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Taxation Instruments for the Support of Research and Advanced Development Expenses in the Manufacturing Sector of the Economy

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Abstract. The goal of this research is studying the results achieved by using the existing taxation instruments regulating the creation of R&D expenses during the profits tax calculation and payment in the manufacturing sector of the economy of the Russian Federation. The main methods of this research are the analysis and the generalization of regulatory documents, as well as the mathematical representation based on the extrapolation of empiric data on the structure of R&D expenses incurred within 2012-2018 on the profit tax base. In terms of expense tracking, Russian tax legislation prescribes complicated procedures for R&D expenses accounting taking into consideration such limitation as using a minimum of 75% of the labor costs. The mechanism of fiscal expansion for the innovative activities in terms of R&D is separate from the methods of innovation process implementation, including the product life cycle phases and innovation process stages. Due to this, it is important to treat manufacturing enterprises as a separate category, because their operations are innovation-active. In practice, we suggest expanding the existing list of innovative activities in strategic areas of the country's economic safety in order to increase the rates of high-end technology introduction in manufacturing.

1. Introduction

In the last years, some significant tax arrangements were imposed at the national level to stimulate innovative activities. The legal basis of it is the sector development strategy for manufacturing until 2020, ratified at the federal level in 2016. It takes into consideration further stimulation prospects for up to 2030 and it clearly defines the main goals and objectives for the national administration in order to maintain national security. The increase of fiscal stimulation on companies' innovative activities through the optimization of the administrative mechanism for the research, development and engineering expenses, which are taken into account when calculating the profit tax base.

2. The relevance and scientific merit of the problem, short literature review

Most of the Russian researchers and practitioners speak of the poor results of the taxation instruments in place, helping create the conditions necessary to maintain high-quality innovative economic growth. They mean the changes to the fiscal legislation of 2018 that do not reflect the nature of systemic R&D result formation and their record in the payment of profit tax. According to Mayburov (2018), this selective approach without the consideration of sector features prevents companies, primarily industrial and manufacturing, from the formation of an efficient motivation system. According to Sopilko (2017),



the insufficient targeting of the exemptions and concessions granted reflects the methodological inferiority of the existing laws in terms of R&D accounting for taxation because the individual approach to manufacturing companies within the economic sectors is not used (Vasi, 2012). Besides, the existing fiscal legislation has no provisions for the maintenance of the R&D demand (Shtefan, 2017), which is a drawback for both the economy in general and for the manufacturing enterprises in particular (Weyzig, 2013). Thus, the lack of a uniform methodological approach, according to Vatin (2014), can be the factor hindering the full-scale practical implementation of forecasted innovations in a given economy sector in mid-term.

The study of foreign experience of using taxation instruments to support R&D expenses shows a wider application of fiscal advantages in various economy sectors. The international research of Bartelsman (2003), Basile (2009), and Meunier (2014) shows a general trend for granting tax preferences to manufacturing enterprises in developed countries. According to Castellani (2004), Defever (2012), and Brueller (2018), granting sectoral tax concessions better stimulates the research and development and the economic activity of innovative businesses. However, most of the countries set limitations for R&D expenses depending on the efficiency of the actions taken and taking into account the economic indicators of the subjects. For example, a statutory tax deduction for the R&D expenses of up to 125% is used in Australia taking into consideration the value growth for the R&D expenses incurred if they have an adverse effect (Erdmann, 2017). In order to limit the volume of the expenses incurred by the state, most of the developed countries use this uniform approach: they set a top border for the R&D expenses (Giroud, 2013) that can actually reduce the assessed amount of the corporate tax for the calendar year. This value is 10% in Japan, 35% in Spain, and 50% in Taiwan (Hongkang, 2019).

3. Setting the research objective

The goal of this research is studying the results achieved by using the existing taxation instruments regulating the creation of R&D expenses during the profits tax calculation and payment in the manufacturing sector of the economy of the Russian Federation.

4. Theoretical part

The Russian laws on the profit tax have some special provisions for the accounting of R&D expenses incurred. First of all, the expenses incurred must have a clear list of the following cost items:

- a) creating new or improving existing products, manufacturing arrangements or innovation management;
- b) charges to special funds for supporting research, development or innovation activities in accordance with the regulations that reduce the tax to the amount of up to 1.5% of all incomes in the calendar year.

The R&D expenses recognized for income tax reduction are grouped according to the activities implemented, forming up the following classification:

- a) material expenses (excluding the purchase of components requiring workshop mounting or semi-finished products requiring additional treatment, including third-party services);
- b) accumulated depreciation (excluding buildings and constructions);
- c) salaries of the employees performing the works described in the payment type list (e.g. sick days are not included);
- d) the cost of contracted works performed under the R&D agreements;
- e) other R&D expenditures (no more than 75% of the payroll fund).

However, manufacturing enterprises incurring R&D expenses have to use a complicated procedure for separate expenditure accounting because they are combined with the core activity funds. For example, if depreciable assets are used for something other than manufacturing products requiring R&D activities, the depreciation charges shall be split according to the types of activity using economically justified indicators (Scervini, 2012). This procedure shall be specifically ratified in the accounting policy for profit taxation. However, within the classification of the R&D costs incurred the depreciation

amounts must be represented as other expenditures subject to regulation. We deem this approach methodologically wrong.

The procedure for the inclusion of bonus depreciation in R&D expenses is also arguable. If the organization sets forth the use of bonus depreciation in its accounting policy (Kuznetsov, 2017), the following limitations are applied:

- a) Up to 10% for capital assets, including the expenditures associated with finishing construction, reconstruction, and modernization;
- b) Up to 30% for the physical assets included in depreciation groups 3-7, taking into account the expenses on finishing construction, refitting, reconstruction, modernization and technical retooling.

However, the regulators do not consider it a reason for profit tax base reduction in the form of bonus depreciation if the capital assets were not purchased in direct association with performing some specific R&D activities. Therefore, the assertion of the legitimacy of accounting such depreciation costs is only possible during the pre-trial tax dispute settlement by providing necessary arguments. In general, the R&D expenses incurred are recognized for taxation purposes irrespective of the end result. The basis for their closure is represented by the completion certificates signed by the parties for the entire work or its parts.

Another option for the accounting of R&D expenses incurred by a manufacturing company can be used for the reduction of the tax base in the covered period among other expenditures to the amount of the actual expenses incurred (completed research or individual stages of work) using the multiplying factor of up to 1.5. The basis of this type of R&D expenses accounting is the list of relevant activities specifying the key areas of the Russian economy that was ratified by the Government of the Russian Federation. Due to the changes to fiscal legislation of 2018, the R&D expenses included in the list ratified by the Government of the Russian Federation can be accounted both combined with other expenses and during the formation of the initial cost of an intangible asset. In this case, the vested priorities of the intangible assets are subject to depreciation through the general procedure, or they can be accounted for combined with straight-line costs allocated for the following two years. The selected accounting procedure shall be set forth in the company's accounting policy.

In order to apply the multiplying factor to the relevant R&D activities, it is necessary to submit a special report to the tax office at the place of company registration on a yearly basis. Within the framework of compliance activities, the regional branch of the FTS of Russia can conduct audits involving specialized research organizations. Manufacturing companies shall submit their reports together with the tax declaration for every completed R&D activity or their stages taking into account the compliance with the national standards for scientific-technical reports. It must be noted, that if an organization did not submit its report, there is no reason for applying the multiplying factor of 1.5 to the expenses incurred due to the completed R&D activities. Besides, the relevant types of R&D expenses are not recognized if they were completed in different fiscal periods due to the provisions of tax legislation. Therefore, a manufacturing company can lose its right to tax base reduction for the next year, if the R&D works were completed partially, e.g. when they are implemented in stages.

5. Practical results of the experimental research

In this research, we used the extrapolation-based analysis to the data from the FTS of Russia on the taxpayers incurring R&D expenses in the period of 2012-2018. (Fig. 1)

The practical data obtained indicate the general reduction of the number of companies incurring R&D expenses in the period of analysis (2012-2018). The reduction can be characterized by the following equation $y = -14187x^2 + 6 \cdot 10^7x - 6 \cdot 10^{10}$ ($y = -14187x^2 + 6 \cdot 10^7x - 6 \cdot 10^{10}$ ($R^2 = 0.9$)). However, the general trend in the correlation of the R&D expenses share and the profit tax base corresponds to the following decreasing function: $= -0.0003x + 0.0054$ ($R^2 = 0.6$). The mechanism of fiscal expansion for the innovative activities in terms of R&D is separate from the methods of innovation process implementation, including the product life cycle phases and innovation process stages. The comparative analysis of the correlation between the R&D expenses ratified in the list of the Government of the Russian Federation with the multiplying factor of 1.5 in the period of 2012-2018 and

the profit tax base allowed the quality assessment of the role of the state in supporting the R&D activities (Fig. 2).

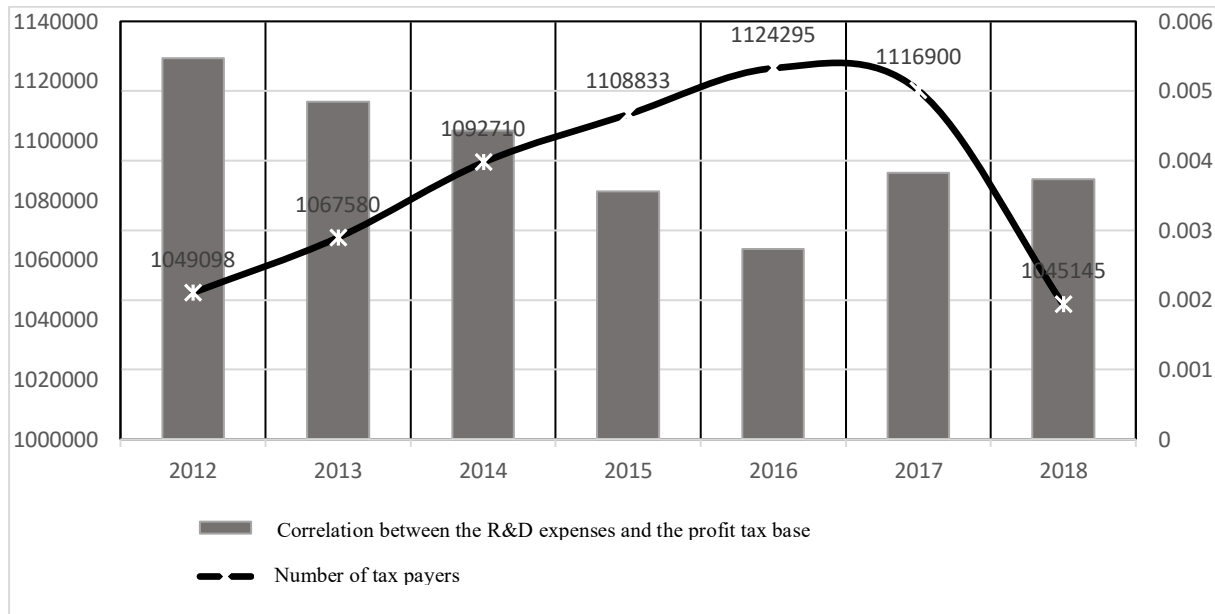


Figure 1. The proportion of the number of taxpayers and the share of R&D expenses in the profit tax base. Composed by the authors according to the statistics from the FTX of Russia https://www.nalog.ru/rn77/related_activities

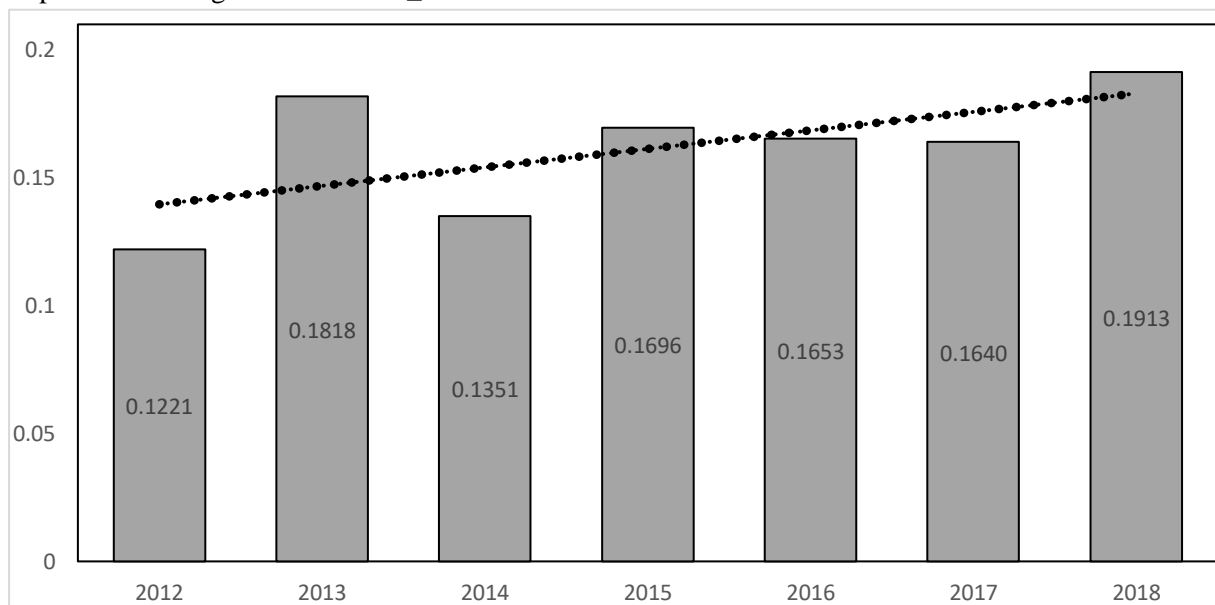


Figure 2. The dynamics of the correlation between the incurred R&D expenses with the multiplying factor of 1.5 and the profit tax base. Composed by the authors according to the statistics from the FTX of Russia https://www.nalog.ru/rn77/related_activities.

The practical data obtained indicate the increase in the number of companies incurring the R&D expenses with the multiplying factor of 1.5 to the profit tax base in the analyzed period (2012-2018), which is characterized by the following equation $y = 0.0072x + 0.1324$.

6. Conclusions

The comparison of the key instruments of the fiscal stimulation of innovation used by manufacturing companies led us to the following conclusions. Currently, there is no uniform approach to the determination of the list of fiscal instruments providing for the innovative growth of the manufacturing sector (Siemens, 2017). There is a general trend towards reducing R&D expenses and simultaneous increased use of R&S taxation instruments for the purposes of national economic security. In this case, the most important types of R&D expenses for the manufacturing companies can be divided into the following areas:

- a) Developing space technologies using nanometric precision and production-oriented;
- b) Developing forms and methods of automated control for complex objects, as well as industrial processes;
- c) Developing relevant technologies for exhaust gas clean-up at industrial companies and energy providers;
- d) Developing innovative technologies to improve security in the coal mining industry.

Taking into consideration the results of the analysis of the obtained data, the authors suggest expanding the existing list of strategic areas recognized for the taxation purposes with the multiplying factor for R&D expenses in order to promote the use of high-end technologies in the manufacturing sector.

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