



Providing Incentives for Intellectual Labor through Tax Policy in Belarus

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Abstract

This paper discusses the idea of providing tax incentives for scholars and researchers as a necessary factor in the formation of innovative environment. The research aims at formulating proposals for increasing income from intellectual work through tax incentives based on the analysis of scientific research context and existing tax regime for Belorussian researchers. It is argued that the quantity and quality of intellectual labor depend on the tax regime applied. Academic science environment in Belarus is analyzed and the mechanism of taxation of researchers' income is discussed in its context. The structure of current costs for research and development is demonstrated. Authors show the insufficiency of the existing tax incentives for intellectual labor, including research grants.

The analysis is focused on the mechanism of taxation and collection of social insurance contributions from the remuneration of members of temporary research teams. The authors propose to introduce special tax rules for research income from research activities, and consider these possible rules in detail. The theoretical framework of this article is based on the research of national and foreign scholars in the fields of taxation theory, taxation of individuals, and intellectual capital.

Keywords: tax policy, tax incentives, taxation of labor, research incentives, taxation of grants

JEL: H20, H24

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INTRODUCTION

At present, intellectual labor is studied on the scientific basis created by domestic and foreign scientists as a result of the development of knowledge in this area [Heckman, 2000; Altonji et al., 1996; Becker, 1964; Heckman, Lochner et al., 2000]. Using one or another methodological approach, “intellectual labor” as a category is traditionally considered within the framework of property relations, theories of scientific and technological progress, and the new institutional theory in economics [Becker, 1964; Heckman, Lochner et al., 2000]. Thus, all the basic definitions and regulative measures they propose in this area refer mainly to legal and economic categories. Taxation is an effective mechanism of state regulation of any activity, and scientific activity is no exception. Unfortunately, national research in the field

of taxation of income from scientific and research activities is only represented by a limited number of research efforts.

Stimulation of innovation development seems to be a difficult task if the main problem is not solved, namely, increasing motivation in the results of labor of those involved in the creation of innovations.

Developing options, ways and methods of intervention in this sphere, the state should realize that it is creativity, which is so difficult to regulate and evaluate, that lies at the heart of all kinds of innovations.

Moreover, it is intellectual labor that is the basis for the formation of human capital required for ensuring the economy's innovational development. In pursuing the goals of its economy's innovational development, each country should take care of formation and development of intellectual capital. The latter is a capital realized in people's knowledge, skills, expertise and qualification. The outcome of the intellectual capital can be found in employees' quality and productivity. The essence of intellectual labor is that it is aimed at increasing knowledge. The labor of researchers is only a special case of intellectual labor. With the help of intellectual labor are created objects of intellectual property, including individual.

Scholarly activity (scientific labor) is a kind of intellectual activity aimed at the acquisition and application of new knowledge in order to:

- solve technological, engineering, economic, social, humanitarian and other problems;
- ensure the functioning of science, technology and production as a single system.

Intellectual labor has got a number of specific features that need to be taken into account in its application:

- firstly, it has a probabilistic, not always resulting nature;
- secondly, it is characterized by outstripping development compared to the development of technology and the sphere of production;
- thirdly, it often has a collectivist (less often individualistic) and creative character and unites people involved in developing technologies, scientific service, design of machines and mechanisms and their introduction into production in the form of models and samples;
- fourthly, it is characterized by internal heterogeneity: the work of a theorist and the work of any other intellectual differ in purpose, the nature of the operations performed, objects, means, and definitions of temporal roles. Their labor largely depends on the individual characteristics of the intellectual. It is noteworthy that not all workers are able to perform intellectual work, which means that the amount of intellectual labor offered is substantially lower than the total supply of labor [Kirsanov et al., 2013].

Undoubtedly, the quantity and quality of intellectual labor depend on the conditions created for the development of human intellectual capital, measures of moral and financial stimulation, as well as working and leisure conditions. The role of the state in creation of such conditions cannot be underestimated. The state regulates labor legislation (in particular, the issues of wages and measures of additional incentives), legislation on intellectual property and copyright, and tax legislation.

The process of creating each type of intellectual property requires special measures of tax policy – from personal privileges and deductions to tax exemptions and other deductions from a research collective's payroll [Barrios et al., 2016].

Methodology of research

The relevance of the research topic is predetermined by the insufficiency of domestic developments on the application of tax instruments aimed at encouraging “knowledge” professionals.

The theoretical basis of the research is formed by the studies of national and foreign scholars in the field of tax theory, issues of taxation of individuals, and intellectual capital.

The methodological basis is a set of methods of general scholarly cognition, namely: observation, comparison, description, systematization and logical and cognitive comprehension, as well as traditional methods of economic analysis.

The working hypothesis is based on a system of theoretical provisions and the authors' scholarly viewpoint, according to which taxation of individuals should be carried out within the framework of state tax policy implementation, which allows to identify priorities in improving taxation of individuals and setting up additional opportunities for innovative economic development.

Scientific potential: problems and current state in the Republic of Belarus

According to the United Nations' 2022 special report "New threats to human security in the Anthropocene: Demanding greater solidarity," in 2019 the Republic of Belarus ranked 53rd out of 189 countries on the Human Development Index¹.

Table 1

Ranking of certain countries by Human Development Index (HDI) in 2019

| HDI ranking by countries | | HDI | Research and development expenses, as % of GDP | Life expectancy at birth | Expected years of schooling | Gross national income (GNI) per capita (in US dollars 2017) |
|---|-------------|-------|--|--------------------------|-----------------------------|---|
| Countries with a very high level of human development | | | | | | |
| 1 | Norway | 0,957 | 2,1 | 82,4 | 18,1 | 66,494 |
| 8 | Netherlands | 0,944 | 2,2 | 82,3 | 18,5 | 57,707 |
| 51 | Kazakhstan | 0,825 | 0,1 | 73,6 | 15,6 | 22,857 |
| 52 | Russia | 0,824 | 1,0 | 72,6 | 15,0 | 26,157 |
| 53 | Belarus | 0,823 | 0,6 | 74,8 | 15,4 | 18,546 |
| Countries with a high level of human development | | | | | | |
| 81 | Armenia | 0,776 | 0,2 | 75,1 | 11,3 | 13,894 |
| 88 | Azerbaijan | 0,756 | 0,2 | 73,0 | 10,6 | 13,784 |
| Countries with an average level of human development | | | | | | |
| 120 | Kyrgyzstan | 0,697 | 0,1 | 71,5 | 11,1 | 4,864 |

Source: *New threats to human security in the Anthropocene. Demanding greater solidarity. Overview* (https://hdr.undp.org/sites/default/files/srhs2022_overview_en.pdf).

In 2019, according to the Index, the first place belonged to Norway (0.957 points). Next were Ireland and Switzerland with the same score of 0.955. Hong Kong, Iceland, Germany, Sweden, Australia, the Netherlands, and Denmark were also in top ten.

Among the EAEU countries, Kazakhstan ranked the highest (51st), followed by Russia (52nd), Belarus (53rd), Armenia (81st) and Kyrgyzstan (120th). Russia, Kazakhstan and Belarus were close to each other and corresponded to the group of countries with a very high level of human development. Armenia was in the group of countries with a high level of human development. Kyrgyzstan belonged to the group of countries with an average level of human development.

All EAEU countries (with the exception of Russia) improved their index. However, a more significant improvement was shown in other countries of the world. This led to the final decline of the EAEU countries' positions in the world ranking.

Even though the Republic of Belarus managed to improve its final HDI figure, its shift from 50th to 53rd place is due to low and slowly growing gross income per capita in terms

¹ <https://hdr.undp.org/data-center/human-development-index#/indicies/HDI>.

of purchasing power parity. Nevertheless, higher gross income per capita (\$18,546) than in Europe and Central Asia (\$17,939) prevents the Republic of Belarus from reaching the level of countries with a very high HDI (\$44,556).

Belarus is characterized by a relatively high level of literacy of the population, which should contribute to the development of science and innovations, which is a complex and spontaneous process. It is impossible to accelerate and maintain the latter at the necessary level without introducing a system of incentives, including those on the part of the state.

Table 2

**Dynamics of indicators characterizing human intellectual labor
in Belarus in 2013–2020**

| Indicator | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 |
|--|---------|---------|---------|--------|--------|--------|--------|--------|
| 1) Number of R&D organisations, units | 482 | 457 | 439 | 431 | 454 | 455 | 460 | 451 |
| 1.1) of which by a type of staff % | | | | | | | | |
| – researchers | 65,2 | 64,4 | 65,0 | 65,1 | 65,1 | 65,0 | 64,4 | 65,2 |
| – technicians | 7,5 | 6,8 | 6,6 | 6,2 | 6,4 | 6,2 | 7,1 | 6,5 |
| – support personnel | 29,1 | 29,3 | 28,6 | 28,7 | 29,1 | 28,8 | 28,5 | 28,3 |
| 1.2) R&D personnel of which by sectors of economy | | | | | | | | |
| – state owned sector | 9236 | 8294 | 7058 | 6 958 | 6 802 | 6 844 | 6 792 | 6 706 |
| – commercial organizations | 18 229 | 20 510 | 18 580 | 16 580 | 16 326 | 16 673 | 17 694 | 18 145 |
| – higher education | 1608 | 2902 | 2 700 | 2 607 | 2 810 | 2 964 | 2 923 | 2 883 |
| 2) Payroll number of R&D personnel, persons | 28 937 | 27 208 | 26 153 | 25 942 | 26 483 | 27 411 | 27 735 | 25 622 |
| of which with academic degree | | | | | | | | |
| Doctor of Science | 704 | 672 | 649 | 631 | 646 | 627 | 608 | 560 |
| Candidate of Science | 2 974 | 2 896 | 2 844 | 2 841 | 2 884 | 2 864 | 2 833 | 2 760 |
| of which researchers | 18 353 | 17 372 | 16 953 | 16 879 | 17 089 | 17 804 | 17 863 | 16 697 |
| 3) Domestic expenditure on R&D, BYN million (2000-2015 – BYR bn) | 4 372,3 | 4 073,1 | 4 495,4 | 475,3 | 617,7 | 739,3 | 777,8 | 807,0 |
| of which current domestic expenditure on R&D, BYN million (2000-2015 – BYR bn) | 4 111,1 | 3 809,3 | 4 299,6 | 458,3 | 587,1 | 688,9 | 703,7 | 734,6 |
| 4) Volume of R&D works performed, BYN million (2000–2015 – BYR bn) | 5 651,3 | 4 994,1 | 5 443,2 | 596,6 | 725,8 | 765,1 | 805,5 | 878,7 |

Note: In terms of the new denomination (1 BYN = 10 000 BYR).

Source: compiled by the authors according to the official website of the National Statistical Committee of the Republic of Belarus (<https://www.belstat.gov.by/en/ofitsialnaya-statistika/real-sector-of-the-economy/science-and-innovation>).

The analysis of the above data shows that 2013 to 2016 there was a decrease in the number of scientists. A similar trend is characteristic of the total number of personnel engaged in R&D.

From 2016 to 2020, the structure of employees performing research and development remained unchanged: 65.2% of the number were researchers, while 34.8% were technical and auxiliary personnel. The number of researchers in 2020 was 16,697, which was 1,166 fewer than in 2019. There were 25,600 people in 451 research and development organizations in 2020.

In recent years the structure of personnel engaged in research and development has remained almost unchanged: researchers – 65.2%, technicians – 6.5%, and auxiliary personnel – 28.3%. One-fifth of all researchers have a scientific degree: Doctor of Sciences – 558 people, Candidate of Sciences – 2,722 people. The total number of women researchers is 40% (Doctors of Sciences – 21.5% and Candidates of Sciences – 41.4%). Young people under the age of 29, inclusive, account for 21% of the total number of researchers.

In 2020 the number of researchers per 10,000 population was 17.8% which is 1.1 percentage points lower than in 2019. There was also a decrease in the number of researchers per 10,000 workers employed in the economy in 2020. By the end of the year, the number was 38.7 (41.3 in 2019)².

At the same time, it should be noted that the share of this personnel in the total population and its active part is insignificant, amounting to 0.36% and 0.75% respectively. It is worth mentioning the fact that the most significant share among the R&D personnel (from 42 to 56% depending on a specific year) falls on the commercial organizations sector. As a rule, the commercial sector is engaged in applied R&D, providing innovative development of a specific enterprise (industry).

Scientific research and development in the Republic of Belarus is one of the most highly paid types of economic activity³.

The average salary of employees in this sphere was 1,727.9 rubles per month which significantly exceeds the average income in the economy. In 2020 it increased by 38.1% (Table 3).

Table 3

Dynamics of remuneration in science from 2016 to 2020 in Belarus.

| Indicators | 2016 | 2017 | 2018 | 2019 | 2020 |
|--|--------|--------|--------|--------|--------|
| Nominal average monthly accrued wage in research and development, rubles | 1006.1 | 1166.5 | 1341.6 | 1505.2 | 1727.9 |
| The ratio of the nominal average monthly accrued wage in research and development to the total level of this indicator for all types of economic activity, % | 138.9 | 142.8 | 140.0 | 138.0 | 138.1 |
| Real wage in research and development (% to the previous year) | | 109.1 | 109.6 | 105.9 | 108.2 |
| Average hourly wage of an employee in research and development, rubles | 5.9 | 6.8 | 7.9 | 8.8 | 10.0 |
| The ratio of the average hourly wage of an employee in research and development to the total level of this indicator for all types of economic activity, % | 131.1 | 136.0 | 133.9 | 131.3 | 129.9 |

Source: compiled by the authors according to the official website of the National Statistical Committee of the Republic of Belarus (<https://www.belstat.gov.by/en/ofitsialnaya-statistika/real-sector-of-the-economy/science-and-innovation>).

It should be noted that the indicators of average wages do not fully reflect the level of remuneration. As a rule, the wages of a significant number of workers are below the average level, and the scientific sphere is no exception in this case. Thus, in 2020, 71.5% of science workers had wages below 1,700 rubles, i.e. below the industry average, while 50.1% of workers in the industry had accrued wages below the national average wage (1,250.9 rubles).

According to this indicator, scientific activity compares favorably with the general situation in the economy. Thus, in the country as a whole 32.8% of employees had a salary of 1,200 rubles or more, while in higher education it was only 27.6% of employees.

In order to stimulate and intensify scientific activity, the government is taking specific steps to increase the financial interest and involvement of employees in the scientific sector. Since 2017, new principles and approaches to wage calculation have been defined for employees of budgetary scientific organizations, taking into account industry specifics. These principles eliminate the drawbacks of the previous system of wages (multiple types of raises,

² *Science and innovation* (<https://www.belstat.gov.by/en/ofitsialnaya-statistika/real-sector-of-the-economy/science-and-innovation>)

³ *Innovative development is one of the priorities in the Republic of Belarus* (<https://president.gov.by/en/belarus/science/innovative-development>)

allowances and additional payments calculated from different bases, excessive centralization of the issues of wage regulation, etc.)⁴.

It is planned to increase the size of the guaranteed part of the salary and to strengthen the role of stimulating payments to employees performing scientific research and development. In addition, it is planned to expand the rights of heads of budgetary scientific organizations in regulating the level of employees' wages depending on the tasks they solve and the results they achieve.

In comparison with other budgetary organizations the terms of remuneration of labor in scientific organizations have certain advantages. For instance, the payment of up to 300% of the salary is provided for specificity of work in budgetary scientific organizations, which allows to attract the most qualified specialists to this industry⁵.

Problematic issues in the field of tax regulation of individuals' income from innovative activities in the Republic of Belarus

Providing the innovative development in the Republic of Belarus directly depends on creating effective mechanisms to motivate and stimulate innovation activity, particularly in terms of material and moral support for the creative work of scholars and developers of scientific and technical products.

In recent years, serious steps have been taken, which have been supported by legislative acts to change the system of remuneration of labor and revise the system of bonuses to all participants of the innovation process for achievements in priority areas of science and technologies.

Tax and budget policies can facilitate human development through macro-and micro-level impacts. For example, this can be observed at the macro level by directing public expenditures toward human development and at the micro level by influencing local budgets to use regional resources efficiently. Some economists emphasize the importance of the tax phenomenon. They believe that taxation is the most important component of the economic impact through the system of state financial regulation. They also believe that taxes play an exceptional role in the dynamics of social development. The size of taxes and the ways of their payment are conditioned either by one of the factors of economic growth and increase in the standard of living of the population, which forms people's trust to the authorities, or by the factor provoking regression in the society and growth of social tension [Pestel, Sommer, 2015].

As part of the state financial regulation of human development, taxes and the tax system are of decisive importance, in particular, because taxes are the main source of income, without which the state cannot realize its functions (including human development).

The use of the system of tax benefits and preferences of tax policy in the sphere of scientific research, as well as in other sectors of national economy, can make the work of researchers more attractive in terms of taxation⁶.

At the same time, it should be noted that improvement of the system of taxation of the payroll in the Science and Scientific Services sector can ensure both an increase in the level of scholars' labor payment and the release of part of the budget funds allocated to cover social payments.

The current system of payroll taxation is represented by:

⁴ Decree of the President of the Republic of Belarus of December 28, 2017 № 467 "On remuneration of workers of budgetary scientific organizations".

⁵ Innovative development is one of the priorities in the Republic of Belarus (<https://president.gov.by/en/belarus/science/innovative-development>).

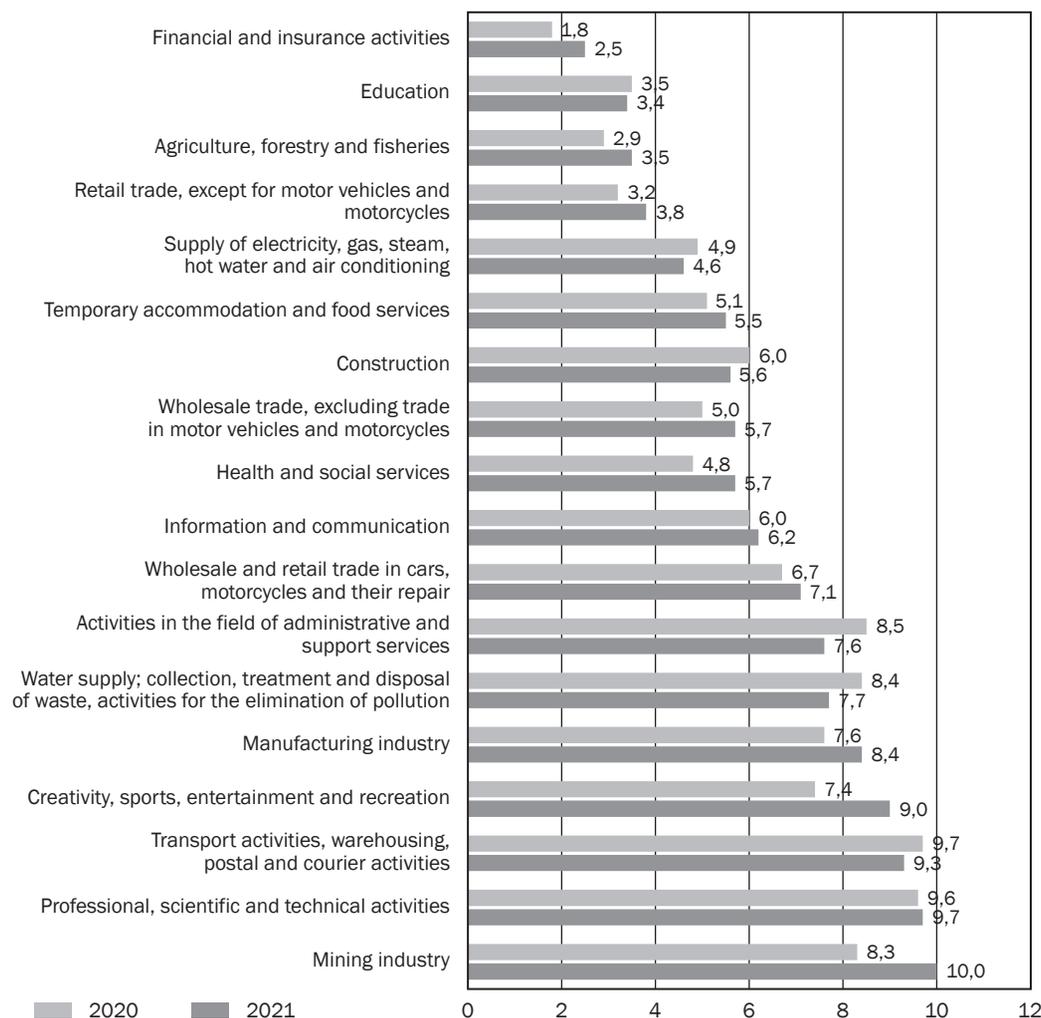
⁶ Tax Code of the Republic of Belarus (general part) of December 19, 2002 No.166-3 (as amended on 31-12-2021). Available at: <https://cis-legislation.com/document.fwx?rgn=3131>.

- contributions for state social insurance to the Social Security Fund under the Ministry of Labor and Social Protection;
- dues for compulsory insurance against accidents at work and occupational illnesses to “Belgosstrakh”, the Belarusian state unitary insurance company;
- income tax paid directly from income of an individual.

The high level of taxation in the Science and Scientific Services sector is explained, first of all, by the fact that this sphere is labor- and time-consuming, and taxation of the wage fund is the highest (Picture 1).

Picture 1

Tax burden by type of economic activity for 2020–2021



Source: compiled by the authors according to the official website of Ministry of Taxes and Duties of the Republic of Belarus (<https://www.nalog.gov.by/analytcs/>).

Under the circumstances, the standard tax and other extra fees imposed on the payroll increase the relative tax burden more than other sectors of the national economy.

From year to year, in the structure of internal current costs there is a relative increase in the share of labor costs and social contributions, and a decrease in cost of equipment and other costs, respectively (see Table 4).

Table 4

Internal R&D costs by type of costs (in actual prices, thousand rubles)

| | 2015 | 2016 | 2017 | 2018 | 2019 |
|--------------------------|---------|---------|---------|---------|---------|
| Internal costs, total | 449 543 | 475 344 | 617 684 | 739 340 | 777 843 |
| Internal current costs | 429 964 | 458 329 | 587 104 | 688 864 | 703 710 |
| Labor payment | 180 375 | 198 834 | 229 216 | 278 140 | 311 228 |
| Social contributions | 58 577 | 64 075 | 74 259 | 88 333 | 100 758 |
| Purchasing of equipment | 2 716 | 4 200 | 10 466 | 20 043 | 20 781 |
| Material costs | 127 411 | 109 953 | 182 495 | 200 115 | 161 424 |
| Other current costs | 608 84 | 81 591 | 90 668 | 102 233 | 109 519 |
| Capital costs | 19 578 | 17 015 | 30 580 | 50 476 | 74 133 |
| Land plots and buildings | 21 0 | 513 | 145 | 130 | 133 |
| Purchasing of equipment | 14 814 | 11 523 | 34 676 | 34 676 | 49 486 |
| Other capital costs | 2 654 | 3 979 | 8 527 | 15 670 | 24 514 |

Source: compiled by the authors according to the official website of the National Statistical Committee of the Republic of Belarus (<https://www.belstat.gov.by/en/ofitsialnaya-statistika/real-sector-of-the-economy/science-and-innovation>).

Wages and social security contributions steadily account for more than 58% of all current expenditures.

The main types of income of workers in the innovation sphere and objects of material stimulation of intellectual labor in Belarus are:

- salaries;
- allowances for having a scientific degree;
- various bonuses for work achievements;
- employer's payment for training (retraining);
- employer's payment for employees' presentations;
- state awards;
- income from research grants;
- royalties for objects of intellectual property.

Almost all of these types of income, with the exception of state prizes and awards, are included in the tax base and are subject to taxation on a general basis applying the standard income tax rate and obligatory social security contributions.

The category of income from scientific activities subject to exemption from taxation in 2022 includes:

- state prizes of the Republic of Belarus;
- scholarships established by the President of the Republic of Belarus, awards of the Special Fund of the President of the Republic of Belarus for the Support of the Talented Youth, as well as awards of the Special Fund of the President of the Republic of Belarus for Social Support of Gifted Students and Pupils;
- income from grants of the President of the Republic of Belarus in science, education, health, culture.

Taxation of employees in the innovative sphere (intellectual labor) in Belarus is practically the same as that in other sectors, the only exception being the specially created High-Tech Park.

The incomes of the working population, including those engaged in scholarly and innovative activities, are levied at the standard rate of income tax – 13%. In contrast, for the High-Tech Park employees (except those involved in maintenance and security of buildings and land) the rate is reduced to 9%. The personal income tax rate is set at 9% for income received by:

1. individuals from residents of the High-Tech Park residents under employment agreements (contracts);
2. individual entrepreneurs — residents of the High-Tech Park;
3. individuals participating in realization of a duly registered business project in the sphere of new and high technologies from non-residents of the High-Tech Park under employment agreements (contracts).

In addition to income tax, employees pay contributions in the amount of 1% of accrued amounts to the Social Security Fund.

Support for science in countries with developed economies is targeted. It covers specific researchers through grants, and the money is allocated to immediate performers of activities awarded with grants (individuals) and is not taxed.

Taxation of grants in Belarus is carried out according to the general procedure at the rate of 13 percent. The only exception is grants awarded by the President of the Republic of Belarus.

Grants are stimulating payments and are given to heads and specialists of organizations engaged in science for a significant contribution to the development of the industry and participating in scientific research, innovative projects of priority importance for the realization of state programs and the most important branches of social and economic development of the Republic of Belarus for one year.

Grants are awarded in limited amounts for research and projects related to:

- obtaining essentially new scientific results;
- development of scientific theories and concepts;
- creation and implementation of new objects of equipment and high technologies corresponding to the world level.

Taxation of grants is not a new problem. Scientists have paid attention to it at various times [Kanakova, Szpoper, 2021; Zidar, 2019; Balatsky, 2007].

However, alongside with above, there is a problem of “washout” of grants in Belarus. The essence of this problem is that the money allocated by the state funds as grants to individual researchers passes through the legal entities where the grantees are employed. As a result of this system, subventions on research grants are to be taxed in the manner provided for legal entities. In the final analysis, the immediate researchers working on the projects receive far less money than is reflected in the state funds’ financial reporting forms. Thus, there is a washout of resources allocated for research, which forms a channel for withdrawing part of these resources and sending them back to the budget with the launch of the respective tax mechanism.

To estimate the extent of losses of research subventions, the following formula can be applied:

$$k = \frac{1}{(1 + \alpha + \beta + \gamma + \mu)}, \quad (1)$$

the legend being as follows:

k — quotient of proportionality, which plays the role of the indicator of the effectiveness of grants subventions;

α — norm of extra fee on labor payment (contribution to the social security fund);

β — share of the grant spent on overhead expenses;

γ — income tax rate;

μ — rate of contribution to mandatory insurance against accidents.

According to current legislation, the performance indicator for grant subventions is no more than 60%. It means that a researcher receives only 2/3 of the grant’s sum allocated for the research, and the rest is divided between the organization where the research is conducted and the state.

From the financial perspective, the overhead costs are determined by the organization's need to cover the costs of financial, organizational and technical support of the project. In any case, however, this means a direct deduction from the grant recipient's income. The next deduction is extra fees for wages charged as soon as the money is credited to the legal entity's account in the form of wages. In addition to the above deductions, an income tax is automatically levied on the wages accrued to a researcher. This form of deduction is beyond the researcher's control and operates automatically.

This approach does not make grant revenues attractive for scientists and research organizations.

A particular actively practiced form of organization of researchers is temporary research teams (TRTs). TRTs are created at the initiative of an organization, which requires scientific research and development, or an individual. TRTs are not subject to taxation, and dues payers are not subject to registration with the tax authorities. The organization that initiated a TRT's activity assumes obligations both to pay remuneration to the team members and to withhold and transfer to the budget tax and non-tax payments from the income received. As with the payment of grants to support a TRT's activity (accommodation, necessary equipment, etc.). The overhead costs of organizing activities and accounting also require certain expenses, which reduce the amount of remuneration paid. Depending on the type of research, certain organizations can exceed 60% of the money granted to the research team. The payment of income tax at the standard rate and insurance fees on a general basis also does not make this type of activity attractive from the point of view of receiving income from scientific workers. Let's take into account the fact that the members of TRTs can be persons who have reached retirement age. The procedure of taxation with mandatory insurance contributions of remuneration paid to them leads to disinterest of experienced scientific workers who have crossed the retirement age threshold. In 2020, more than 27% of researchers in the Republic of Belarus belonged to the group of 55 years and older. A similar picture was observed in previous years.

Table 5

Age structure of scientific and research personnel in 2018–2019

| | 2018 | 2019 |
|--------------------------------|--------|--------|
| Total | 17,804 | 17,863 |
| including those of age: | | |
| up to 29 years old (inclusive) | 4,018 | 3,931 |
| 30–39 | 4,453 | 4,513 |
| 40–49 | 2,805 | 3,044 |
| 50–54 | 1,368 | 1,234 |
| 55–59 | 1,760 | 1,660 |
| 60–69 | 2,458 | 2,491 |
| age 70 and older | 942 | 990 |

Source: compiled by the authors according to the official website of the National Statistical Committee of the Republic of Belarus (<https://www.belstat.gov.by/en/ofitsialnaya-statistika/real-sector-of-the-economy/science-and-innovation>).

This table sufficiently shows the aging of scientific personnel and their transition to the retirement group.

Taxation of royalties of scholars and inventors, as well as those involved in other results of intellectual activities is carried out taking into account the following peculiarities:

1. The sum of royalties for each author's (co-author's) intellectual activity is determined.
2. This category of payees is eligible for a professional tax deduction either in the amount of actually incurred and confirmed by the payee's expenses related to the receipt of royalties

for the results of intellectual activity, or in the following amount: *twenty (20) percent of the income accrued* on maps, plans, sketches, illustrations, and plastic works related to geography, topography and other sciences; computer programs; derivative works (translations, adaptations, annotations, summaries, reviews and other remaking of scholarly works; *thirty (30) percent of the income accrued* on inventions, utility models, industrial designs and other results of intellectual activity (relative to the amount of income received for the first two years of use) [Kudashov V.I., Leontieva V.B., 2015].

3. The difference between the received author's remuneration and professional tax deductions is liable to tax. Additionally, it should be noted that property rights to intellectual property objects may be donated to a third person or inherited. In this situation the heirs or recipients of such a gift (except for close relatives of the donor) have to pay income tax at the rate of 13%.

CONCLUSION

The basis of modern society is science-based innovation industry dominated by intellectual labor uniting scientists, engineers, managers, academic and educational workers and other specialists of the economic sphere performing mental processes. This leads to an "intellectualization" of employees and labor. The work requires exceptionally high qualifications, the importance of intellectual effort grows. This requires workers to have appropriate skills, a certain level of intelligence, and a high level of professional and general educational knowledge. Accordingly, secondary and special education is more and more important for the formation of appropriate intellectual professionals.

Incentivizing scientists and researchers through income growth is a public policy aimed at both increasing the income of qualified workers in the field of scientific activity and reducing their expenses, including the payment of taxes and fees [Akcigit et al., 2018].

The above analysis showed that in the Republic of Belarus there is a low level of the population's involvement in intellectual labor. Therefore, one of the goals of the state at this point should be the creation of favorable conditions for the rapid development of human intellectual capital.

Considering the strategic importance of the development of innovation environment in the Republic of Belarus, a tax mechanism should become an integral part of the state system of stimulation of innovational development. In this context, increasing the income of researchers and scientists through tax regulation can be realized by granting them tax benefits and preferences.

Many countries are increasingly using tax policy measures as an instrument to incentivize innovative development. However, the amount of incentives and preferences in personal income taxation is not as significant as in other areas of economic policy.

In Belarus, taxation is also not a major incentive for innovative and creative activities. Only the residents of the High-Tech Park have certain privileges and preferences. Nevertheless, it is worth noting that income tax benefits for the High-Tech Park residents are limited to the IT sector. These benefits are aimed at attracting highly qualified specialists, including migrants from abroad, to the High-Tech Park. Unfortunately, the problem of tax incentives for research activities and particularly for the income received through research grants remains unsolved.

In our opinion, expansion of tax incentives for research grants (including full exemption from income tax), will not only increase their attractiveness and provide scientists with a proper level of remuneration for their research work, but will also improve financial flows from the budget to individual recipients of funds. The use of preferential income tax rates and benefits, widely used in foreign countries to attract foreign researchers, can also play a worthy role in the tax mechanism of incentivizing scientific research in the country. Such an approach

will ensure the transfer of scientific personnel and the development of new research ideas and technologies. By restructuring research unions in the form of temporary research teams, we do not address the issue of reducing the tax burden on team members. Taxation and mandatory contributions on remuneration received by the members of temporary scientific groups are the same as taxation of employees' income in regular scientific organizations. Both standard income tax rates and standard social payment rates are applied to these remunerations. To increase income and stimulate scientific work, we propose to exempt the income of individuals of retirement age received from research activity from the payment of obligatory social insurance contributions. Such an exemption would make temporary research teams more attractive both for the organizations that create them and for the highly qualified, experienced researchers involved in the projects.

These findings confirm the necessity for further research on the application of tax policy measures related to the taxation of personal income as an incentive for innovative development.

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Налоговое стимулирование интеллектуального труда в Республике Беларусь

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Аннотация

В статье рассматриваются вопросы стимулирования труда ученых и исследователей как необходимого фактора формирования инновационной среды. Теоретической основой послужили исследования отечественных и зарубежных ученых в области теории налогообложения, налогообложения физических лиц, а также интеллектуального капитала.

Количество и качество умственного труда зависят от условий, созданных для его стимулирования, и государство способно обеспечить такие условия посредством налогового законодательства. Анализируется состояние научного потенциала Республики Беларусь, а также механизм налогообложения доходов исследователей. Проанализирована структура текущих затрат на исследования и разработки. Отмечено, что заработная плата и взносы на социальное обеспечение составляют больше половины текущих расходов научных организаций. В связи с этим доходы работающих в сфере науки существенно зависят от налогообложения. Выявлены проблемы недостаточности налоговых мер стимулирования интеллектуального труда, в частности, исследовательских грантов.

Рассмотрены проблемы налогообложения и взимания обязательных страховых взносов с вознаграждений членов временных научных коллективов. Процесс создания каждого вида интеллектуальной собственности требует определенных мер налоговой политики — от индивидуальных льгот и вычетов до применения освобождений членов научных коллективов от уплаты страховых взносов. В статье предложены направления совершенствования льготного налогообложения доходов лиц, занятых в сфере науки и инноваций.

Ключевые слова: налоговая политика, налогообложение труда, доходы ученых и исследователей, налогообложение грантов, налоговое регулирование доходов физических лиц

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