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INSTITUTE OF TAXATION UNDER THE CONDITIONS OF THE NATIONAL INNOVATION SYSTEM TRANSFORMATION

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ІНСТИТУТИ ОПОДАТКУВАННЯ В УМОВАХ ТРАНСФОРМАЦІЇ НАЦІОНАЛЬНОЇ ІННОВАЦІЙНОЇ СИСТЕМИ

The article reveals the role and place of the institute of taxation in the national innovation system (NIS). This institute is presented through simple institutions of tax benefits and pressure, which stimulate innovative behavior. Institutions of stimulation of innovative behavior are the rules, regulations, incentives, sanctions and mechanisms designed to influence the motivation of economic subjects so that they choose from the available alternatives in favor of innovative behavior. Tax benefits have a stimulating effect by reducing the costs of participants in innovative activities and increasing financial results. The stimulating effect of tax pressure is the need for the economic entity to seek and implement new technologies, if it uses outdated and "harmful" technologies to the environment.

The forms of the institutions of tax benefits used in foreign practice have been studied in detail and proposed by the National Academy of Sciences of Ukraine. The forms of the institutions of tax benefits used in foreign practice have been studied in detail and proposed by the National Academy of Sciences of Ukraine.

Radical reform of the system of tax benefits is needed, which should radically change the institutional environment, formal rules, by strictly regulating the mechanism of their provision and strengthening control over the purposeful use of the amounts of received benefits. The conceptual principles of the reform should be based on the maximum harmonization of innovation and tax policy, on the ideas of the active influence of tax benefits on innovative behavior.

It is noted that the institution of tax benefits is quite effective in stimulating innovation in developed countries but in Ukraine it has been relatively ineffective. The reason for the failure to apply tax

benefits to stimulate innovative behavior in the Ukrainian economy lies in the specifics of the basic institutions of the institutional environment.

To increase the strength of the formal Institution of Taxation, its institutions of innovative behavior stimulating, it is necessary to form adequate stereotypes of tax behavior purposefully.

В статті розкрито роль та місце інституту оподаткування в національній інноваційній системі (НІС). Представлено даний інститут через прості інститути податкових пільг та пресингу, які стимулюють інноваційну поведінку. Інститути стимулювання інноваційної поведінки – це норми, правила, заохочення, санкції та механізми, призначені для впливу на стимули економічних суб'єктів таким чином, щоб вони здійснювали вибір з наявних альтернатив на користь інноваційного типу поведінки. Податкові пільги надають стимулюючу дію завдяки зниженню витрат учасників інноваційної діяльності та збільшення фінансових результатів. Стимулюючий вплив податкового пресингу полягає в необхідності пошуку та впровадження економічним суб'єктом нових технологій, якщо він використовує застарілі, «шкідливі» для оточення технології.

Детально вивчені форми інституту податкових пільг, які використовуються в зарубіжній практиці, та запропоновані Національною академією наук України. Підкреслено необхідність при реформуванні податкових відносин та трансформації інститутів застосовувати концепції системного підходу та стратегії інноваційного розвитку, на якій мають базуватися перспективні напрями інноваційного розвитку.

Необхідна радикальна реформа системи податкових пільг, яка повинна кардинально змінити інституційне середовище, формальні правила, шляхом жорсткого упорядкування механізму їх надання та посилення контролю за цілеспрямованістю використання сум отриманих пільг. Концептуальні засади реформи мають ґрунтуватися на максимальній гармонізації інноваційної та податкової політики, на ідеях активного впливу податкових пільг на інноваційну поведінку.

Зазначено, що інститут податкових пільг є досить ефективним у стимулюванні інноваційної діяльності в розвинених країнах, проте в українських умовах він виявився порівняно неефективним. Причина невдачі застосування податкових пільг для стимулювання інноваційної поведінки в українській економіці лежить в специфіці базових інститутів інституційного середовища.

Для підвищення сили дії формального інституту оподаткування, його інститутів стимулювання інноваційної поведінки необхідно цілеспрямовано формувати адекватні стереотипи податкової поведінки.

Key words: *institute of taxation; national innovation system; institution of tax benefits; institution of tax pressure; institutional environment.*

Ключові слова: *інститут оподаткування; національна інноваційна система; інститут податкових пільг; інститут податкового пресингу; інституційне середовище.*

Problem statement. In recent decades, innovation processes in Ukraine are in a state of steady stagnation. The reason is due not only to macroeconomic conditions, but also to a large extent to the inefficiency of the national innovation system (NIS). In the 1980s, a large group of scientists, led by B. Lundvall [1], K. Freeman [2] and R. Nelson [3], developed and presented a systematic presentation of the concept of NIS. Later, many researchers devoted their work to the development of that concept. Summarizing the results of their work, NIS is revealed as a set of interconnected institutions and organizations that individually and in cooperation ensure the creation of new technologies and innovative products, reproduce the continuity of the science-production-market chain within the national economy. A separate group of institutions are Institutes of Taxation, which are changing along with the transformation of the national innovation system under the influence of irreversible processes of growth of globalization and competition, the formation of the knowledge economics. There is a need to study these institutes and develop recommendations for their changes.

Analysis of publications. Problems of the theory and practice of taxation and its impact on innovation processes have been the subject of research by such economists as: L.D. Vodyanka, A.A. Gritsenko, L.V. Kasyanova,

M.O. Kyzym, V.S. Pidhirna, O.Yu. Sydorovych, K.V. Syroyizhko and others [4-7]. At the same time, there is a need to consider taxation through institutional theory as a set of institutions that stimulate the innovative behavior of economic agents and is a part of the NIS.

Purpose of the article. The purpose of the article is to reveal the role and place of the Institute of Taxation in the NIS and to outline the necessary institutional changes to stimulate innovation processes in the economy of Ukraine.

The main material research. Taxation is one of the oldest social institutions, the forms, types and mechanisms of which are a very vivid indicator of the level of evolution of society. This institute is constantly changing in the process of social evolution depending on the level of influence of the relevant objective and subjective prerequisites of development [6 p., 28]. The structure of the institute traditionally distinguishes between formal (includes legal norms that regulate the tax relations of economic agents) and informal components (includes actually working in practice norms, rules, stereotypes of behavior that govern the tax relations of economic agents) [7, p. 621]. In the context of our study in the sphere of NIS, it should be noted that the Institute of Taxation (which traditionally includes simple institutions of tax benefits and tax pressure) is partly one of the institutions to stimulate innovative behavior, which differs from all other institutions.

The fact is that the institute usually includes three basic elements that make up its structure: the norm, the sanction and the mechanism of functioning (implementation of sanctions). Institutions of incentives differ in that instead of sanctions they include incentives (anti-sanctions), which create incentives for innovative behavior. In other words, while conventional institutions limit the choice of economic subjects from existing alternatives, incentive institutions expand the choice by making new alternatives possible. However, sanctions in incentive institutions should still be present and applied to those entities that either use the institution for other purposes (pseudo-innovative behavior), or their action (inaction) restrain the action of the institution, thereby reducing its incentive role. Thus, the institutions of stimulating innovative behavior, in particular taxation (tax benefits and tax pressure) are norms, rules, incentives, sanctions and mechanisms designed to influence the incentives of economic agents so that they choose from the available alternatives in favor of innovation type of behavior.

It should be noted that tax incentives are most often used by public authorities in many countries to stimulate innovative behavior. Tax benefits have a stimulating effect by reducing the costs of participants in innovative activities and increasing financial results. However, for many potential participants in innovation, the benefits of tax reductions are often offset by the additional costs of preparing tax returns, the time-delayed effect, and the uncertainty of innovation outcomes. Tax pressure can be attributed to incentive institutions indirectly, because the nature of the impact is close to the classical institutions (they do not contain incentives, and sanctions for non-compliance with pollution standards). The stimulating effect is the need for the economic entity to find and implement new technologies, if it uses outdated, "harmful" to the environment technologies.

The degree of influence of the considered Institutes of Taxation on incentives of economic entities depends on a number of factors. The greatest degree of this influence is achieved in the presence of the most complete and well-established system of institutions within the institutional environment of innovation. An important role is played by the effective functioning of higher-order institutes that are external to the national innovation system (civil law, the judiciary, etc.). The prevalence of informal institutions, such as corruption, rent-seeking behavior, etc., should also be taken into account. These factors can either have an anti-incentive effect or significantly reduce the effectiveness of incentives to innovative activity.

Institutes of Taxation which stimulate innovative behavior within the NIS have become comprehensive, systematic and long-termed with clear quantitative and qualitative guidelines. The most important role in the development of innovation in most developed countries is played by the institution of tax benefits, which are used to stimulate those activities of organizations that are desirable from the state point of view (Table 1). This is confirmed by differences in the forms and extent of the use of tax preferences (benefits) in different countries. For example, Australia, Spain, Canada, the United States, France, Japan, Portugal, Austria, the Netherlands, Ireland, and Korea encourage corporate investment in research and development using a variety of tax incentive systems. In Estonia, Finland, Germany, Switzerland, such investments, in terms of taxation, are made according to general rules.

Table 1.

Tax incentives of RTD, % GDP

Country	Tax benefits	Country	Tax benefits
France	0,29	Australia	0,13
United Kingdom	0,25	Korea	0,13
Italy	0,19	Norway	0,12
Belgium	0,18	Iceland	0,11
Austria	0,18	Ireland	0,11
Portugal	0,17	Japan	0,11
Netherlands	0,14	United States	0,08

Reference: [8]

Forms of the institution of tax benefits used in foreign practice: discounts on profits in the amount of investments in new equipment and construction; income tax rebates in the amount of RTD expenses; attribution to the

company's current costs of certain types of equipment commonly used in research; creation at the expense of the profit fund of special-purpose funds which are not taxed; taxation of profits at reduced rates (for small businesses).

In order to build the institutions of tax benefits, the National Academy of Sciences of Ukraine has substantiated comprehensive proposals for the draft state strategy for the development of science, technologies and innovation, which include [9]:

1) tax incentives for the activities of scientific institutions and higher education establishments provide the exemption from import duties, value-added tax and other mandatory payments, scientific instruments, equipment, spare parts and consumables imported into Ukraine to ensure scientific and technical activities of scientific institutions and organizations of the National Academy of Sciences of Ukraine, branch academies of sciences and higher educational establishments of Ukraine;

2) incentives for enterprises to conduct research and development work provide tax incentives for enterprises to conduct research and development work for RTD carried out by enterprises on their own, as well as RTD commissioned by enterprises from research institutions and higher education establishments, due to an increase in costs taken into account in determining taxable income by a certain percentage of research and development work or a decrease in profit by a certain percentage of funds spent on conducting RTD;

3) tax incentives of innovative activity of created new, small and medium enterprises - introduction for a certain period of time of preferential taxation of incomes of newly created enterprises ("start-up") in case of production and export of high-tech products;

4) incentives of innovative activity of enterprises - introduction of preferential taxation of investments in acquisition and introduction of new technologies and equipment for their use via reduction of the income tax in the amount equal to a certain percent of the specified expenses, however, not more than 75% of the total amount of income tax, if the purchase of domestic technologies and equipment takes place; introduce tax rates for companies operating exclusively in certain priority areas of high technologies; introduction of reduction of tax rates for export-oriented enterprises that export high-tech products in certain areas of high technologies;

5) introduction of tax incentives for the implementation of innovative investment projects and technology transfer projects in higher-priority industries during a certain period, including the amount of taxes on special accounts of enterprises, with their further use for scientific and technical activities, development of scientific-technological and research-experimental base for projects in priority areas, registration of which is carried out by the authorized body of the central executive power; projects implemented via technological and scientific parks; projects implemented via free economic zones;

6) incentives of venture activity and crediting of innovation activity - provides preferential taxation of dividends of venture innovation funds at the time of their formation; reduction of tax liabilities to banks that will finance innovation activities;

7) incentives of the activities of research and development organizations and research plants - the introduction of a reduction in income tax rates: for research and development organizations working on behalf of enterprises and research institutions and research plants; for design and technological organizations, research plants and industries that are part of the scientific and technical complex, created on the basis of the research institute, from the sale of research batches of products and research, development, design and technological work.

The same document raises the issue of introducing higher rates of return for obsolete, energy-intensive technologies - the creation of an institution of tax pressure for obsolete, energy-intensive technologies, providing support for such measures with opportunities for enterprises to obtain soft loans for modernization, development of new technologies.

It should be noted that to ensure the effectiveness of tax relations in terms of their promotion of an innovative model of development is impossible without a number of prerequisites, which in the most generalized form can be grouped into such conceptual groups.

The first is related to the concept of a system approach. The problem of the impact of tax policy on the pace of innovative development can not be considered in isolation from the general problem of the formation of financial resources in the state. The conceptual vision in tax policy of the decisive reason for insufficient rates of investment for the implementation of innovative development in the state is not able to become the basis for the formation of an effective state innovation policy. Excessive fiscal orientation of tax policy due to underinvestment in the economy can lead to a decrease in innovation opportunities. The volatile financial situation associated with a shortage of own resources can be improved by using the potential of borrowed and external funds. Therefore, the pace of innovative development can be no less influenced by the structure and relationships among individual sources of funding.

The second group of prerequisites is related to the development of the Concept of Innovation Development Strategy, on which promising areas of innovation development should be based. Only a tax policy that will shape its progressive development in the context of the adoption of an innovative model of development can be considered a constructive one. The conceptual foundations of the innovative tax reforms are contained in:

a) maximum harmonization of innovation and tax policy. The processes of their harmonization must acquire a qualitatively new level, which is based not on the development of one component over the detriment of another, but on bilateral interdependence. A simplified understanding of the provision of innovation processes as a consumable item that does not take into account the crucial importance of innovation development as an economic basis for the real strengthening of the tax base should be strongly reconsidered. It is a question of providing organic unity in the realization of tasks of tax and innovation policy. They must become inseparable from each other. This is the methodological principle,

the observance of which will decisively determine the effectiveness of transformations in both areas;

b) development, in which the tax system is not limited to a passive position of non-interference, but acquires an active influence on the implementation of an innovative model of development. The task is to promote the establishment of schemes of activity that will ensure the effectiveness not only of reproduction processes in the economy, but also the entry of Ukraine into the world environment as a high-tech state.

To implement them, the task of realizing the potential concentrated in the tax system as a source of funding and a tool that can have a significant effect on innovation development should be synthesizing. It is, on the one hand, about the appropriate level of ensuring innovative development with budget allocations, the main source of which are taxes, and on the other hand - about their use as a regulatory tool.

As for the first direction, it faces the problem of objective budget constraints. Although in the world's leading countries, the budget is the main factor in the supply of resources in the economy. There are grounds for rather pessimistic forecasts about the possibilities of budget support of innovation processes in Ukraine with the expected reduction of basic tax rates.

Radical reform of the system of tax benefits is needed, which should radically change the institutional environment, formal rules, by strictly regulating the mechanism of their provision and strengthening control over the purposeful use of the amounts of received benefits. World experience shows that it can't be done without the support of the state and tax benefits. However, benefits should not be fragmentary, not covering all cycles of the innovation process. Otherwise, they will not significantly affect innovative behavior. Today, the bulk of benefits is extended to the initial stages and does not affect the production and implementation, usage and maintenance of innovations. It is necessary to move from a sectoral to a functional scheme of benefits in the tax sphere. Based on this, a number of measures is needed, which, as world experience shows, should be characterized by the following mandatory features:

- linking to a single payment of companies to the budget in all developed countries - income tax;
- the system of tax benefits should be differentiated by industries (in favor of knowledge-intensive type), type of equipment (in favor of research type), type of activity (in favor of RTD investment), territorially (in favor of hard-to-reach and less developed areas or in favor of special scientific-industrial zones, research centers, innovation incubators, scientific parks, technopolises), as well as to have flexibility in terms of time and objectives, based on national programs, research projects of technical and economic development;
- each benefit must be clear and targeted (after the commissioning of new equipment, after the increase in RTD costs), and the right to receive a tax benefit to occur automatically, i.e. to be enshrined in law;
- official statistical accounting and analysis of the effectiveness of tax benefits must be carried out.

It is very important to introduce sound criteria and build a viable control system, which would provide an opportunity to ensure the targeted use of funds for the development of scientific and innovative activities. This is important not only because the funds that remain as a result of providing benefits to contractors are in fact funds from the state budget, which remain at the disposal of these entities. In our opinion, when applying tax incentives for an innovative project, it is important to consider the following groups of criteria:

- strategic, namely: innovative functions of the project, the degree of novelty of products, compliance of the project with national and/or regional innovation programs;
- scientific and technical: technical level of products under the project, the probability of technical success, patent law aspects, prospects for technology development and product improvement, the impact on other technologies;
- market: market demand, impact on other products, the competitiveness of products on the market that is offered;
- financial: project cost, including investment in RTD and production, the ratio between own and borrowed funds, the financial condition of the enterprise and the provision of the required amount of own funds, the availability of finance in the necessary periods of time, net present value, return on investment, internal efficiency, payback period;
- productive and organizational: availability of appropriate production facilities and infrastructure, availability of main production facilities and technological level of existing production, availability of production staff and experience in this field, the technical level of purchased equipment and its compliance with existing one, price and possibility of purchasing raw materials, justification estimates for individual articles.

It should be noted that focusing on these factors not only allows you to make the right decision to grant a tax benefit but also significantly increases the possibility of commercial success.

It should be stated that the institution of tax benefits is quite effective in stimulating innovation in developed countries, but in Ukraine it has been relatively ineffective. The reason for the failure to apply tax benefits to stimulate innovative behavior in the Ukrainian economy lies in the specifics of the basic institutions of the institutional environment. A combination of two basic mental prerequisites, absent in the minds of compatriots, namely the self-discipline of taxpayers, the habit of relying on their own strength, earn, rather than wait for handouts from the state is characteristic for developed countries. With this combination, any reduction in the tax burden is perceived by economic entities of developed countries as additional income. Accordingly, the application of the institution of tax benefits in Ukraine should be developed on other principles.

Conclusions. Taking into account the place and importance of the institution of tax benefits in solving socio-economic problems, on the one hand, as well as the "losses" borne by the budget from their introduction, on the other hand, the mechanism of implementation of tax benefits requires a separate legislative consolidation by providing in the Tax Code of Ukraine a special section, which would include a set of innovation benefits. This will be a specific area that

will contribute to the establishment of an innovative model of economic transformation.

To increase the strength of the formal institution of taxation, its institutions of stimulating innovative behavior, it is necessary to form adequate stereotypes of tax behavior purposefully. It is not enough to adopt "good" tax legislation that stimulates innovation, it is necessary to make it effective, to ensure its "implantation" in the real economic environment, incorporating into the general system of formal and informal norms. First of all, the efforts of the tax service should be directed to fulfill this task, which should ensure full information of taxpayers, the convenience of tax duties, the openness of their work and a real transition to partnerships with economic agents.

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