
MODERN METHODS OF INNOVATION ACTIVITY STIMULATION: «PATENT BOX» AND «TAX CREDIT»

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Purpose: this article is devoted to the financial analysis of innovation activity of the company in oil and gas industry and the search of methods to decrease the level of dependence from foreign technologies.

Discussion: in this article, the profitability of innovation activities of oil and gas company was assessed. Innovative methods of tax incentives were considered, namely, «tax credit» and «patent box». Sanctions from the United States and European countries have limited the transfer of innovative technologies for extracting oil and gas from hard-to-recover reserves. Thus, companies in the oil and gas sector of Russia are forced to use their own research resources to develop the required technologies.

Results: the author analyzed the results of the innovation activities before and after the introduction of innovative tax incentive tools and proposed the most efficient combination of them.

Keywords: innovation activities, oil and gas industry in Russia, tax incentives, patent box, tax credit.

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Introduction

The level of innovative development of Russia is rather low compared to advanced countries. One of the most serious obstacles in increasing the level of innovation development of the Russian Federation is the insufficient level of availability of production equipment and high depreciation level, which has led to low productivity of the economy [1, 8]. On this basis, support for innovation with an emphasis on updating production assets and manufacturing innovative products has become one of the most important tasks in the Russian economy [6, 13]. The best tool for solving this problem is tax legislation, in particular, tax incentives and preferences

The relevance of this study lays in the fact that oil industry in modern Russia thoroughly dependent on foreign technologies and unable to perform complex mining projects without external assistance.

Discussion

The object of this study is PJSC «Surgutneftegas». Today, Surgutneftegas has about 50 divisions that carry out the full production process, which includes exploration and development of oil and gas fields, production and sale of oil products and gas. According to an independent assessment, the volume of recoverable oil and gas reserves of Surgutneftegas is approximately 2.5 billion tons in oil equivalent [13].

The volume of gas produced by Surgutneftegas in 2018 amounted to more than 10 billion cubic meters, in addition, the organization also processes the received raw materials to a level that meets state standards. The percentage of associated petroleum gas processing is increasing every year and is one of the highest in the industry. The main obstacle in increasing oil and gas production is the lack of required technologies [4].

The development of essential technologies requires increasing the pace of innovation, the most effective stimulation method to increase innovation activity is tax incentives [9]. To assess the economic effect of tax incentives for innovation, we introduce the indicator «B-index».

«B-index» is a measure of profit increment acquired after application of tax incentive tools for innovation activities, taking into account the peculiarities of the tax system. B-index is calculated using the formula

$$B\text{-index} = \sum_{i=1}^n \frac{TI_i}{C_i},$$

where TI_i – net profit received after implementation of i-th method of tax incentives for innovation activity; C_i – costs of carrying out innovation activities without taking into account the tax benefits used.

Russian system of innovation activity tax stimulation mainly focuses on development of innovation clusters and pays almost no attention to innovation activity outside these territories. The only tax incentive for innovation activities that the company can apply for is the 1.5 coefficient of accounting for R&D expenses when calculating the profit tax. Performance indicators of innovation activity of PJSC «Surgutneftegas» are presented in table 1.

Table 1

The performance indicators of Surgutneftegas innovation activity

Indicator Name	Indicator value				
	2014	2015	2016	2017	2018
Revenue, thousand rubles	2 193 906	2 033 164	2 032 369	2 223 445	2 155 002
Costs, thousand rubles	1 678 471	1 734 802	1 780 334	1 852 253	1 937 752
Net profit without tax incentive, thousand rubles	412 348	238 690	201 628	296 954	173 800
B-index	10	10	10	10	10
Net profit, thousand rubles	580 195	412 170	379 661	482 179	367 575

From the table 1 it is clearly seen that from 2014 to 2018, the B-index of Surgutneftegas PJSC amounted to 0.1, since the only tax break for the company's innovation activities was the accounting of costs for publishing companies with a coefficient of 1.5 when calculating income tax. This benefit only slightly stimulates the innovation activity of the enterprise.

Russian system of innovation activity stimulation required significant changes [3]. To improve the system of tax benefits, it is necessary to consider the most successful experience of developed countries.

One of the most promising methods of innovation activity tax stimulation is «tax credit». The sum of this tax break depends on the amount of R&D costs (it makes the growth of R&D expenses more feasible) [10]. It's worth to mention, that «investment tax credit» in the meaning of a loan, as it is used in the Russian Federation, and «tax credit» used by Western countries, which reduces the amount of tax payments depending on the amount of R&D expenses are completely different tools [2].

Recently, «tax credit» is becoming more widespread in the world. The most popular form of «tax credit» among foreign countries is a full refundable «tax credit» that allows companies to reduce income tax in the amount of R&D expenses multiplied by the «tax credit» rate [5]. Today, Russia does not have identical methods of stimulating innovation activity. Based on the experience of developed countries, the following options for rates on «tax credit» were proposed:

- the rate is 15% of the R&D costs, does not have restrictions on the volume of the provided benefits;
- for the R&D costs less than 1.5 billion rubles the rate is 25%, for the R&D costs exceeding 1.5 billion rubles the rate is 5% of the excess amount of costs;
- the rate is 30% of the R&D costs exceeding 1 billion rubles.

Table 2 shows the results of calculating the results of using «tax credit» at PJSC «Surgutneftegas».

Table 2

The impact of «tax credit» on the performance indicators of Surgutneftegas

Indicator Name	Indicator value				
	2014	2015	2016	2017	2018
B-index, 1 option, %	15,00	15,00	15,00	15,00	15,00
Profit increment, thousand rubles	251 771	260 220	267 050	277 838	290 663
B-index, 2 option, %	22,87	22,29	21,85	21,20	20,48
Profit increment, thousand rubles	383 924	386 740	389 017	392 613	396 888
B-index, 3 option, %	12,13	12,71	13,15	13,80	14,52
Profit increment, thousand rubles	203 541	220 441	234 100	255 676	281 326

As can be seen from the table 2, the B-index in the second option is higher than in the others, this happens because the border of the rate change is only slightly less than the R&D costs of the company. However, with the strategy of rapid innovation growth, the third option will bring greater effect, since when it reaches the minimum border for tax benefits, it has the highest rate in comparison to all proposed options.

Another promising method of tax stimulation recently gaining popularity is «patent box». This method allows companies to reduce the income tax rate obtained in the process of exercising exclusive rights for inventions and patents [10]. This practice is currently used in 9 European countries, Canada, USA and China. Despite the various manifestations of this method of stimulating innovation, each of them can be defined as «patent box».

«Patent box», unlike most tax methods of stimulating innovation, is aimed at the stage of commercialization of innovations, and not at the development process. Thus, the «patent box» encourages the economic implementation of the developed innovative product, which allows companies to implement less cost-effective innovative activities, while stimulating economic development and creating new jobs [11].

Some countries put a limit on the maximum amount of benefits received from using «patent box». For example, Ireland limited the maximum «patent box» to 5 million euros, and Spain to six times the cost of R&D, which ensured profit from the sale of innovative products. In China, the «patent box» system works in the opposite direction, companies receive a tax break at the rate of 50% of the innovative products sales revenue if it exceeds million yuan [7, 12]. Let us consider the three most popular tax rate options for «patent box», such as:

- rate is 70% of the revenue from innovation, but if the revenue exceeds the R&D costs multiplied by 5, it ceases to be valid;
- rate is 40% of the revenue from innovation;
- for the revenues from innovation less than R&D costs multiplied by 3, the rate is 30% of the revenue, for the revenues exceeding R&D cost multiplied by 3, the rate is 50% of the revenue.

Table 3 presents the results of the calculation of the B-index and the absolute change in the net profit from innovation activities of PJSC «Surgutneftegas» if the state applies the «patent box» tax regime.

As can be seen from the table 3, the first version of «patent box» is more profitable for the company, since in the first option the highest rate takes place and the company does not reach the limit.

The combined effect of «tax credit» and «patent box» on the innovation activities of PJSC «Surgutneftegas», taking into account the existing tax incentives for innovation activities, is presented in Figure 1.

Table 3

The impact of the «patent box» on the performance indicators of Surgutneftegas

Indicator Name	Indicator value				
	2014	2015	2016	2017	2018
B-index, 1 option, %	18,30	16,41	15,98	16,81	15,57
Profit increment, thousand rubles	307 147	284 643	284 532	311 282	301 700
B-index, 2 option, %	10,46	9,38	9,13	9,60	8,90
Profit increment, thousand rubles	175 512	162 653	162 589	177 876	172 400
B-index, 3 option, %	7,84	7,03	6,85	7,20	6,67
Profit increment, thousand rubles	131 634	121 990	121 942	133 407	129 300

		«Patent box»			
		Δ NP	1 option	2 option	3 option
«Tax credit»	1 option		786 138	656 838	613 738
	2 option		892 363	763 063	719 963
	3 option		776 801	647 501	604 401

Fig. 1. Possible combinations of proposed tax incentives and their impact on the company's net profit in 2018

As can be seen from the data in Figure 1, the greatest economic effect from using tax incentive methods is achieved by using «tax credit» with a rate equal to 25% of the R&D expenses (if the costs are less than 1.5 billion rubles) and 5% for the excess and «patent box» with a rate equal to 70% of revenue (if the revenue exceed the costs by 5 times, it ceases to be valid).

Conclusion

Summing up the work, it should be noted that the level of innovation of oil and gas sector and the Russian economy as a whole at a fairly low level in comparison to the developed countries.

One of the main problems of tax incentives for innovation in the Russian Federation is the complexity of its qualification as innovative for obtaining tax benefits. This happens due to existence of various interpretations of this term in

legislative acts and the lack of clear criteria for classifying activities as innovative.

The state needs to introduce a comprehensive classification of innovation activities depending on the type of innovative product being developed, for the effective functioning of «tax credit» and «patent box».

The application of the methods of tax incentives proposed in the article will increase the level of innovation activity in the country, allowing companies to implement previously unprofitable innovative projects.

It is also worth mentioning that the impact of various instruments of tax incentives for innovation activities can vary depending on the key indicators of innovation activities of companies and changes in legislation.

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СОВРЕМЕННЫЕ МЕТОДЫ СТИМУЛИРОВАНИЯ ИННОВАЦИОННОЙ АКТИВНОСТИ: «ПАТЕНТНОЕ ОКНО» И «НАЛОГОВЫЙ КРЕДИТ»

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Цель: статья посвящена оценке эффективности инновационной деятельности нефтегазового предприятия и поиску новых налоговых методов стимулирования инновационной активности. *Обсуждение:* в данной статье была проведена оценка рентабельности инновационной деятельности нефтегазового предприятия. Были предложены инновационные методы налогового стимулирования, а именно «налоговый кредит» и «патентное окно». Санкции со стороны США и стран Европы ограничили трансфер инновационных технологий в сфере добычи нефти и природного газа. Таким образом, компании нефтегазового сектора РФ вынуждены использовать собственные научно-исследовательские ресурсы для разработки требуемых технологий. *Результаты:* автором были проанализированы результаты оценки инновационной деятельности до и после внедрения инновационных методов налогового стимулирования и была предложена наиболее эффективная комбинация предложенных методов стимулирования.

Ключевые слова: инновационная деятельность, нефтегазовый сектор, налоговое стимулирование, патентное окно, налоговый кредит.

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