Methodological Approach to Planning and Financing the Fixed Capital Reproduction for Sustainable Development of the Fishing Industry

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Abstract: The article presents the results of scientific and research work on the creation of a methodological approach to the analysis of fixed capital reproduction for fishing enterprises. This study is relevant due to the fact that the fishery complex of the Russian Federation is currently called upon to provide a solution to many political and economic problems, which, in particular, include transition to an innovative type of industrial production, provision of food security, as well as maintenance of a favorable state of aquatic biological resources. Due to this industry's high capital intensity, the issues of choosing a methodology that make it possible to rationally control the fixed capital reproduction of fishing enterprises become especially important, which is likely based on an analysis of existing methods that allow planning these processes. The advantages of the developed methodological approach include the establishment of uniform methodological principles used to determine the economic efficiency of investments, new equipment, inventions and rationalization proposals, more accurate consideration of the time factor concerning the determination of the integral economic effect (for the entire service life of labor means), as well as the factor time by bringing one-time and ongoing costs for the creation and implementation of new and necessary equipment and the results of their application to one point in time (the beginning of the accounting year). The article includes the main advantages and disadvantages of financing the reproduction processes possible ways.

Keywords: Fishing Industry, Sustainable Development, Fixed Capital, Reproduction, Capital Investment.

INTRODUCTION

In the conditions of economic crisis, the choice and justification of the reproduction forms of fixed assets of industrial enterprises are of particular importance, since the emerging financial constraints entail a limitation of investment opportunities. The consequence is the obsolescence of fixed assets, the deterioration of their structure and a decrease in production volumes. In addition, the scientific community and the business environment discuss the issues of ensuring sustainable development of the fishing industry, aimed at meeting human needs through the rational use of environmental resources (Vyakina, 2017; Indan, 2019).

The globalization process determines the unity of the mankind interests in various fields, including fishing activities. One of the current millennium priorities within the framework of the world economy is the study and development of the World Ocean resources. The national policy of the leading maritime powers today is formed taking into account independent activity in the development of aquatic biological resources, as well as the result of cooperation in this area (Zhdanova, 2019).

To this day, the fishery complex of the Russian Federation is currently called upon to provide a solution to many political and economic problems, which, in particular, include transition to an innovative type of industrial production, provision of food security, as well as increasing national competitiveness. However, it is especially important to maintain a favorable state of aquatic biological resources, which corresponds to the theory of sustainable development, in modern conditions. Thus, ensuring the sustainable development of the fishing industry includes a set of measures and means, creation of the conditions for the system constant transition under the influence of external disturbances and managerial decisions from a less efficient state to a more efficient one, implemented in a progressive direction, intensive mode and following the strategic goals (Levkina 2018; Latkin *et al*. 2018; Kuzubov *et al*. 2018; Biancone, *et al*. 2020. The need to update the fixed capital of the fishing industry largely determines the activity results of the fishery complex and becomes decisive when considering the prospects for its sustainable development.

In this situation, the problems study of managing the reproduction of fishing enterprises fixed assets is of particular relevance both in terms of developing new approaches and methods to manage the development of material production factors, as well as providing promising directions for the development of investment activity of the industrial enterprises (Vasilenko and Terentyeva 2011; Lukin and Uskova 2018; Galimullina, *et al*., 2019).

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MATERIALS AND METHODS

Planning the investment activity of the enterprise, aimed at simple or expanded reproduction of its fixed capital, is an integral part of the strategic plan, as illustrated in Figure **1** (Zhdanova 2019; Levkina 2018).

It follows that in modern conditions the capital investment planning methodology should also be substantially changed, primarily due to the need to plan not only capital (that is, real investments), but also financial "portfolio" investments, which are especially important for the fishing industry enterprise due to the specific nature of their production cycle.

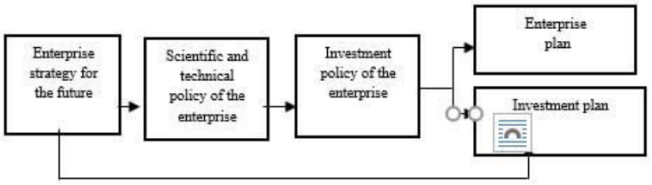

Figure 1: The relationship between enterprise strategy and investment plan.

With this in view, the production processes should be planned using the following methodological provisions:

- The enterprise investment strategy is formed on the basis of a strategic and marketing plan;
- Investments in securities make sense only if the enterprise will receive great benefits;
- Investments make sense only in the most profitable projects, taking into account the factor of time and project risks;
- The final investment decisions should be made only if the greatest economic benefit with the least risk is provided (Leibert and Sakhibgareev 2017; Orozonova *et al*. 2019).

In Russia, the issues of measuring the effectiveness of investment projects have received much attention since the late fifties. In 1960, it was published the "Typical Methodology for Determining the Effectiveness of Capital Investments and New Equipment in the National Economy of the USSR" (Gosplanizdat 1960), where (along with the payback period formula) it is recommended to use the reduced cost formula. The features and advantages of this methodology are as follows:

- Firstly, they consist in establishing common methodological principles for determining the economic efficiency of investments, new equipment, inventions and rationalization proposals. This is fully justified, since they are all part of a single economic system and are aimed at achieving one goal, that is, to increase production efficiency;
- Secondly, they consist in more accurate consideration of the time factor in relation to the determination of the integral economic effect (for the entire service life of labor means), as well as the factor time by bringing one-time and ongoing costs for the creation and implementation of new and basic equipment and the results of their application to one point in time (the beginning of the accounting year) (Baskova 2016). Such a reduction is performed by multiplying (dividing) the costs and results of the corresponding year by the reduction rate determined by the formula:

$$\alpha_t = (1+E)^t \quad (1)$$

Where α_t - reduction rate;

E - Reduction ratio (0.1);

t - Number of years separating the costs and results of a given year from the beginning of the accounting year;

- Thirdly, it consists in the application of a single efficiency factor for all sectors of the national economy. This provides an adequate approach to the assessment of effectiveness throughout all the national production. The rate was established at the level of 0.15 and was determined on the ratio basis of the total surplus product to the total fixed and circulating assets on the scale of society, that is, the profitability of national production. The disadvantages of this methodology are as follows:
- Deviation from evaluation methods for production efficiency is actually applied in practice. It should be borne in mind that the development and implementation of an investment project is not an end in itself. The real aim (from an economic point of view) is the development, increase of production efficiency. Therefore, the effectiveness of capital investments, new technology, scientific and technological progress measures should be judged by the degree of its change. In practice, situations often occurred when the real (actual) effectiveness of an investment project was

significantly different from expected and was much less as a rule;

- Isolation from the actual conditions of the investment project implementation in determining the comparison basis on the life cycle stages of new equipment;

- Unclear economic sense of summing up the share of deductions from the book value for the complete renovation of basic and new labor means with a normative efficiency rate when determining the changes accounting rate in the service life of a new labor means compared to the old one;

To eliminate the significant differences in the existing methodological documents in the economic efficiency determination methods when choosing capital construction options in the cost-accounting activities, pricing and in the development of planned economic standards, as well as to ensure a unified methodological approach to solving these issues, an attempt was made to prepare a comprehensive methodology for assessing the effectiveness of business activities several years ago, but it is not widely used in practice today.

In the improved methodological recommendations for a comprehensive assessment of the measures effectiveness aimed at accelerating scientific and technological progress, it is proposed to calculate the economic effect according to the product use conditions for the billing period.

In those cases when there are fixed assets that can be used for a number of years at the end of the billing period, the value is determined as the book one of these funds. Using the difference in results and costs as a criterion for evaluating the effectiveness of project options and choosing the best one has a number of positive aspects.

Firstly, we eliminate the convention that arose when the considered options were brought to a comparable form. With this approach, it is possible to avoid the occurrence of "intermediate" options. When using the criterion of absolute integral economic effect, the list of considered ones includes all the submitted projects, including those providing the identical economic result, but taking into account the specific nature of each project, including the real costs for achieving the corresponding result, and not by recalculating the costs for the identical result.

Secondly, the use of the absolute economic effect criterion for the economic evaluation makes it possible to compare projects that differ not only in costs, but also in the results of their implementation, that is, it becomes possible to compare different projects in terms of the satisfaction degree of a certain kind of needs. In this regard, a project with large unit costs can be accepted for financing, if it provides great results and gives a large mass of profit over the period of its existence (Anisimova *et al*. 2019).

Thirdly, the effectiveness assessment of alternative projects carried out in accordance with the proposed methodological approach with a view to making a decision on their financing is comprehensive, because it allows taking into account the whole set of factors determining the formation and value of both the cost estimate of the project implementation results and the cost estimate of the costs for their achievement.

RESULTS AND DISCUSSION

A study of the existing methodological approaches to the analysis and planning of fixed capital allows considering it necessary to improve them, taking into account the specific functioning conditions of the fishing enterprises. In this regard, it seems to us possible to use the following methodological provisions.

1. The appropriate financing option for the reproduction process should be planned based on the most important financial and economic prerequisites:

- The sufficiency of its own financial resources to ensure the economic development of the enterprise in the coming period;

- The availability of a long-term financial credit for the enterprise;

- cost estimates for the long-term financial loan in comparison with the profit level generated by the updated fixed assets;

- Assessment of the achieved usage ratio of own and borrowed capital, which determines the financial stability level of the enterprise (Vyakina, 2017).

It is important to consider the requirements for the investment recipient, the advantages and disadvantages of the main external financing methods (Table **1**).

Table 1: Features of the External Financing Attraction Methods (Indan, 2019; Mazhygova, 2018)

External financing method	Requirements for the investment recipient	Advantages	Disadvantages
1. Private subscription.	Strong recipient's market position.	Control over the enterprise is not lost. Financial risk increases slightly.	The funding amount is limited. High cost of raising funds.
2. Open subscription.	Experienced and reliable leadership.	Financial risk does not increase. It is possible to mobilize large funds for an indefinite period.	Control over the enterprise may be lost. High cost of raising funds.
3. Attraction of borrowed funds in the form of credits, loans, bond issues.	Availability of liquid collateral. Good credit history. Availability of a detailed project development plan.	Control over the enterprise is not lost. Relatively low cost of borrowed funds.	Financial risk increases. The repayment period is strictly defined.
4. State financing.	Social significance of the project. The recipient company should meet the standards determined by the government agencies. Purpose of allocated funds.	As a rule, it seems that there is no possibility of obtaining loans from the commercial entities. Low interest rates. Longer repayment periods.	Restrictions on the use of funds. Difficulties and uncertainties in obtaining public funds.
5. Bill financing.	Large manufacturers and exporters of any products that carry out their activities/production cyclically, if the cycle duration does not exceed 3-6 months.	No need for collateral; formation of a new or restoration of a bad credit history; relative speed in the initial organization of this type of financing and cyclicality in the enterprise projects.	High settlement, trading and depository risks. Taxation of interest (discount) paid by the bill issuer is not included in the cost and paid from the net profit of the enterprise.
6. Leasing.	Good credit history. Availability of a real business plan for an investment project.	Financial risk does not increase. Control over the enterprise is not taken into account.	Complexity of the contract signing procedure. Ineffective leasing legal base.
7. Combined method.	The prevalence of certain advantages or disadvantages depending on the quantitative parameters of the emerging structure of the funds sources.		

The fishery enterprise, taking into account the specific nature of its production cycle, has the right to choose one or another external financing method, depending on its capabilities and goals. If the first method is unacceptable due to a lack of funds from today's shareholders or their avoidance of further financing, the criterion for choosing between the second and third options is to minimize the risk of losing control over the enterprise. However, as a rule, if there are favorable conditions for investment lending, the lender can reasonably expect to receive the insufficient funds only if it covers a significant part of the need for investment capital from its own financing sources. At the same time, the minimum allowable capital share, depending on the level of project risk and the borrower's creditworthiness, will be in the range from 25 to 50%.

CONCLUSION

Currently, the development of mandatory requirements for managing the reproduction process of fixed assets is becoming especially important and relevant:

- Formation of the volume and structure of fixed assets in accordance with the enterprises needs (Mukhometzyanova, 2018);
- Timely and effective updating of fixed assets of the enterprise (Vyakina, 2017);
- Introduction of technical and technological innovations when updating fixed assets;
- Compliance of the introduced fixed assets with the market needs;
- Timely commissioning of acquired fixed assets.

To implement these requirements, it is necessary:

- To analyze the movement, condition and efficiency of using fixed assets of the enterprise;
- To determine the necessary renewal volume of the enterprise fixed assets, in accordance with the market needs;
- To plan the moment of replacement of fixed assets of the enterprise;

- To form the depreciation policy of fixed assets of the enterprise (Bobyleva 2017; Brovko and Petruk 2016);

- To choose the most effective ways to update the fixed assets of the enterprise;

- To form the structure of financing sources to update the fixed assets of the enterprise.

Thus, one of the tasks facing the heads of enterprises in organizing the investment activities is to form the structure of the financing means for a specific investment option. The main issue in financing investments is the choice of a particular ratio between own and long-term borrowed capital. The reproduction policy concerning fixed assets of the enterprise is an integral part of the enterprise policy aimed at timely and effective updating.

Generally, it could be said in this work, methodological approach to planning and financing the fixed capital reproduction for sustainable development of the fishing industry have been studied. It is concluded that it is necessary to form a structure of investments and financing means, a specific investment option for managing the fixed capital reproduction of the fishing industry. This algorithm will allow fishing enterprises to achieve sustainable development.

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