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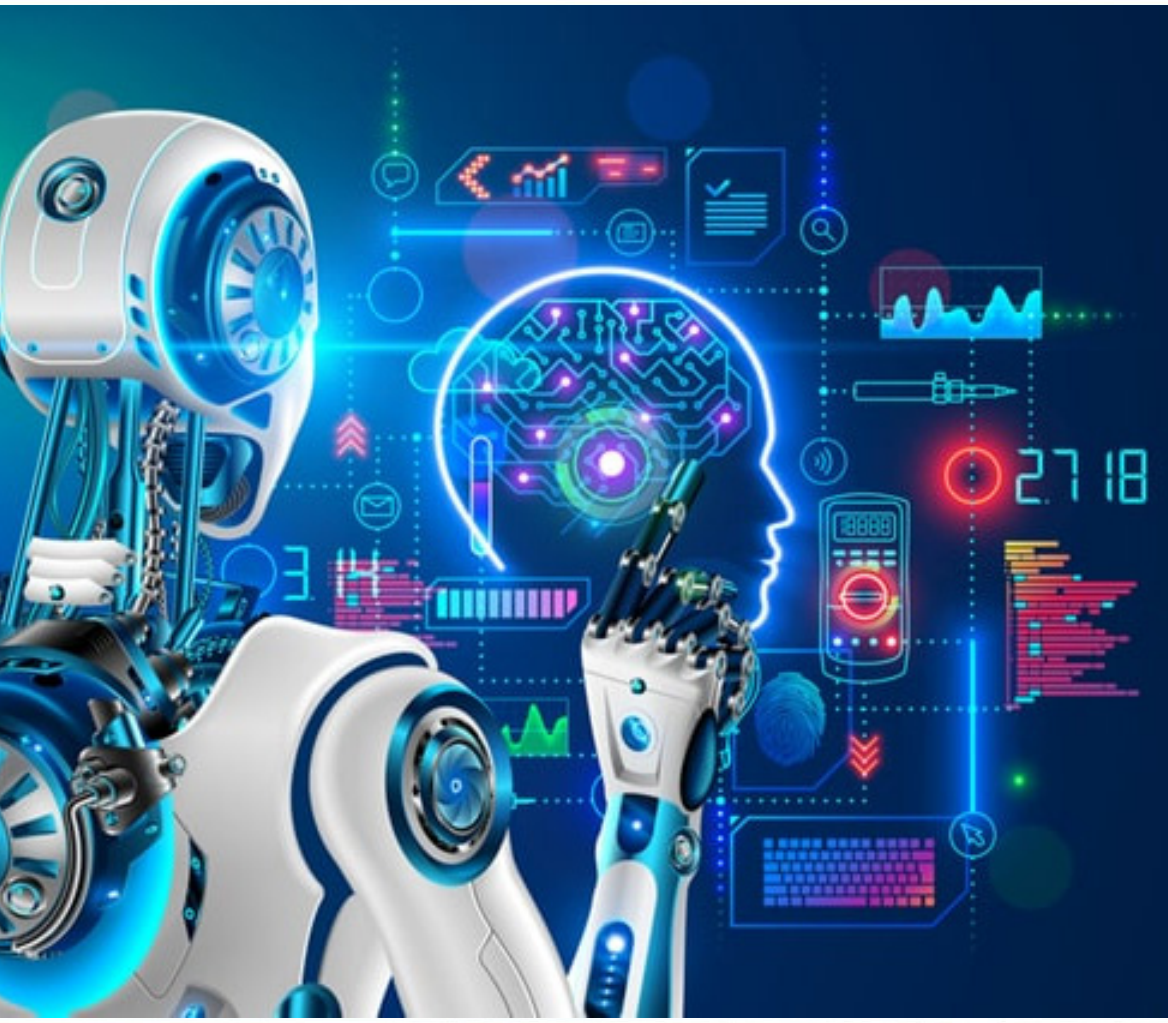


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# THE THEORETICAL FOUNDATIONS OF APPLYING TAX INCENTIVES FOR INVESTMENTS DIRECTED TOWARD HUMAN CAPITAL

## Quliyev Begimqul Melikovich

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**Abstract:** The state uses various tax incentives to develop human capital. From the perspective of human capital development, tax incentives are aimed at encouraging investments in education, healthcare, entrepreneurship, and improving living standards, which should ultimately lead to increased economic growth and competitiveness of the country. Insufficient financial resources, low efficiency of existing mechanisms, administrative barriers, low awareness, etc. In this article, the author classifies and analyzes the problems of using tax incentives for investments in human capital.

**Key words:** human capital, tax incentives, education, healthcare, innovative activities, investment, efficiency, income tax.

**Annotatsiya:** Davlat inson kapitalini rivojlantirish uchun turli xil soliq imtiyozlaridan foydalanadi. Inson kapitalini rivojlantirish nuqtayi nazardan soliq imtiyozlari ta'lim, sog'liqni saqlash, tadbirkorlik faoliyatini rivojlantirish va turmush darajasini oshirishga investitsiyalarni rag'batlantirishga qaratilgan bo'lib, bu pirovard natijada mamlakatning iqtisodiy o'sishi va raqobatbardoshligini oshirishga olib kelishi kerak. Moliyaviy resurslarning yetishmasligi, mavjud mexanizmlarning past samaradorligi, ma'muriy to'siqlar, past xabardorlik va boshqa omillar ushbu jarayonning samaradorligini pasaytirmoqda. Ushbu maqolada muallif inson kapitaliga yo'naltirilgan investitsiyalar uchun soliq imtiyozlaridan foydalanish muammolarini tasniflaydi va tahlil qiladi.

**Kalit so'zlar:** inson kapitali, soliq imtiyozlari, ta'lim, sog'liqni saqlash, innovatsion faoliyat, investitsiya, samaradorlik, daromad solig'i.

**Аннотация:** Государство использует различные налоговые льготы для развития человеческого капитала. С точки зрения развития человеческого капитала, налоговые льготы направлены на стимулирование инвестиций в образование, здравоохранение, предпринимательство и повышение уровня жизни, что в конечном итоге должно привести к ускорению экономического роста и повышению конкурентоспособности страны. Недостаток финансовых ресурсов, низкая эффективность существующих механизмов, административные барьеры, низкая информированность и т. д. В данной статье автор классифицирует и анализирует проблемы использования налоговых льгот для инвестиций в человеческий капитал.

**Ключевые слова:** человеческий капитал, налоговые льготы, образование, здравоохранение, инновации, инвестиции, эффективность, подоходный налог.

## INTRODUCTION

The problems of applying tax incentives for the development of human capital are an important issue in the modern economy. Tax incentives can be an effective tool for developing human capital, but their application is often associated with a number of practical difficulties. In our country, the problems of applying tax incentives for the development of human capital can be classified as follows: economic problems, administrative problems, the social consequences of applying tax incentives, and problems related to obtaining information about tax incentives. This classification of problems in applying tax incentives for the development of human capital is necessary to better understand them, as well as to develop effective solutions for eliminating existing problems within the tax legislation and increasing the effectiveness of tax incentives aimed at developing human capital.

New developments in robotics and artificial intelligence are rapidly changing the ways people work and build their careers. Some scholars emphasize that technological unemployment poses a serious threat to the working-age population. This issue is further aggravated by the high spatial differentiation in the pace of introducing and adapting to new technologies, which may lead in the future to the formation of old industrial areas suffering from long-term high unemployment. Technological advances may also complement workers' skills, leading to changes in the composition of the employed population (by specialties and types of occupations). For instance, they contribute to the growth of the share of technical specialties in the labor market, which is clearly manifested in the rise in the number of IT specialists in Uzbekistan over the past five years.

In addition, the intensity of substitution efficiency may differ across professions and may depend on workers' qualifications [1]. Such discussions have led to a renewed academic interest in the important role of education and investments in human capital (hereafter referred to as HCI). Investments in human capital and a high level of education are the key to protecting workers from the negative effects of the third wave of automation. Moreover, the accumulation of human capital is closely related to income inequality and poverty levels in the process of economic development [2]. The accumulation of human capital has become a key factor in stimulating rapid economic growth [3].

## REVIEW OF LITERATURE ON THE SUBJECT

Modern concepts of economic growth define the public sector as the main source of human capital accumulation. Issues of taxation of human capital have recently become a highly popular topic, since its development ensures sustainable economic growth. However, recognizing the importance of HCI does not guarantee the practical application of tax incentives for such investments, even in developed countries. The scientific community has not reached a consensus on the effectiveness of tax regulators aimed at developing HCI. Economists consider human capital to be the most important component of a nation's overall wealth, and their works contain conflicting views on how income tax affects the accumulation of human capital.

Issues related to the development of human capital are based on the works of foreign authors — G. Becker, R. I. Kapelyushnikov, A. Marshall, F. Neumann, R. M. Nureyev, W. Petty, A. Smith and others. These authors emphasize the importance of human capital in shaping a country's economy. Many researchers view human capital as a factor of economic growth and a factor of production; investments in human capital become a necessary condition for increasing human productivity in the process of performing labor activities.

R. V. Lavnik and M. V. Pyanova [4] highlight education and healthcare as the most prioritized areas for investing in human capital. Yu. V. Malkova [5] points out a wide range of tax instruments aimed at providing social support to certain groups of citizens. M. R. Pinskaya [6] emphasizes the relevance of professional income tax, which may cover every fourth working-age person. M. V. Pyanova [7] stresses that tax incentives for the development of education and healthcare are no less significant than direct budgetary expenditures in these areas. A. V. Tikhonova and A. Ya. Akulov [8] highlight the differences in existing tax incentives aimed at developing human capital in developed and developing countries. A. V. Tikhonova [9] identifies three directions of the influence of taxation on the formation of human capital: maintaining the current level of the human capital index, ensuring individual and corporate investments in human capital.

While King and Rebelo [10] identified a strong negative effect of taxation (particularly an increase in the tax burden) on human capital accumulation, other studies show that its impact is insignificant [11]. The effect of income tax primarily depends on the specifications of the technology for producing human capital. Differences in technological characteristics are explained by the influence of time allocated by a citizen for human capital accumulation, government expenditures on producing human capital, and the level of parental human capital. Thus, in the first specification, only time costs of education (arising in the case of free education) are taken into account, while in the second — both time and financial costs (arising in the case of paid education). When

time is the only input in the education technology, the decrease in net wages resulting from the application of a progressive income tax rate affects a citizen's economic benefits and the costs of investing in human capital equally. In this case, income tax does not actually affect the accumulation of human capital. However, if an individual's financial resources are invested in producing human capital, the income tax becomes an important factor influencing HCI. A review of the literature on this issue demonstrated the existence of both highly unrealistic proposals and very precise practical recommendations.

Pyanova and Lavnik conclude that the increase in tax incentives directed toward investments in human capital significantly exceeds the growth in indicators such as the population's education level, employment, income, and life expectancy, which indicates the low efficiency of the tax regulation tools being applied [12].

## RESEARCH METHODOLOGY

The research methodology is based on collecting statistical data, normative-legal documents, and information from open sources on international experience to assess the effectiveness of tax incentives for investments in human capital. It includes comparing these data, contrasting them with approaches used in scientific works on the subject, and evaluating them through economic analysis methods.

## ANALYSIS AND RESULTS

It is important to study the processes of investing in human capital that ensure economic growth in the country. In addition to the trade-off between consumption and investments in physical capital, an individual faces a trade-off between consumption and investments in human capital when making decisions regarding income allocation. The role of tax incentives for investments in education lies in the fact that when an individual's income decreases, he or she spends less on education because part of the tax payments is refunded (not paid). For example, a change in the income tax rate is more strongly associated with investments in human capital than with investments in physical capital. Thus, an increase in the tax rate leads to a significantly greater reduction in the volume of investments in human capital than in physical capital. It should be noted that the effectiveness of tax incentives provided to the population is not always achieved in all countries. In this regard, it is important to consider the following two factors that significantly influence an individual's inclination toward the "education" tax incentive:

- the stage of the human life cycle in which tax incentives are implemented. Numerous studies summarized by Carneiro and Heckman confirm that most investments in human capital occur in the early stages of human life [13]. Therefore, it is necessary to develop a system of tax incentives and benefits that compensate individuals' expenses for obtaining basic higher and secondary specialized education at the bachelor's and master's levels (we designate them as the "core" tax regulators of HCI);

- the inclination of the working-age population toward self-education. The literature on human capital has long acknowledged the difficulty of distinguishing investments in human capital from ordinary consumption expenditures [14]. This issue is most acute in countries where personal savings are minimal. Unfortunately, it is not possible to calculate more precisely the share of spending on education by the population.

Thus, maintaining the level of HCI is most closely related to the level of the income tax burden. It should be emphasized that even a slight increase in the burden for a small segment of taxpayers can have a significantly negative impact on the state of human capital. One should not fall for the "magic of small numbers," because it is precisely this "small segment of taxpayers" that finances the mass production of innovative products, integrates them into the production of goods, works, and services, and enables the transition to a more fiscally liberal state. The areas listed above represent only a part of the existing vectors for applying tax incentives. Given the multifaceted nature of the human capital concept, such areas may include investments in national health, pension provision, and social insurance. However, considering the research objective, which aims to identify factors ensuring economic growth, these areas primarily reveal the social sphere of state regulation. From the standpoint of this research methodology, based on the presented interpretation of the human capital category, it is appropriate to determine the scope of tax instruments analyzed to stimulate human capital.

The author considered human capital as a macroeconomic category, since state support for investments in human capital is not a direct incentive for citizens to invest in education, but rather an investment in the entire pool of human resources. Historical analyses show that early ideas about human capital were based solely on human education, in which investment tools aimed at education are treated as direct, while those aimed at other components are treated as indirect. This approach is broader and allows for the multiplicative effect of tax incentives on HCI. According to modern views on the components of human capital, tax incentives applied in different countries influence not only education but also other areas that contribute to its development (Figure 1).

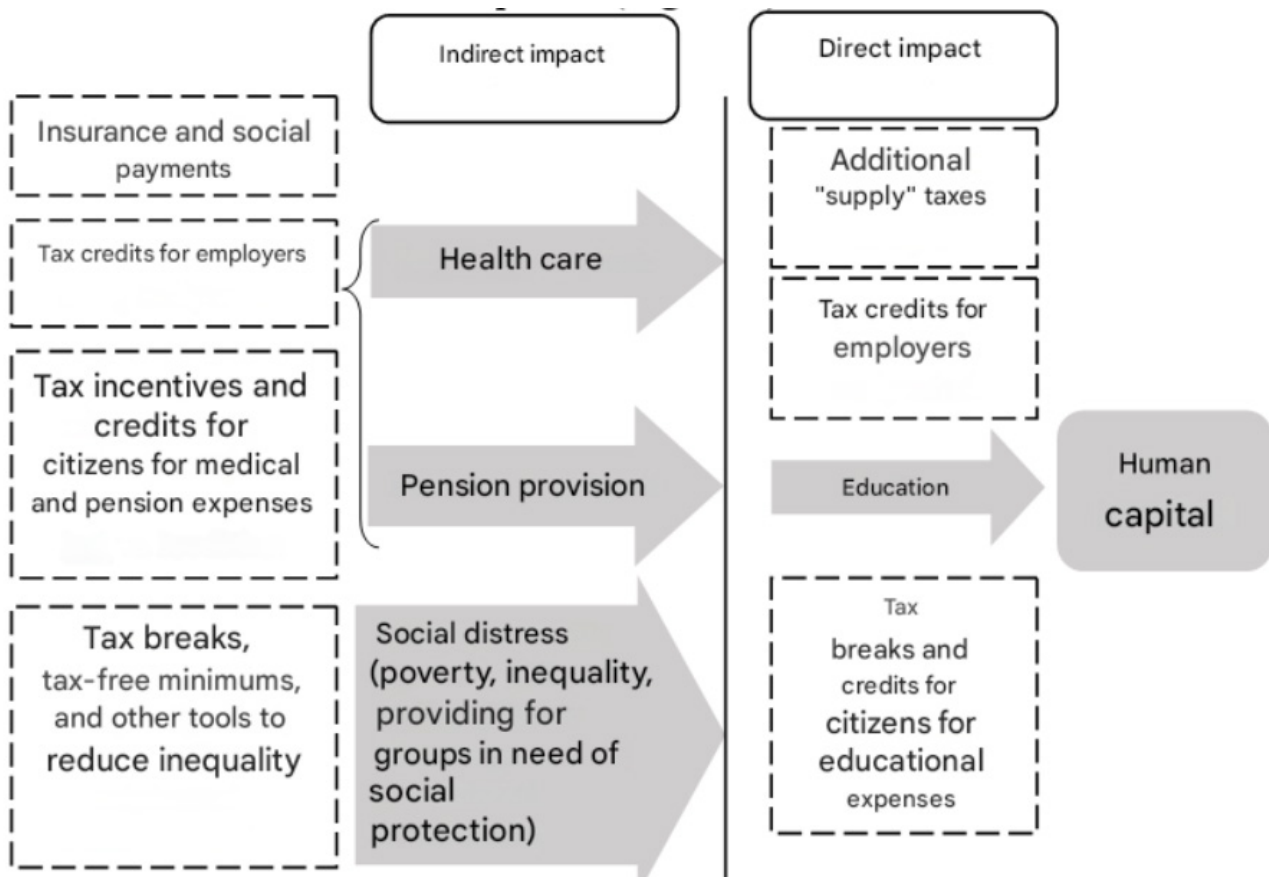


Figure 1. The system of tax incentives for HCI

In the context of this research, we identify the following key principles of tax incentives for investments in human capital:

1. The principle of risk minimization. Empirical studies show that the profitability of investments in human capital is associated with risk. In particular, initial investments in human capital are exposed to specific risks, while the accumulated level of human capital is subject to specific depreciation shocks. As soon as an individual's human capital faces a negative shock, his or her skill profile shifts to a deterministic, exogenous low-skill profile. In other words, such an individual works in an occupation or activity requiring a low level of qualification. Enterprises that invest in human capital also face the risk that workers may change jobs before the firm recovers its investments. Economists note that such firm-specific risk does not become a systemic threat to the entire economy, since the worker continues contributing to production and economic growth elsewhere. However, in conditions of external labor migration, the outflow of highly skilled human capital becomes a serious problem. Two possible methods for reducing this risk are as follows:

1. temporarily restricting the mobility of workers in whom the firm invests in training;
2. compensating the firm for possible losses on its investments when an employee decides to move elsewhere.

The first option is already a common practice in certain companies employing highly skilled labor. An employee is offered a contract that limits job mobility for a certain period in exchange for the employer funding specific training programs. Although this method of reducing investment risk is pragmatic, it contradicts the principle of free labor mobility in the economy. The second alternative may consist of providing tax incentives or credits for "unsuccessful/unrealized" investments. This reduces firms' losses in cases of workforce mobility without restricting the free movement of labor in the economy.

2. The principle of multidirectionality among incentive subjects. When forming a tax support system for HCI, it is recommended to consider its multidirectionality, meaning that it should be targeted both at employers and employees — individuals. This principle includes identifying differences between individual and corporate targeted incentives. Corporate tax incentives encompass all forms of tax benefits or credits applied to expenses incurred by employers for training their employees.

3. The principle of differentiation by types and forms of HCI. A differentiated approach to creating a system of tax incentives for HCI, based on specifying the types and forms of human capital, is considered the

most justified. Let us examine the forms of human capital in more detail for selecting priority tax instruments. Gary Becker defined human capital as a set of human knowledge and skills developed through investments in education and various forms of experience [15]. Thus, the first form of human capital is based on the presence of work experience. At the same time, another major form of human capital identified over the past decade is the “quantity” of formal education. The logical question is whether the human capital accumulated through formal education is as important as that accumulated through work experience, and which form of investment is more advisable to promote.

From this perspective, it should be noted that the value of a particular form of human capital is manifested in the level of development of the national economy. Work experience is often considered valuable because industry-specific knowledge increases with experience. However, the benefits of the second form are less clear for developing countries with underdeveloped institutions and rapid growth. Investments in children’s family education are also extremely important for accumulating human capital and increasing future earnings.

4. The principle of systematicity in state support measures for HCI. It should be remembered that taxes are only one element of the system of state regulation of investments in human capital. Therefore, the impact of fiscal policy on stimulating HCI depends not only on taxes but also on state funding of educational institutions and direct subsidies provided to households and employers. For example, in most OECD countries, more than 80 percent of higher education expenditures are financed by the government. At the same time, Chile and Korea finance less than 25 percent, while Japan, the United Kingdom, and the United States finance less than 40 percent. In countries such as Japan, Korea, and Chile, this reflects the widespread use of education in private institutions, while in the United Kingdom and the United States it is reflected in public colleges and universities, but primarily on a commercial basis. Thus, the choice of tax incentives and the scale of their provision should consider the volume, structure, and composition of public expenditures on education and preferential lending. Due to imperfect credit markets, tax incentives for individuals and legal entities aimed at increasing the insufficient volume of investments in human capital should be provided in the form of tax benefits applied over several periods until they are fully utilized by households or business entities that otherwise lack access to credit.

It should be noted that if the problem of insufficient investment in human capital can be solved more effectively outside the tax system (for example, through lending or direct budget transfers), tax incentives may be undesirable. In this case, it is important to maintain tax neutrality regarding investments in human capital. Since decisions on such investments relate not only to their level, other aspects of tax neutrality also matter. Taking into account the principles described above and the identified directions of tax incentives for HCI, it is proposed to use three categories of tax incentives that ensure the preservation and development of human capital:

1. an incentive promoting corporate HCI;
2. an incentive promoting individual (private) HCI;
3. an incentive aimed at minimizing HCI risk.

If properly designed, there are two tax mechanisms that may stimulate corporate investments in human capital:

4. Using deferred tax liabilities on special taxes on human capital (if established). Foreign scholars have shown that deferring taxation on human capital is acceptable. The main conclusion here is that the marginal tax rate that determines deferred tax liabilities on human capital should depend on the current income of the economic agent. In particular, agents with low labor income are charged higher deferred taxes, while those with higher labor income pay lower deferred taxes relative to capital. Taxes must not only increase government revenues but also prevent the following situations from occurring if:

— highly skilled workers classify their labor as low-skilled for the purpose of more favorable taxation (in conditions of increasing tax burden on high-skilled labor). To prevent this, for example, in Russia, the income of foreign citizens with the status of highly skilled specialists is taxed at a rate of 13 percent, regardless of whether they are residents or non-residents;

— able-bodied citizens deliberately withdraw from employment (similar to “poverty trap” cases in certain developed European countries).

Thus, taxes should provide sufficient incentives not only to prevent the growth of “voluntary” unemployment but also to encourage adequate investment in human capital at the beginning of the life cycle. Governments around the world do not have sufficient grounds to introduce special taxes on human capital when one-time and undistorted taxes on labor income already exist.

5. Developing a system of tax incentives for employers to support their investments in employee training. It is relevant to support the development of a dual education system, which includes theoretical training at educational institutions and practical training at a specific company that forms general and firm-specific human

capital. This practice is widely used in Germany. In some cases, tax incentives are provided at a fixed amount not related to the actual expenses incurred by the taxpayer (education tax credits in Canada and the Czech Republic). This amount may conditionally reflect direct or indirect education expenses.

In Uzbekistan, income from educational services is subject to a zero income tax rate. To apply the benefit, revenues from educational services must constitute at least 90 percent of the taxpayer's total income. Educational services are also exempt from value-added tax. Property tax for educational institutions (buildings and structures) is paid at a reduced rate. Land plots occupied by educational institutions are exempt from land tax. Educational services include preschool, primary, secondary, technical, vocational, higher, and postgraduate education, as well as retraining and professional development services.

Medical services are subject to a zero income tax rate. To apply the benefit, revenues from medical services must constitute at least 90 percent of the taxpayer's total income. Medical services are also exempt from value-added tax. Property tax for medical institutions (buildings and structures) is paid at a reduced rate. Land plots occupied by medical institutions are exempt from land tax. Medical services include diagnostic, preventive, and therapeutic services, as well as dental and prosthetic services.

Technopark residents are exempt from all types of taxes and mandatory contributions to state target funds, including social tax, until January 1, 2028. Income earned by employees under employment contracts concluded with Technopark residents until January 1, 2028, is taxed at a rate of 7.5 percent (instead of the usual 12 percent) under personal income tax.

## CONCLUSIONS AND SUGGESTIONS

Tax incentives for investments in human capital are one of the priority directions of state regulation aimed at ensuring economic growth. At the same time, research findings show that not all fiscal incentives function effectively as tools for promoting HCI, since both practitioners and academic literature express doubts about their effectiveness.

The economic problems of using tax instruments to develop human capital are primarily related to their inefficiency and budgetary costs, which highlights the need to design and evaluate tax incentives carefully. This ensures that resources are allocated efficiently and that contributions to human capital development are made without causing revenue losses or creating budget constraints. Solving all economic issues requires a balanced approach that takes into account both the direct and indirect effects of tax incentives on the entire economy and on public finances.

Effective implementation of tax incentives aimed at developing human capital requires coordination between the Tax Committee of the Republic of Uzbekistan, the Ministry of Higher Education, Science and Innovation, and the Ministry of Health. Ensuring continuous communication and cooperation among these institutions is often a complex task, but it does not end there. The existence of a reliable technological infrastructure for accounting and managing provided incentives also plays an important role in implementing tax incentives for human capital development. Developing and maintaining such infrastructure is costly and requires additional financial resources, reliable data management, and security.

Identifying the most effective tax incentives requires a solid methodology for evaluating the effectiveness of existing and proposed tax incentives, taking into account many non-tax factors. Linking changes in human capital development solely to tax incentives is difficult due to complex socio-economic factors. Therefore, it is important to analyze behavioral responses and identify the unintended consequences of tax incentives. To understand the reaction of organizations and individuals to tax incentives and to identify potential adverse effects, it is necessary to use elements of behavioral economics and conduct a comprehensive assessment of how tax incentives affect the behavior of economic agents.

Longitudinal studies, extensive socio-economic analysis, and econometric models should be used to assess the long-term impact and sustainability of tax incentives for human capital development. This makes it possible to determine the stable effects of tax incentives on human capital development and improve future forecasts.

The application of tax incentives for developing human capital in Uzbekistan is limited by several challenges, and eliminating them requires a comprehensive review of tax legislation and its improvement through the introduction of clear and inclusive rules. By simplifying administrative procedures and expanding the scope of tax incentives, Uzbekistan can create favorable conditions for organizations to use tax incentives effectively in human capital development. Addressing all these issues requires joint efforts from policymakers, tax authorities, and stakeholders. This, in turn, contributes to the formation of an enabling environment for using tax incentives to develop human capital.

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