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APPROACH TO CALCULATING CAPITAL RETURNS OF FIXED ASSETS OF ELECTRIC POWER ENTERPRISES

Подход к расчету фондоотдачи основных средств электроэнергетических предприятий

Fixed assets are the most important factor in production; the cost and financial results of the organization largely depend on the efficiency of their use. The purpose of the study is to develop an approach to calculating the capital productivity of fixed assets of electric power enterprises.

In order to assess the efficiency of using fixed assets in the classical analysis of economic activity, the following indicators are traditionally used: capital productivity of fixed assets, capital intensity of products, profitability of fixed assets, relative savings (over expenditure) of fixed assets, etc. In our opinion, the key indicator is capital productivity. To calculate it, industrial organizations use two approaches (form. 1, 2):

$$FO = VP \ / \ OSsr, \qquad\qquad (1)$$

$$FO = V \ / \ OSsr, \qquad\qquad (2)$$

where FO – capital productivity of fixed assets, rub.;

    VP – volume of production of products, works, services, rub.;

    V – revenue from sales of products, works, services, rubles;

    $OSsr$ – average annual cost of fixed assets, rub.

Therefore, the indicator can be calculated based on the volume of products produced or sold. Capital productivity characterizes the amount of produced or sold products per unit of average annual cost of fixed assets. The criterion for the effective use of fixed assets is the indicator value is greater than one, and its growth in dynamics leads to relative savings in fixed assets and will allow increasing production volumes and sales revenue.

Despite its versatility, this indicator is not without its drawbacks: a) its calculation includes the cost of work in progress, which leads to an overestimation of its actual value; b) the calculation also includes already depreciated fixed assets, which also distorts its results.

The sequence of assessing capital productivity includes: analysis of its level and dynamics; carrying out its factor analysis; determining the impact of capital productivity on the volume of products produced.

Thus, it can be stated that capital productivity is a classic indicator for industrial organizations, however, in our opinion, its calculation should be adapted to the type of economic activity. For electric power enterprises it is proposed to use the following formula:

$$FO = \frac{OPE \cdot (1 - K_{poter})}{OS \cdot (1 - Ki)} = \frac{OPpol}{OS \cdot (1 - Ki)}, \tag{3}$$

where K_{poter} – the amount of losses of transmitted electricity;

OPE – volume of electrical energy supplied to the network, kWh;

$OPpol.$ – useful supply of electrical energy to the consumer, kW;

OS – cost of fixed assets, thousand rubles;

Ki – the depreciation coefficient of fixed assets.

Value $(1 - K_{poter})$ – shows the real value of transmitted (and not received) electrical energy under given conditions of wear and load of fixed assets. In the numerator, it is advisable not to use the value of the volume of electricity sales in value terms, because in the same region, two different tariffs for the transmission of electricity at the same voltage level can be established for different consumers, but it is proposed to use the volume in physical terms.

The advantage of this approach is the ability to determine the amount of electrical energy per conventional unit of fixed assets, taking into account its average wear and tear.