DEPRECIATION POLICY OF AN INDUSTRIAL ENTERPRISE: IDENTIFUING AND ASSESSING CRITERIA OF EFFICIENCY

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ABSTRACT

Being an integral part of the overall economic policy, depreciation strategy of the industrial enterprise development is aimed at the achievement of the main corporate goal – the welfare of the company owners, specifically expressed in the maximization of the company's market value.

Effective and efficient depreciation policy can mobilize corporate own investment resources at the right time and to the necessary extent.

Integrate assessment of the depreciation policy efficiency of the industrial enterprise is based on the analysis of the following components: technical, economic, scientific and technical efficiency, able to assess the extent of achieving correspondent policy objectives. At the same time, they make the system limitations to the efficient depreciation policy.

The purpose of this article is to identify the criteria of efficiency for depreciation policy, assess them and offer mechanisms for mobilizing internal investment resources. The authors conclude that efficient depreciation strategy can ensure higher competitiveness and sustainability of the company's development in the interests of its owners.

Keywords: Depreciation policy, industrial enterprise, investment resources, company competitiveness.

INTRODUCTION

At present, the growing number of managers and owners of industrial enterprises understand the need for long-term management of investment activity based on scientific methodology of foreseeing its trends and selecting forms, adaptation to the overall objectives of the company's development and changing conditions of the investment environment.

Due to significant changes in macroeconomic indicators in the system of state regulation of market processes and in uncertain investment market situation, investment strategy can become an effective tool for long-term management of corporate investment activity subordinated to the goals of the overall company development.

What can significantly influence the strategic goals and directions of investment strategy at industrial enterprises are the size, composition and condition of fixed production assets.

METHODS AND MATERIALS

Updating and renewal of fixed production assets under the investment activity of the enterprise correspond the main stages of its life cycle:

1. *Creation of a new enterprise* is the most significant stage of the fixed production asset formation, which determines the need for start-up capital.

2. At the stage *of Expansion, reconstruction and modernization of the existing enterprise* two main directions of enterprise development are considered:

a) active development with investing of significant funds in advanced high-tech plant and equipment, as well as a rapid expansion of existing production, with sales rapidly growing;

b) stable moderate growth, with the investment made in a partial modernization and reconstruction of the existing equipment aimed at continuous expansion activity under stable revenue level.

3. *Slow decline in production* means simple reproduction of fixed assets based on concentration of financial resources. The control over the efficiency of the main equipment repairs is strengthening. Sales volumes are gradually declining.

4. *Creation of new structural units of the existing enterprise*; *active reprofiling* take place, with the funds being invested in technological upgrading to produce new products and increase the corporate share in different markets.

Thus, each stage of corporate life cycle is identified with a specific level of investment activity, its trends and forms and techniques of investment resources formation.

One of the efficient mechanisms to enhance creation and employment of own investment resources is a new corporate depreciation policy, consistent with the policy of corporate development, thus making the role of depreciation in investment policy more important.

Depreciation as a process of gradual reimbursement of fixed assets during the period of their productive operation provides opportunities for their replace them. However, being reimbursed in terms of their cost, fixed production assets may not be reimbursed in natural form, if the accumulated depreciation fund is used for refilling working capital, or in case of fixed assets sharp increase due to high inflation. In this case, the reproduction of fixed capital narrows, resulting in physical and moral equipment aging, its age structure deteriorating[3], [5], [6].

In real life, enterprises change their development policy under the impact of various factors and in accordance with its life cycle, most efficient forms of investment in fixed assets being chosen. This means that the objectives of the depreciation policy as one of the tools of investment fund accumulation change in accordance with the selected investment strategy.

Nevertheless, depreciation policy, being a part of the general economic policy of the company development, subordinate the achievement of its main corporate goal, the maximization of its market value. Based on the above, the relationship between the

market value of the industrial enterprise, its development policy at various stages of a short-term life cycle and types of depreciation policy can be represented with a "curve", shown in Figure 1.

Spans of the enterprise development policy (life cycle): 1 – active development; 2 – stable, moderate growth; 3 – slowing the decline in production; 4 – active reprofiling.

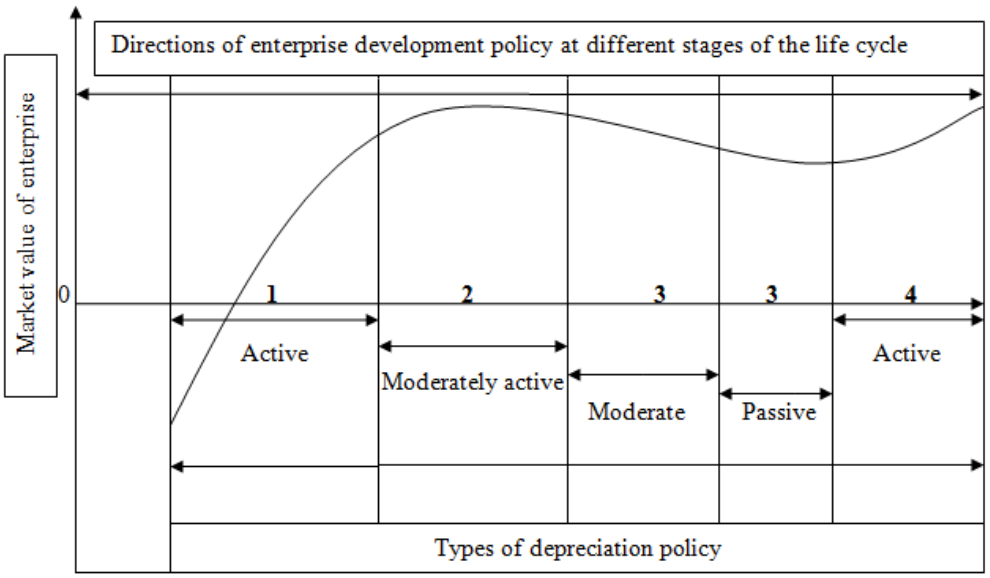

Figure 1 – Interdependence of the market value, development and the depreciation policy of the company

As Figure 1 shows, a substantial increase in the market cost of the company is clearly seen under active and moderately active depreciation policy. This is because at this stage corporate development policy (via functional strategies including investment strategy) involves the active renewal of fixed assets as part of the expanded reproduction via activization of its investment activity. At the same time sales volumes and revenues increase, providing revenue growth and enterprise cost. The most difficult period for the enterprise is a slow decline in production, when all possible options to keep production at current levels are soughed. At this stage the company makes attempts, on the one hand, "to stay afloat", on the other hand, make optimal management decisions in order to identify the policy of further development based on internal and external environment analysis[1], [2], [4], [10].

Under any depreciation method, depreciation sum is calculated against the service life of the depreciable object. Service life is the time of the object to work meeting its technical specifications and the resource of service life until complete physical wear. Useful life is a time when the object service is profitable. If it is assumed that at some stage the object becomes morally obsolete, that is, it can be replaced by another, more advanced and more profitable object, the useful life may be set shorter than service life. Consequently, during the useful life the considered object is not to be completely physically worn-out but completely depreciated that means the transfer of the object value to the net value of the finished product[7]. Hence it is clear that depreciation can have a higher rate, than wear of fixed assets.

If the company decides on rationing of company's money flow and increase in investment opportunities for the early replacement (upgrade) of fixed assets as the strategic direction, the method of maximum possible acceleration of depreciation is selected. But, excessively accelerated renewal of fixed assets does not allow recouping of investment costs and lack of their renewal can lead to the increase in current costs on maintenance and operation, which in its turn affects their age structure.

The age structure of the fixed assets ranks fixed assets against useful lifetime. In other words, the age structure of the fixed assets is characterized by a weighted average cost of fixed assets for the period of their operation. Optimal age structure of fixed assets means the aggregate of optimal service life in terms of depreciation[8], [9]. Optimal depreciation service life means a period, when consumer expenses on purchase, repair and maintenance of per production unit are minimal.

Age structure of fixed assets is non-optimal if actual average useful lifetime is less than optimal average useful lifetime and actual market value of business is less than maximum market value of business (Figure 2). This type of age structure of fixed assets indicates their excessively accelerated renewal.

Age structure of fixed assets is non-optimal if actual average useful lifetime is longer than optimal average useful lifetime and actual market value of business is less than maximum market value of business (Figure 3). This type of age structure of fixed assets indicates slow renewal of fixed production assets.

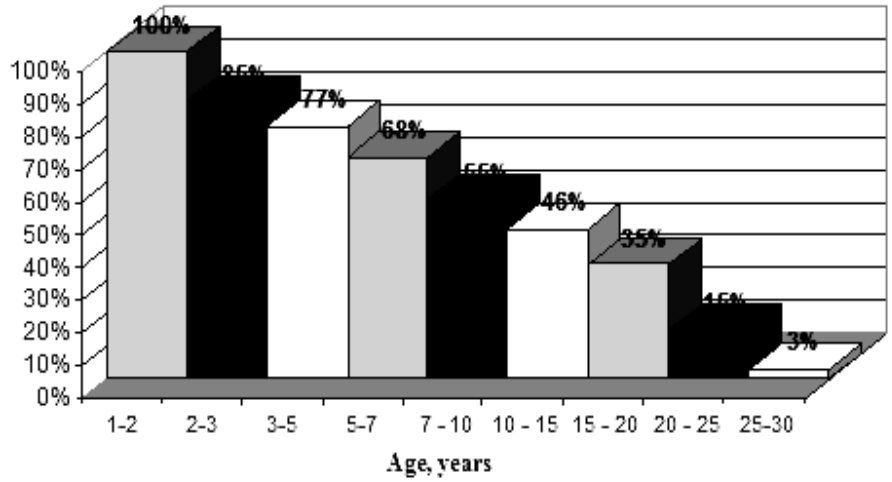

Figure 2 – Excessively accelerated fixed assets renewal

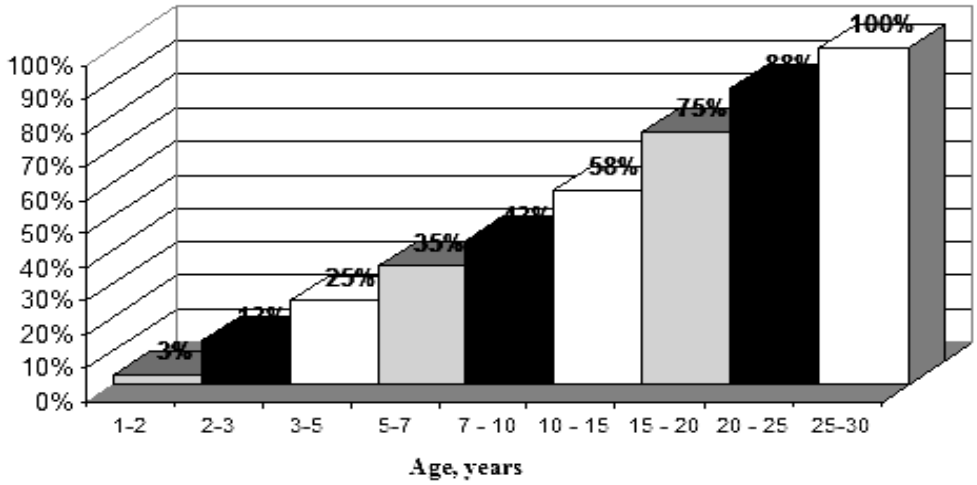

Figure 3 – Slow renewal of fixed production assets

The age structure of fixed assets is optimal when actual average useful lifetime equals optimal average useful lifetime and actual market value of business equals maximum market value of business (Figure 4). This age structure of fixed assets indicates the optimal renewal. Therefore, the company needs to find the limit of service life of each unit of fixed assets (or group of fixed assets), when the volume of returns on investments in non-current assets would be optimal in terms of maximizing the market value of a business.

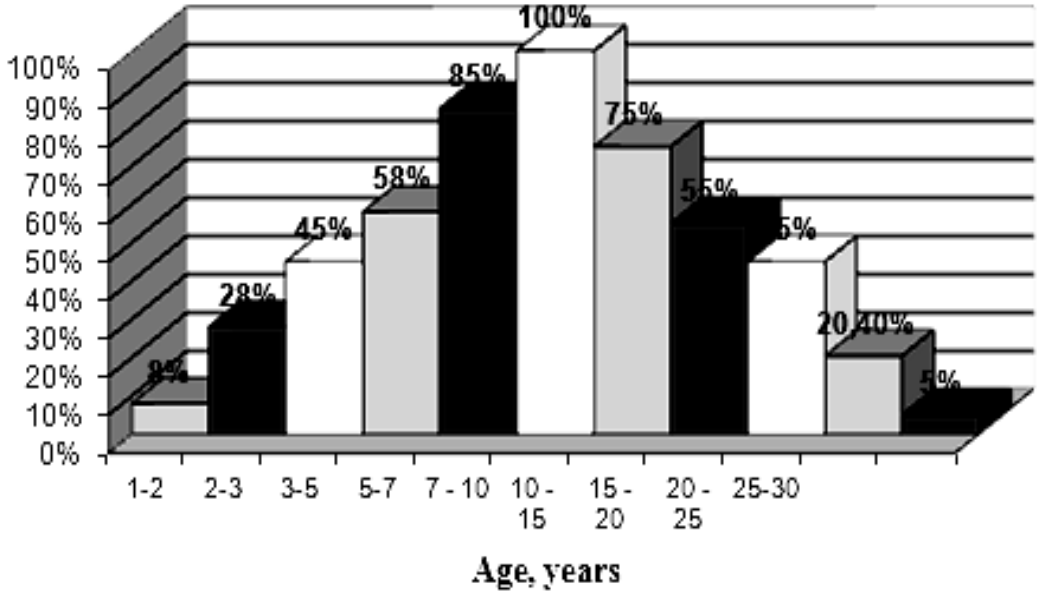

Figure 4 – Optimal age structure of fixed assets

Based on the above, interdependence of the market value of the industrial enterprise and the weighted average useful life of fixed assets can be presented in the shape in Figure 5.

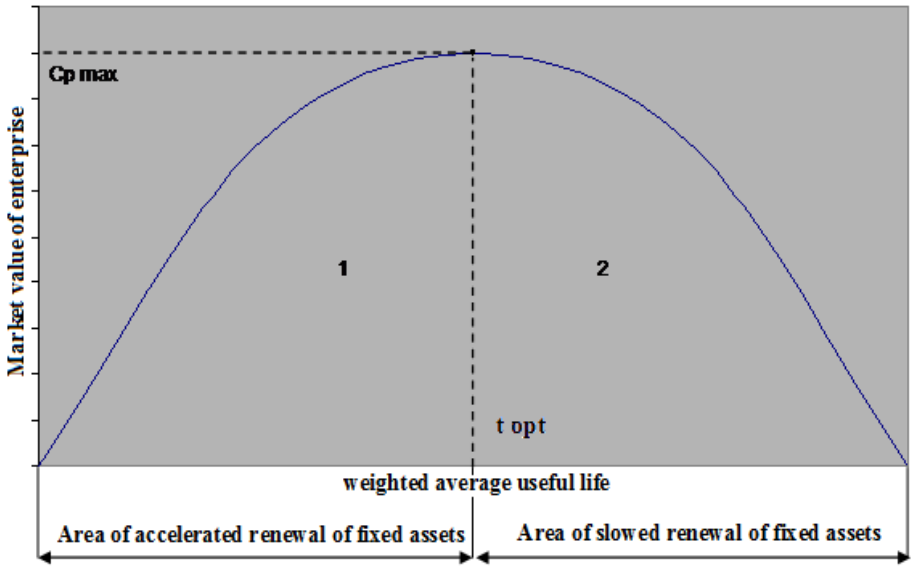

Figure 5 – Interdependence of the business market value of the industrial enterprise and the weighted average useful life

Point t *opt* in Figure 5 describes the optimal weighted average useful life of fixed assets, when the business market value is maximum. Area to the left (area 1) and to the right (area 2) of this point reflect non-optimal age structure. Area 2 (slowed renewal of fixed assets) in figure 5 is typical for most Russian industrial enterprises, as it reflects the existence of these assets with a significant depreciation value, insufficient intake of new fixed assets, low levels of liquidation of obsolete fixed assets, which in its turn affect the age structure.

CONCLUSION

Depreciation policy serves as one of the most efficient and effective mechanisms to mobilize internal investment resources for the implementation of investment projects and corporate strategy.

The most important criterion of the corporate depreciation policy efficiency is its ability to create cost by increasing a long-term net cash flow; to identify and to achieve the optimal service life of fixed asset units; to identify an optimal age structure of fixed assets.

It has been revealed that the age structure would be considered non-optimal in case the real weighted average life of the assets is less or longer than the optimal life, the age structure indicating decreased or to accelerated updating. The age structure would be considered optimal in case the real weighted average useful life of fixed assets is equal to the optimal service life and, consequently, the real market value of the business equals company's maximum market value.

To conclude, to maximize the business market value, companies are recommended to identify the limits of service life of each unit (or group) of fixed assets when the volume of the early repaid invested capital is optimal.

REFERENCES

[1] Abramov S.I. Investments management into the fixed capital // Exam 2009. – 43p. (in Russian)

[2] Blank I.A. Basics of Investment Management // Nika center, 2010. – 117p. (in Russian)

[3] Blank I.A. Asset Management // Nika center, 2010. – 88p. (in Russian)

[4] Veretennikova I.I. Depreciation and Depreciation policy // Statistics, 2004. – 88p. (in Russian)

[5] Drybetckiy Ya.N. & Tcyglevich V.N. Investment resources of industrial enterprises // Exam. 2009. – 212p. (in Russian)

[6] Endovitckiy D.A. Investment analisys in real sector of economy // Finance and statistics. 2011. – 43p. (in Russian)

[7] Esipov V. & Makhovikova G. Business evaluation // St. Petersburg: Peter 2011. – 91p. (in Russian)

[8] Guravlev Yu.A. & Yakushev A.A. On the question of optimizing the age structure of the fixed production assets of industrial enterprises // The problems of transition economy. NovosSU, 2001. – pp. 140-147. (in Russian)

[9] Guravlev Yu.A. & Yakushev A.A. Improvement of the technique of optimization of the age structure of the fixed production assets of industrial enterprises with the possibility of the use of different funding schemes // Contemporary Economy: Problems and Solutions. KrasSU, 2002. – pp. 91-102. (in Russian)

[10] Zimin N.A. Real investment // Tandem 2010. – 17p. (in Russian)