: Business Enterprise, Government, Higher Education, and Private Non-Profit. R&D covers basic research, applied research and experimental development.

Figure 1 shows R&D expenditures as a share of GDP in Israel, South Korea, the United States, and the rest of the world. In 2000, it was 3.83% in Israel, 2.12% in South Korea, 2.61% in the USA, and the world average was 2.05%. By 2021, the world average is 2.71 percent. The highest rate is in Israel - 5.55%, South Korea - 4.93%, the USA - 3.45%, that is, for the last 20 years, developed countries have been constantly increasing the expenses spent on research and development.

Figure 2 shows the expenditures on research and development of Central Asian countries. In 2000, Uzbekistan-0.36%, Kazakhstan -0.18%, Kyrgyzstan-0.15%, Tajikistan-0.08%. By 2021, respectively, Uzbekistan-0.13%, Kazakhstan-0.13%, Kyrgyzstan-0.09%, Tajikistan-0.08%, that is, for the past 20 years, these countries have invested in research and development expenses have been steadily decreasing.

Expenditures for scientific research and scientific development in institutions of higher education are expenditures on creative work (both public and private) for regular improvement of knowledge, including technical, cultural and social knowledge, and for use in new programs. Scientific research works include basic research, applied research and experimental development.

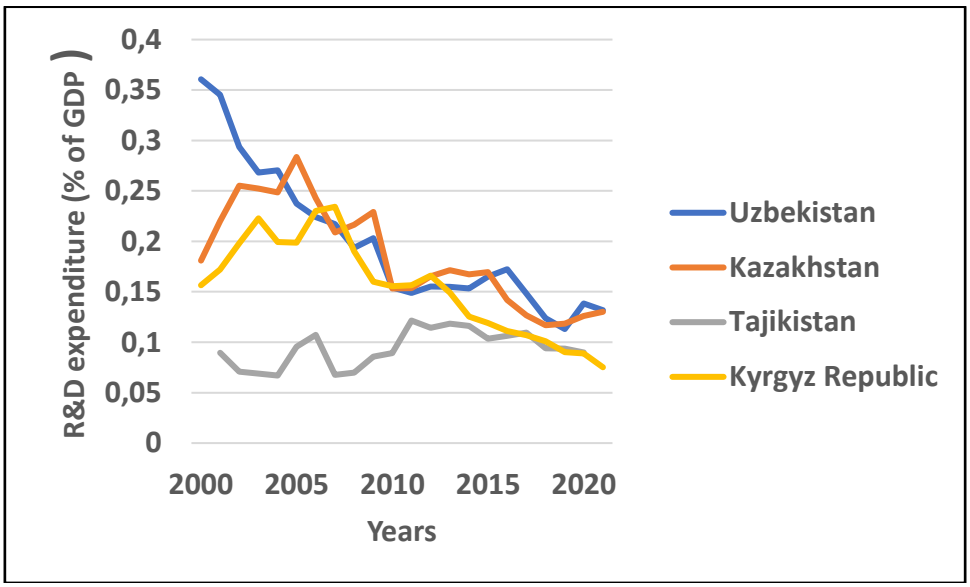

Figure 2. Spending on research and development in the countries of Central Asia as a share of GDP.
Source: World Development Indicators (WDI)

When allocating funds for R&D from state organizations, private funds, banks, other investors and creditors' funds, the growth prospects, investment potential of the industries that are customers of scientific products, the financial

situation of specific customer organizations, and their actions at the end of the research it is necessary to take into account possible changes.

Figure 2. as shown in the figure, R&D spending as a share of GDP in 2021 is 0.13 percent. In recent years, Uzbekistan's spending on scientific research as a share of GDP has changed significantly, but we can observe a constant average decrease of 0.2 percent between 2007 and 2017.

Only a few organizations can participate in the innovation project implementation scheme: project author (research institute), product manufacturer, customer (enterprise introducing innovation), investor, creditor, consumer of the final product. The viability of the project, its cost, quality and demand depend not only on the author of the project, but also on other participants of the innovation process. If a number of project implementation functions are performed in one organization, the life cycle of the innovation project will be shortened.

The Innovation Development Agency has developed and is implementing a mechanism for state support of innovation programs. This mechanism ensures the attraction of extra-budgetary funds for the implementation of innovation programs, the return of the funds invested in the project and reinvestment in other projects. The analysis of the dynamics of changes in the volume of attracted extra-budgetary funds shows that they have increased, but it lags behind the world average.

When the share of successful projects in the last stages of R&D increases significantly, the productivity of the funds allocated to it will increase if public and commercial organizations join in investing and lending. It is especially preferable for the state to lend and invest in an unfinished scientific project. This is because the payback period and the risk of losses are reduced. And vice versa, participation in a project that is supposed to end financing at the initial stage, usually leads to a loss of funds for the economy. At the same time, the economic justification of the expenses spent on science in the future should be carried out using all the tools of modern methods of evaluating project productivity, including methods of net discounting of income.

The staff of the Science and Technology Center led by Academician P. Khabibulayev were the first to propose the transition from expert methods to methods of quantitative analysis and evaluation of scientific and innovative projects during the selection of innovation projects. [5]

Today, it is necessary to strengthen the requirements for economic justification, which is prepared for making a decision to start financing projects. But the authors of the project are not yet ready to fulfill such requirements, they have not fully mastered the laws of the modern market economy. In addition to justifying the productivity of innovation projects, it is necessary to pay special attention to the analysis of the solvency after its implementation (the investment potential of consumers of scientific products, the stage of readiness of the project, the value of innovations, the share of participation of the budget and R&D in the project). The efficiency of the project cannot be analyzed not only by separating it from the market of this product, but also by separating it from other competing proposals representing the demand for financial resources from the capital market as a whole.

Thus, in the period of economic liberalization, state support for science in order to preserve the most important scientific research is justified in the conditions where the social order for scientific products has not yet been formed. But with the deepening of economic reforms, the development of science should be focused on the new social order, its products, new priorities of developed economies. According to world experience, it is necessary to allocate budget funds of not less than 2.0 % of GDP to support the scientific and technical complex of the country.

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