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Tariffs Formation on oil transportation

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Abstract. Oil transportation via trunk pipelines is an important part of the oil industry's activity. The main instrument of tariff regulation is the method of tariffs formation. Three methods of tariffs formation such as the method of economically justified costs (the Cost plus method), the method of economically justified return on investment capital (the RAB method), and the method of tariffs indexation were considered.

Key words: oil, oil transportation, tariffs, methods for calculating tariffs on oil

1. Introduction

Oil transportation via trunk pipelines is one of the most significant oil industry components. Oil is mainly produced in Western Siberia, which is located far away from places of its consumption. Tariff regulation of natural monopolies' activity is one of the state tools, which can influence the price changes in this sector and national economy as well. Moreover, the state focuses on the use of traditional energy sources.

The main aim of tariff regulation is the balance between the essential inflow of investments in the sector of natural monopolies, promoting the maintenance of reproductive processes, and structural changes in other sectors of economy, including the orientation of manufacturers on the use of energy-saving technologies. In recent years the method of economically justified return on investment capital is gaining popularity. This method is considered to be an alternative to the method of economically justified costs, which is currently used.

2. Materials and Methods

According to the state regulation of tariffs and their cap levels on services related to the transportation of oil and petroleum products via trunk pipelines and provided by natural monopoly entities, the following methods of tariffs formation on oil transportation are permitted:

- a) method of economically justified costs (Cost plus method);
- b) method of economically justified return on investment capital (RAB method);
- c) method of tariffs indexation.

This paper presents the advantages and disadvantages of these methods.

3. Results and Discussions

The indexation method is applied in the case of changes in the conditions of the natural monopoly management and deviation from targets within the projected inflation rate of revenue. To set the tariff according to this method, the functioning tariff should be multiplied by the index of change, which is determined by the regulatory authority.

The index of tariff changes is determined by the regulatory authority on appeal of a natural monopoly.

The advantages of this method are [1]:

- simplicity in use. This method allows changing the tariff according to the inflation rate, skipping over the stage of expenditures investigation of a certain company carrying out the oil transportation.



- form of incentives. Within the framework of the indexation method more emphasis is given to increase the productivity, rather than regulation based on the service cost.

- protection of supplier from the excessive growth of tariffs exceeding the inflation.

The simplicity of this method lies in the focus on the entire industry prices. The differences between the cost changes, which are reflected in the index, and changes in the cost of certain oil pipeline companies which can't escape from using this method due to the fact that the index sets only the cap level of tariff rather than its value. However, the indexation method is implemented in the Russian legislation in such a way that its use is impractical.

The basic indicator for the method of economically justified costs (the cost plus method) is the target tariff revenue. Due to it, justified costs, related to the services rendering and taxes payment, are covered, as well as the required profit margin is ensured.

Economically justified costs, incurred in the previous period, but not included in tariff, refer to expenditures that should be offset or excluded:

- expenditures incurred due to the objective and unplanned increase in prices on services and products, consumed by the organization;

- expenditures incurred due to servicing the borrowed funds required to cover these expenses. These expenditures are taken into account to determine income required for setting the tariff in the next accounting period.

Funds used for certain articles of expenditures, which have not been used during the preceding period, should be included in tariff in the next period.

According to the formula for calculating the planned tariff revenue, the following components can be distinguished [2]:

1. operating

- expenditures related to the cost;
- income tax;
- balance of accrued and paid interests.

2. investment

- expenditures on reconstruction and technical re-equipment (except the sum of depreciation charges);

- expenditures on filling the pipeline with oil;
- expenditures on financing investment projects (part included in tariff);

3. financial

- expenditures on repayment of debt;
- dividends.

This method does not prompt the economic entity to reduce the costs due to the fact that the company's costs are fully included in the tariff. Moreover, this method does not set the relationship between the tariff on services and their rendering quality.

The method of economically justified return on investment capital (the RAB method) is relatively new. It was developed in the 1990s in the UK and used to regulate electricity tariffs. Later this method spread in Western Europe, Canada, the USA, and Australia. Since 2002 the European Union established a mandatory application of this method to regulate tariffs for industry-monopolies in Eastern Europe. In the Russian Federation this method is used in power industry. In practice this method does not apply for setting the tariff on oil transportation. However, it is legally permitted.

This method provides the possibility of annual tariff indexation including macro-economic indicators. Also the regulatory authority can encourage or punish the company by reducing or increasing the tariff. In this case the percentage of investment program execution, reliability of rendering services, and their quality are assessed.

The investment costs are not included in the required gross revenue (RGR). They are considered to be the basis of the investment capital. The return on investment capital is included in tariff. Thus, the investment costs will return to the investor through accrued income within a period of 40 years. The tariff formation by the RAB method is presented in figure 1.

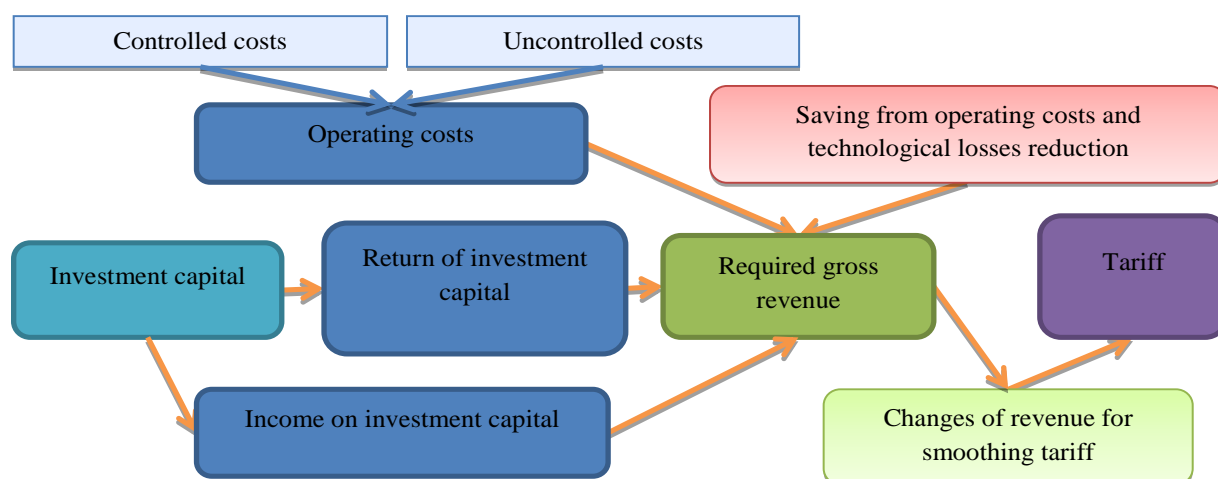


Figure 1. Tariff formation by the RAB method

Features of certain indicators of the RAB method are represented in table 1.

Table 1. The RAB method

Basic indicator	Required Gross Revenue (RGR)
Components of RGR	return of investment capital (depreciation of new and initial capital within 40 years) income on investment capital operating costs
Considered factors	number of assets efficiency index of operating costs period of investment capital return investment capital dimension rate of return of investment capital
Regulatory period	long-term
Objective deviations adjustment	adjustments exist
Incentives	costs cut and creation of conditions for attracting foreign investments
Incentives to reduce current costs	sum of saving is at the disposal of a company during tariff validity
Sources of investment capital	owned and borrowed capital of a company, which is paid by consumers for 40 years
Value determination	according to the normative method, the actual cost of capital may have a different value
Incentives to improve rendering services quality	investment program and RGR are connected with the levels of reliability
Procedure of funds inclusion on investment	investment costs are included in the investment capital base and accounted in tariff

At present the method of economically justified costs (the Cost plus method) is used to set the tariff on trunk pipelines oil transportation. In this regard a comparison of this method with the method of economically justified return on investment capital (RAB method) was conducted.

Table 2 presents the comparison of methods of Costs plus and RAB with the characteristics of the planned tariff growth, long-term management and incentives to reduce costs.

Table 2. Comparison of methods of Cost plus and RAB

	Costs plus	RAB
Smooth tariff growth	-	+
Long-term regulation	-	+
Incentives to reduce costs	-	+
Incentives to improve the services quality	-	+
Inclusion of the credit value in tariff	+	-
Accurate assessment of the actual capital cost	+	-
Developed techniques	+	-

According to table 2 the RAB method has several advantages over the Cost plus method. It provides a smooth tariffs growth and more accurate prediction of tariff rate, as well as its dynamics.

Moreover, the RAB method includes incentives to reduce costs of companies together with the increase in services quality. In recent years this method is gaining popularity at the state level. It is used to set tariffs in electricity sector. According to researches of the Department of Economics, the RAB method is an alternative to the Cost plus method which is currently used [3-5].

In this case the state is free from approving the programs of energy-saving and resource-efficiency of an oil company as the RAB method involves incentives to reduce costs.

Implementation of this method is beneficial both for the of oil pipeline company, that receives a fixed rate of return and investment projects financing, as well as consumers of this company. The latter can predict costs on transportation, as the tariff is set for a period from three to five years.

Thus, the RAB method can be considered as one of the alternative methods to regulate tariffs on oil transportation through pipelines.

It should be taken into account that according to researches, it is advisable to introduce the RAB method after 2030, when a number of capital projects in constructing oil pipelines are completed [6-8].

The use of the RAB method for tariff regulation in the pipeline transport will require the development of appropriate techniques. Currently these techniques are not developed and approved by the Federal Tariff Service of Russia [9-10]. Preliminary regulation of return rate and investment capital rate, their coordination, as well as experimental testing of the method with further indicators adjustment will need.

4. Summary and Conclusions

The method of tariff indexation has several advantages, including its simplicity of use. Nevertheless, the Russian indexing method consists in the fact that the application of the method leads to a large discrepancy between the tariff rate and actual price. Now in Russia the establishment of tariff on oil transportation via trunk pipelines is carried out by the Cost plus method. However, the method is considered obsolete, as it does not create incentives to reduce the costs in the economic entity.

The RAB method is appropriate to consider as an alternative method of tariff regulation on the oil transportation by trunk pipelines. International experience of tariff regulation has shown that the RAB method encourages companies to reduce costs in the long term. As a result the gradual decrease of tariffs simultaneously with the increase of investment inflow occurs. Consequently, this method is considered as the most appropriate for industries such as electricity, water, communication systems, as well as oil transportation by trunk pipelines.

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