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Foreign Experience of Tax Incentives for the Innovation Development of Economies

Experiencia extranjera de incentivos fiscales para el desarrollo de la innovación en las economías

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Abstract

The relevance of the study is determined by the need to analyze the experience of tax incentives in selected countries (in this case, the strategic partners of Vietnam) in order to identify its impact on the innovative development of the country. The purpose of the work is to test the hypothesis about the positive impact of the applied tax incentive instruments on the level of innovative development of the economies under consideration. The main methods used in this study include the collection and processing of statistical data, their comparative analysis, the study of the regulatory framework for tax regulation and other documents related to providing tax incentives for the innovative development of economies. As a result of the study, tax incentive measures were identified as the most effective among other government support measures aimed at achieving innovative development in the analyzed countries. The practical significance of the work done lies in the formation of a package of specific recommendations for the Vietnamese economy in the field of tax incentives for the innovative development of the country.

Keywords: Tax Incentives, Strategic Partners, Viet Nam, Innovation Development, Competition, Research and Development.

Resumen

La relevancia del estudio está determinada por la necesidad de analizar la experiencia de los incentivos fiscales en países seleccionados (en este caso, los socios estratégicos de Vietnam) con el fin de identificar su impacto en el desarrollo innovador del país. El objetivo del trabajo es probar la hipótesis sobre el impacto positivo de los instrumentos de incentivos fiscales aplicados en el nivel de desarrollo innovador de las economías en consideración. Los principales métodos utilizados en este estudio incluyen la recopilación y el procesamiento de datos estadísticos, su análisis comparativo, el estudio del marco regulatorio para la regulación fiscal y otros documentos relacionados con la concesión de incentivos fiscales para el desarrollo innovador de las economías. Como resultado del estudio, las medidas de incentivos fiscales se identificaron como las más eficaces entre otras medidas de apoyo gubernamental destinadas a lograr el desarrollo innovador en los países analizados. La importancia práctica del trabajo realizado radica en la formación de un paquete de recomendaciones específicas para la economía vietnamita en el campo de los incentivos fiscales para el desarrollo innovador del país.

Palabras claves: Incentivos fiscales, Socios estratégicos, Vietnam, Desarrollo de la innovación, Competencia, Investigación y desarrollo.

Introduction

Today, the development of economies and the level of their competitiveness in relation to each other lies in defining a clear policy for the innovative development of countries, which includes the possibility of attracting additional financial resources from outside for the development of the most promising areas of business, targeted use of the country's internal resources, as well as successful positioning products produced throughout the global economy.

The question arises of the main approach in assessing the level of innovativeness of economies, according to which it is possible to compare the potential of countries and make adjustments from the point of view of their further development. The indicator of innovativeness of economies is multi-component, including the level of development of information and industrial technologies in the country; the level of development of the financial sector, which includes both the ability to attract investment funds into the economy and the management of financial flows within the economy itself; the level of education in the country, as well as scientific developments and the possibility of their implementation.

Over the past decades, competition between countries for foreign markets has intensified so much that the factor of innovativeness of economies has begun to play, in fact, a key role in terms of the economic development of a particular country, and most importantly, the sustainability of the achieved macroeconomic indicators. In this regard, there was a need to unite the efforts of various countries into so-called regional unions, with the help of which it would be easier to increase the level of innovative development through the use of joint technological developments, participation in common scientific and research programs, and uniting their foreign markets to promote manufactured products within the framework of such unions. One such promising alliance is the BRICS countries, which include Brazil, Russia, India, China, South Africa, Egypt, Iran, Saudi Arabia, the UAE and Ethiopia.

Another option for interaction between countries is the conclusion of strategic agreements, according to which economies establish their interaction in key areas

of development of their economies. Such an example is Vietnam's active interaction with its strategic partners, including China, the USA, Japan, South Korea, Russia, India and Australia.

Literature review

The secret to the success of innovative economies is being studied by both foreign and Russian scientists, which is reflected in many recent studies.

If we consider tax regulation from the point of view of attracting the most promising business areas from around the world to individual economies, the latest such example is the United States and its tax incentive policy in order to attract business from Europe, China, Russia and other countries. It is this kind of business relocation through the provision of tax incentives that becomes an effective tool in increasing the level of innovativeness of economies (Acemoglu et al, 2018). This kind of relationship between tax regulation in the economy and the level of its innovative development is becoming so highly correlated that more and more economies are paying special attention to creating attractive conditions for business in certain sectors of the economy (Akcigit et al, 2022; Nechaev & Antipina, 2016). This statement is confirmed by researchers who studied certain areas of economic development (Gersbach et al., 2019), both at the level of individual regions (Kouam & Asongu, 2022) and different countries (Dai & Chapman, 2022).

Separately, it is worth highlighting the analysis by economists of the impact of tax regulation on the level of innovativeness of economies in the short and long term (Chen et al., 2017), as well as the general impact of tax measures on innovation processes in the economy (Mukherjee et al., 2017). Moreover, the impact of individual types of taxes on innovation levels across countries has been studied (Karmaker et al., 2021).

However, despite the large number of studies on this issue, there is no analysis in the scientific literature of the role of taxation from the point of view of the level of innovation in regional associations, such as the BRICS countries. At the

same time, this kind of analysis could influence a fairly rapid increase in the level of competitiveness of these economies and increase their level of innovation in relation to the world's leading economies.

Methodologies and Data

Thus, the object of this study is to analyze the efficiency of using internal financial resources, namely the tax system, and its impact on the level of development of innovativeness of economies within the framework of interaction of a single economy with its strategic partners. In this particular case, such an economy is Vietnam, which is the object of study. In this regard, the subject of the study is taxation processes from the point of view of innovative development of each of Vietnam's six strategic partners in comparison with the leading innovative economies of the world.

The consequence of the task described above is a research hypothesis that contains a test of the statement about the high importance of the role of taxation in increasing the level of innovativeness of a particular economy.

The main methods used in this study include the collection and processing of statistical data, including international ratings on the innovative development of economies, their comparative analysis, the study of approaches to taxation of the countries in question, as well as obtaining key conclusions that can be used by Vietnam to its further development within the global economy.

The research process involves first identifying the key innovative economies of the world in order to compare their economic potential, including tax practices, with the current potential of Vietnam and its strategic partners. The next stage is to analyze the identified tax programs of the key innovative economies of the world and the possibility of their use in the Vietnamese economy. The final stage of the study is a description of steps to improve the taxation system in the Vietnamese economy, relying on the experience of tax incentives for innovation in the economies of the strategic partners of the economy in question.

Results and discussion

There are a large number of different international ratings aimed at determining the level of innovative development of a particular economy, which raises the question of choosing the most suitable one from the point of view of this study. An important aspect of the selection is the presence and analysis of financial programs, including tax ones, in the presented ratings, which has the greatest impact on the innovation component of leading economies.

Thus, two ratings of innovative development of economies for 2023 were selected, namely the UNESCO technology and innovation rating, as well as the innovation index of the International Intellectual Property Organization (WIPO), in order to analyze the positions of Vietnam and its strategic partner countries in the field of innovative development.

Thus, when analyzing the sample according to the two ratings indicated above (Table 1), eight countries were selected, including Vietnam. It is for these countries that tax policy in the field of innovative development of economies is of the greatest interest.

Table 1. Positions of the world's leading economies and BRICS countries in terms of innovation, 2023

Countries in the ranking of technologies and innovations, UNCTAD	Positions in the ranking	Countries of innovation index WIPO	Positions in the ranking
USA	1	USA	3
South Korea	6	South Korea	10
Australia	12	China	12
Japan	19	Japan	13
Russia	31	Australia	24
China	35	India	40
India	46	Viet Nam	46
Viet Nam	62	Russia	51

Resource: based on Technology and Innovation Report, 2023; Global Innovation Index, 2023.

An effective tax policy should encourage the innovative activities of entrepreneurs and corporations, which will contribute to economic growth and price stability, and ultimately, increase the innovativeness of the economy. In this regard, the optimal instrument of state tax policy is tax incentives for innovation. In foreign practice, the following forms of tax incentives are used: lowering tax rates, introducing special tax regimes, applying tax holidays, providing tax credits, as well as using increasing coefficients for R&D expenses for corporate profit tax purposes.

Tax preferences that stimulate innovative development include fiscal benefits that make it economically attractive for businesses to invest in scientific and technical developments. In addition, in our opinion, it is necessary, with the help of tax instruments, to interest business entities in introducing domestic developments, creating competitive advantages over foreign analogues.

In order to determine the most effective measures of tax incentives for innovation for the purpose of further application by the BRICS countries to increase the level of innovativeness of a particular economy, we analyzed the relevant experience of the United States - the leader in innovative growth of the economy of developed countries, and the experience of Russia as the most developed country of the BRICS members (according to Table 1). In addition, tax incentives for R&D applied in China, Japan, South Korea, India and Australia were examined.

In the tax system of the Russian Federation, benefits that stimulate innovative development include a wide range of preferences, including the possibility of including R&D costs in expenses when determining the tax base for corporate income tax, even if the research did not produce a positive result. In addition, an increasing factor of 1.5 can be applied to the amount of expenses for scientific development from the List approved by the Government of the Russian Federation for tax purposes. Forming reserves for upcoming R&D expenses also gives businesses the right to optimize their tax obligations. Not only participants of the Skolkovo project, but also innovative scientific and technical centers receive exemption from corporate income tax for 10 years from the moment they are included in the appropriate register.

Fiscal benefits of this kind are designed to reduce tax payments of companies developing innovative technologies by increasing the expenses taken into account when determining the tax base, mainly for corporate income tax.

A conclusion about the demand and effectiveness of the above-described benefits in Russia can be made based on an analysis of data on the volume of R&D financing from business funds (Fig. 1), as well as the number of taxpayers investing their own funds in innovative developments (Fig. 2). It should be noted that the benefit is in demand, but it is not possible to say that it is effective. This conclusion is confirmed by the absence of a stable and significant increase in business's own investments in innovation, as well as an insignificant change in the number of taxpayers who finance R&D and apply an increasing coefficient of 1.5 to expenses in tax accounting.

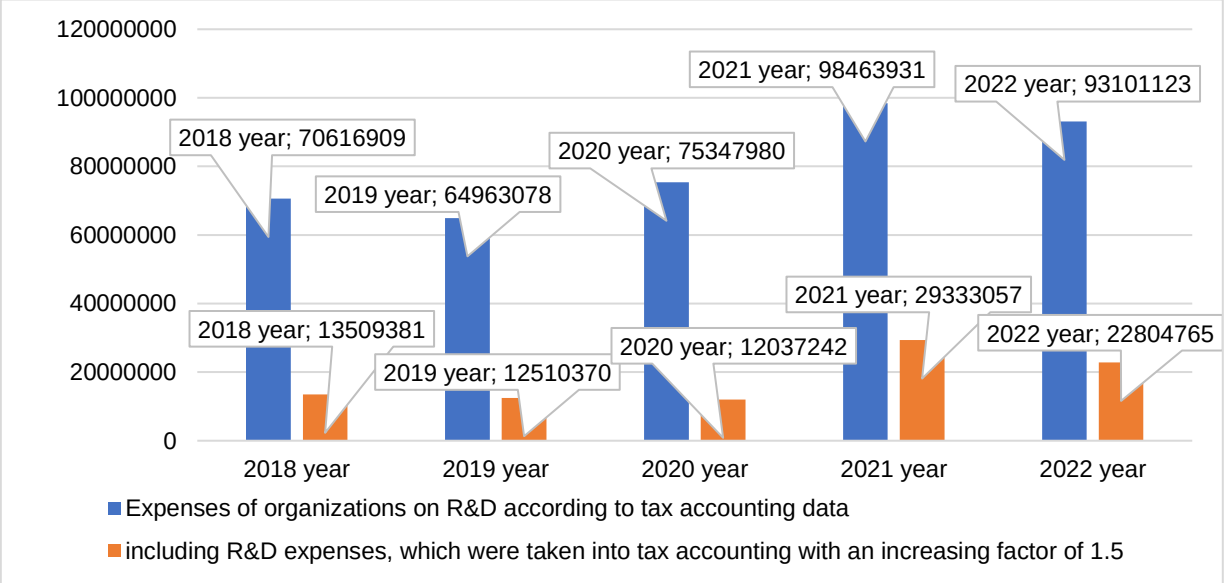

Figure 1. Expenditures of companies in R&D (thousand rubles)

Resource: Data of Federal Tax Service of Russia (n.d.)

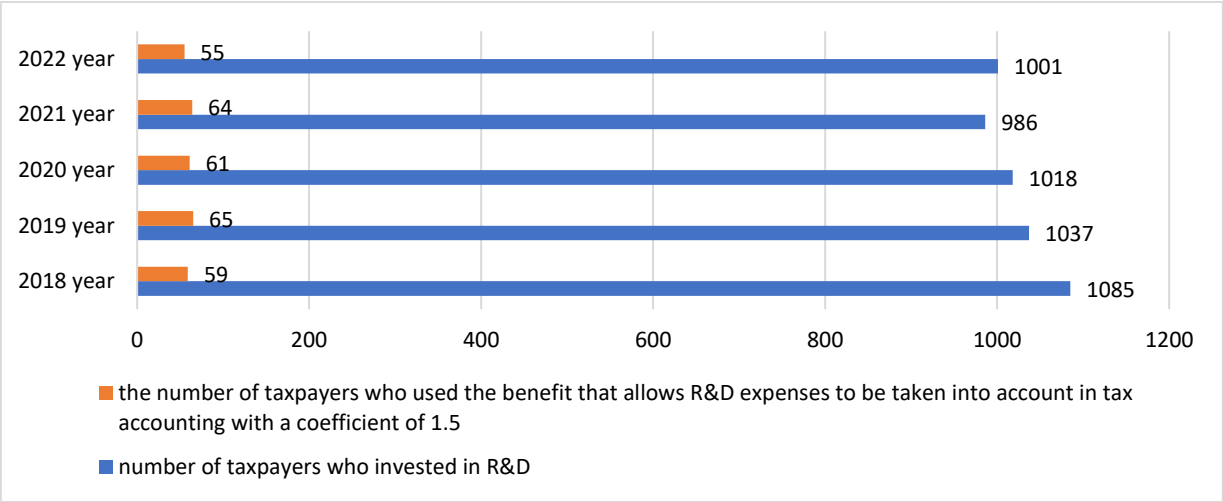

Figure 2. Number of companies investing their own financial means in innovation development
Resource: Data of Federal Tax Service of Russia (n.d.)

Carrying out work in the field of innovative developments by both scientific and educational organizations is exempt from VAT. In addition, the same preference applies to any taxpayers who perform such work at the expense of budgetary allocations. Data on lost state budget revenues in connection with the use of this exemption, as well as information on the number of taxpayers who took advantage of their right to the benefit (Fig. 3), also allows us to conclude that such an incentive tax measure is in demand, but has low effectiveness. The number of preference users is constantly decreasing. Against this background, the amount of money that businesses save has only been growing in the last two years, and this growth is insignificant.

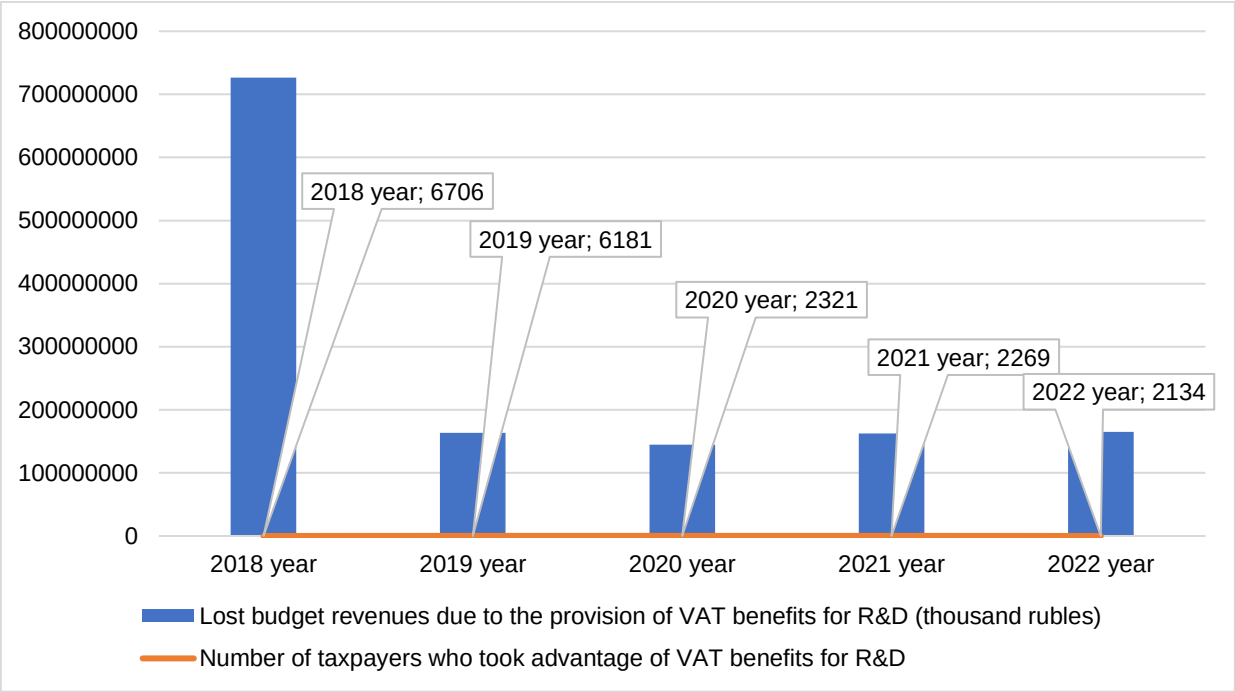

Figure 3. The importance of benefits in VAT for R&D

Resource: Data of Federal Tax Service of Russia (n.d.)

One of the tools for encouraging innovation that is in demand and has proven its effectiveness in a number of countries is a tax credit. It allows you to reduce your income tax liability. The mechanism for providing this benefit depends on the incentive conditions and is reflected in Table 2.

Table 2. Types of tax credits

Type of tax credit	**Description**
Full volume	The total amount of R&D expenses incurred by the organization is taken into account. All organizations that spend on R&D have the opportunity to take advantage of this tax credit.
Incremental	increments in research expenses for a certain period are taken into account; unused tax credits can be carried forward 3 years ago and 15 years forward
Mixed	includes full and incremental tax credits. When used simultaneously, it applies to different types of expenses, for example, expenses for basic research.

Resource: composed by authors

Depending on the validity period, tax credits are divided into refundable and non-refundable. For a refundable tax credit, it is possible to carry forward the unused portion of the tax benefit to the future, while for a non-refundable tax credit, the unused tax benefit cannot be carried forward to future periods.

It should be noted that tax incentives for innovation when applying an investment loan can be carried out:

(1) by reducing the tax base (including expenses for scientific research as expenses with an increasing coefficient);

(2) by reducing the tax liability (the amount of income tax is reduced by the amount of expenses for scientific research).

The effectiveness of tax incentives for innovation through tax credits has been confirmed by the practice of its application in the United States.

In 1981, a tax incentive was established to stimulate innovative R&D: the so-called research tax credit. The Protecting Americans from Tax Hikes (PATH) Act of 2015 made the tax credit permanent and more accessible to small businesses and startups. The Research Tax Credit has become the primary tax incentive for innovation applied to income taxes. An enterprise can apply for this tax credit in two categories depending on the type of activity:

- expenses for qualified research (qualified research expenses (QRA /QREs));

- payments for fundamental research (income tax and salary).

The research tax credit is flexible and broadly applicable: entities can claim the credit both when developing a new product and when improving existing products. Typically, a research tax credit is available for expenses incurred in conducting qualified research. The purpose of conducting qualified research should be to discover information of a technological nature for further use in the development of a new or improved business element

Small businesses eligible for the qualified research credit include nonpublic corporations and partnerships or sole proprietorships whose average annual revenues for the 3 taxable years preceding the taxable year in which the credit is granted cannot exceed $50 million.

For purposes of receiving the payroll credit, a small business is defined as a corporation or partnership with gross receipts of less than $5 million for the tax year, with no gross receipts for any tax year prior to the five tax year period ending with the tax year. The amount of the research credit that can be used to cover a portion of an employer's Social Security liability must not exceed $500,000. The credit is available for research in the current year and a selected amount not to exceed $500,000 or the general business credit carried forward to the tax year (before applying the payroll tax credit for the tax year).

Generally, 6% to 8% of a company's annual qualifying R&D expenses can be offset against its federal income tax liability (R&D tax credit: What it is and how to claim it?, n.d.).

However, as noted in open sources, this support measure is not in sufficient demand among small businesses - out of 10 small businesses eligible to receive a loan, only 3 apply for it, while for large companies the proportion of applications is much higher (Kubiak, 2023).

Businesses can also claim an R&D tax credit of up to $250,000 per year against payroll taxes. Eligibility criteria include organizations whose gross revenues in the current year are less than US$5 million and whose gross revenues have been generated for no more than 5 years, including the current year. In the meantime, new businesses can offset payroll taxes for up to five years, with the total amount of credits used on quarterly federal payroll tax returns capped at $1.25 million.

To receive the credit, the IRS requires documentation to support your R&D tax credit claim.

The burden of proof lies with the taxpayer, so documents such as: payroll calculations for R&D employees should be kept; expenses, receipts and invoices for consumables and equipment related to R&D; contracts and invoices paid to any third party partners involved in R&D; drawings, patents, designs, blueprints and prototypes.

The possibility of using a tax credit for innovative activities is provided not only by American legislation, but also by regulations of countries such as Japan, China, South Korea, Australia and the Russian Federation. In Japan, for example, the size of the tax credit increases threefold if a company carries out scientific developments jointly with universities. The same approach is being implemented in India, but in collaboration only with an Indian scientific organization. Australian legislation provides the opportunity to carry out up to 50% of scientific research outside the country without losing the right to benefits.

The practice of providing tax deductions for R&D is common in all of the above-mentioned countries, but the mechanism for providing this preference differs. In the USA, Japan, South Korea and Australia, the benefit reduces the amount of tax itself, while in Russia, China and India it applies to the tax base. The deduction standards for large businesses are usually slightly lower than for small and medium-sized businesses.

In South Korea, property used in R&D is taxed on a preferential basis. In addition, in this country there is a practice of providing tax holidays on contributions to social funds, but only for companies that meet certain innovativeness criteria.

Chinese researchers are of the opinion that tax incentives bring the desired effect only in the first years of R&D (Dai & Chapman, 2022). Tax policies aimed at enhancing innovation began to be implemented in China in the early 1990s. Enterprises that meet certain innovativeness criteria could qualify for a 150% corporate income tax deduction from the tax base. These restrictions have however been relaxed, but only since 2016. The possibility of accelerated depreciation of fixed assets was also provided (Tian et al., 2020).

Since 2007, enterprises involved in the development of new high technologies have been provided with a reduction in the profit tax rate from 25% to 15%, but only for a three-year period. In order to enjoy this benefit, the company must meet a number of requirements: be registered in mainland China; make at least 60% of expenses in the country of registration. The intensity of scientific activity, calculated on the basis of special indicators, is also taken into account.

Scientists from China note the emergence of additional innovative results after the introduction of tax incentives, which is a positive development (Dai & Chapman, 2022). But there is also a negative effect of fiscal stimulus. Often, companies abuse tax breaks for R&D by classifying other expenses as expenses for these purposes (Sharyshov, 2017).

Tax incentives have become part of innovation policy in India as well. Like China, India introduced a 150% corporate income tax R&D deduction in the 1990s, which was subsequently increased to 200%. At first, restrictions on the use of this benefit were of an industry nature, but were later abolished. As a result, research expenditures increased by 78%, and the frequency of filing applications with patent offices became higher than in the United States (Ivus et al., 2021). But since 2020, the trend in tax policy has become the opposite: the benefit has been reduced to 100% of R&D expenses.

Conclusion

As the study showed, there is a relationship between fiscal benefits and the level of innovative development of countries. It is characterized by a change in the number of companies engaged in scientific development at their own expense; expansion of corporate financial participation in such R&D, as well as an increase in the number of registered results of intellectual activity.

As a rule, there is a positive impact of tax incentive measures on innovation. At the same time, it should be taken into account that the impact of tax measures to stimulate innovation on the economy is not unconditionally positive. Thus, when

applying tax benefits, one should take into account possible negative effects, in particular an increase in the number of offenses in the tax sphere, an increase in administrative costs for the subjects of the provision of benefits, etc.

It should also be noted that the effectiveness of a particular form of tax incentives is determined both by the features of the national taxation system, associated, for example, with the features of taxation of corporate profits, and by the features of a particular industry as a whole. The maximum positive effect for innovation can be achieved subject to the presence of a number of external factors:

1. the effect of market incentives (increase in price or shortage of competing products);

2. maturity of the technology and the industry itself - without this, tax credits will have minimal supporting effect.

A study of the impact of tax regulation (in particular, corporate and personal taxes) on innovation in the United States during the period 1900-2016 showed (Akcigit et al., 2022), that the establishment of higher tax rates has a negative impact on the quantity and territorial distribution of innovations, and does not affect their average quality. At the same time, corporate taxation has a significant impact on the volume of innovative production and the possibility of changing the place of business of the corporation, while income taxation significantly affects the total amount of R&D and the mobility of persons engaged in innovative developments.

As foreign practice has shown, to achieve maximum efficiency, innovative tax incentives should be provided subject to the following restrictions:

- by duration (from 3 to 5 years);

- by the degree of the company’s involvement in scientific activities (the share of the salaries of employees involved in R&D in the general wage fund, provided they have the appropriate education and scientific experience);

- by tax status (provided only to tax residents);

- at the place of expenses (only expenses incurred in the country of residence should be taken into account when calculating the tax base).

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