Depreciation policy and depreciation fund as indicators of improving equipment efficiency

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Abstract. Each promising company is required to develop a depreciation policy as part of its investment policy. One aspect of the latter is the depreciation fund. This term is introduced by the authors as one of the tools for improving the efficiency of company management. Depreciation fund assets will be used for the reproduction of fixed assets. Modern accounting standards do not contain these tools, which may have negative consequences.

Keywords: fixed assets, depreciation fund, depreciation policy, reserve for the reproduction of fixed assets, depreciation, financial strategy

Introduction
To regulate and control the calculation of depreciation amounts at the discretion of the management of the economic entity, a depreciation fund can be created, which is a source of financing for housing construction, as well as for industrial facilities. The depreciation fund is formed through annual depreciation deductions. Fund assets are used for partially expanded and simple reproduction of fixed assets [5,6-8]. The percentage of annual depreciation is determined by the ratio of the annual depreciation to the length of the depreciation period in years. The volume of the depreciation fund is a multicomponent indicator and includes the full replacement cost of fixed assets, residual value less the costs of their dismantling, the cost of modernization and overhaul during the depreciation period. Thus, the depreciation fund is a certain amount of cash generated through depreciation and intended for the reproduction of fixed assets.

During the formation and improvement of the theoretical and methodological foundations of accounting, contradictions arose in matters of the need to form a depreciation fund at the enterprise. Moreover, the role of the depreciation fund is, first of all, in the development and strengthening of the material and technical base [10-12]. However, contradictions are analyzing the concepts of theorists regarding the formation of a depreciation fund, S.F. Golova, and M.G. Chumachenko. S.F. Golova believes that the formation of a depreciation fund is impractical due to additional costs. M.G. Chumachenko claims that the formation of a depreciation fund is not a costly concept and does not affect the amount of depreciation.

The amount and dynamics of the formation of the depreciation fund, and, accordingly, the ability of the enterprise to expand the reproduction of fixed assets is in direct dependence on the method of depreciation calculation adopted by the enterprise. Depreciation should be considered as an element of the management of its financial and economic activities. [4,9].

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It should be noted that the means of the depreciation fund are used as accumulated means, which are either invested by the management of an economic entity in current assets or accumulated in bank accounts.

The main advantage of forming a depreciation fund for enterprises is the mobility of the latter in terms of cash revenue, which compensates for the depreciation of fixed assets in the production process [2,15]. Let us present the main aspects that emphasize the relevance of creating a depreciation fund in the enterprise by reserving cash (Table 1).

Table 1. The absence of depreciation fund

| №  | Negative aspect                                                                 |
|----|---------------------------------------------------------------------------------|
| 1  | Decrease in the quality level of production and technical renewal of capital     |
| 2  | Decrease in the organization’s financial assets by protecting accumulation and savings funds by keeping funds in foreign banks |
| 3  | Weakening of state control over depreciation charges                              |
| 4  | Return of the depreciation amounts in circulation on investment is not fully     |

Thus, analyzing the indicated aspects of the need to create a depreciation fund at the enterprise, it should be noted that its absence or liquidation in qualitative and quantity terms slows down the reproduction processes, which leads to inefficient use of fixed assets (stagnation of production processes, reduction in investment).

Let us consider the theoretical and methodological concepts that have developed in the domestic practice of accounting.

The essence of the planning-centralized management methods was that the accounting of depreciation amounts was carried out by the parallel formation of indicators of depreciation and depreciation fund, which contributed to the creation of a full reserve for the reproduction of fixed assets. The advantage of this accounting model was in the clarity of the reflection of the initial cost of depreciable objects in the assets of the balance, and the amount of accrued depreciation in liabilities.

However, modern business conditions have led to changes in the application of existing approaches to depreciation and the emergence of concepts such as: “decisions of the owners” and “trade secrets”. The negative aspect, according to the authors, is the abolition from the practical application of such accounting categories as depreciation and depreciation fund.

At the same time, liberal approaches to choosing the depreciation method in accounting are limited by the tax code, according to which it is possible to use straight-line and non-linear methods [1,13]. A broader possibility of applying methods for accounting purposes complicates the accounting process and makes it necessary to adapt to tax accounting and leads to an increase in material costs for its organization.

The neglect of the process of reservation of funds for the restoration of depreciable objects in the Russian accounting system, according to the authors, leads to an inaccurate reflection of depreciation amounts on the relevant accounts. In this regard, the reflection in the balance sheet of the residual value of the depreciable object veils the degree of its deterioration and does not allow the managerial staff of the organization with a sufficient degree of reliability to extract information about the sources of updating and replenishment of fixed assets.

Focusing on management accounting, it should be noted that obtaining this information will contribute to the stable and continuous functioning of the organization in the market. To achieve the indicated prospects, the management of the economic entity should recommend the creation of an effective depreciation policy.

Thus, for internal accounting, the managerial staff of the economic entity should recommend the introduction of the term “cash reserve for accrued depreciation”, which helps to restore the original meaning of the depreciation fund. Despite the possibility of reserving cash in various areas of the organization's development, the most optimal reservation option is financial investments in highly liquid monetary instruments [3,14].
It should be noted that the methods of calculating depreciation selected by the administrative apparatus facilitate the formation of the depreciation fund of the enterprise, as well as the formation of the financial strategy as a whole.

The parallel depreciation and the formation of the depreciation fund for its sum simplified in accounting can be represented as follows:

1. Accrual of depreciation (Dt 20,23,25,26 Ct 02)
2. Parallel reservation of funds in the amount of accrued depreciation (Dt “Profit” Kt “Depreciation fund”)

As a result of these procedures, a full-fledged monetary reserve was created to restore depreciable objects.

Due to the initial cost of depreciable objects was reflected in the balance sheet asset, and the amount of accrued depreciation in the sources of its formation, this depreciation accounting model was visual. At the present stage of the functioning of accounting, accrual of depreciation is limited to its reflection on the debit of production accounts (20,23,25,26) and Kt 02 "Depreciation of fixed assets" on the relevant accounts.

The authors propose to form a depreciation fund from the retained earnings of the enterprise to timely update production machinery and equipment. To account for funds transferred for restoration (renewal) of the production fleet of machinery and equipment, open an account 85 “Depreciation Fund”. This account is passive; therefore, its increase (replenishment) is reflected in the loan, and the decrease - in debit. The account 85 reflects the process of movement of depreciation for capital repairs, restoration or updating of equipment from other funds and sources of replenishment. Two sub-accounts can be opened for capital repairs and complete restoration of a fixed asset: 85-1 “Amounts for capital repairs”, 85-2 “Amounts for full restoration”. At the same time, it is possible to use two models of reserve funds in the depreciation fund to maintain equilibrium in the balance sheet. In the first case, the depreciation fund is replenished by the amount of accrued depreciation, and in the second, by the initial cost of the equipment. It is more expedient to transfer the amounts for capital repairs in the first model, and the renewal of fixed assets - in the second one. The formation of the depreciation fund and its reflection under the balance sheet item in liabilities in the first case allow to provide information on the amount of accrued depreciation for a certain period, and in the second it reflects the initial cost of fixed assets commissioned. The authors believe that at the discretion of the management of the organization, the owners can choose any of the presented models. In any case, the formation of a depreciation fund helps control the spending of retained earnings on dividend payments. The economic sense consists in timely updating and increasing the efficiency of fixed assets accounting by visually reflecting the amounts for restoration of fixed assets.

Deductions to the depreciation fund should not be discontinued in case of downtime and equipment conservation. Besides, such deductions are proposed to be made immediately after the installation of the equipment into operation, and depreciation from the first day of the next month should be reviewed for the same period.

Amounts of depreciation are recorded on the credit of the account 85 “Depreciation Fund” with distribution according to sub-accounts simultaneously or depending on the chosen model for one of them. The amounts on the credit of the account 85 are reflected monthly in the amount of accrued depreciation for capital repairs, and for updating fixed assets in the amount of their original cost. The debit of this account reflects the amounts used for overhaul or updating the equipment technology park. The correspondence of the account with other accounts is presented in Table 2.
Table 2. Correspondence of the account 85 "Depreciation fund"

| Debit | Credit | Content of economic transaction |
|-------|--------|---------------------------------|
| 84    | 85     | The formation of the depreciation fund in the amount of depreciation costs accumulated during the operation of the equipment |
| 85    | 84     | Transfer of unused depreciation amounts at the end of the period to retained earnings |

Table 2 provides an incomplete list of business transactions related to the formation, replenishment and use of the depreciation fund of the enterprise.

In conclusion, we should once again focus on the relevance of the development and approval of depreciation policies for management accounting. The development of such a policy should be integrated and cover issues such as:
- updating of non-current assets;
- forming and using depreciation resources for their intended purpose.

Therefore, to highlight such aspects, the objectives of the depreciation policy are: determining the useful lives of fixed assets and intangible assets, evaluating and revaluing depreciable property, ensuring the intended use of depreciation, selecting and justifying depreciation methods, determining the necessary amount of renewal of non-current assets, and preventing excessive physical and moral depreciation of depreciable property, the choice of the most effective forms of reproduction of fixed assets, optimization of enterprise tax payments, improvement of species, technology and the age structure of fixed assets, etc.

Conclusions

Thus, the methods of calculating depreciation selected by the administrative apparatus contribute to the formation of the depreciation fund of the enterprise, and, therefore, affect the formation of the financial strategy as a whole. In this regard, the choice of the rational and effective method of depreciation is the key aspect of the development of depreciation policy.

References

[1] Nalogovyy kodeks
[2] Veretennikova I.I. Amortizatsiya i amortizatsionnaya politika [Tekst] / I.I. Veretennikova // M.: Finansy i statistika, 2004. — 192 s.
[3] Nechitaylo, A.I. Pokazateli amortizatsii v upravlenii predpriyatiyem [Tekst] / A.I. Nechitaylo // Trudy kafedry Ekonomiki i menedzhmenta (vypusk 3) RGGMU - SPb.: Izd-vo RGGMU, 2006. - s.84 – 88.
[4] Ryakhovskaya A.YA Amortizatsionnyy fond i yego rol’ v vosproizvodstvennom protsesse [Tekst] / A.YA. Ryakhovskaya // Vestnik Dnepropetrovskogo universiteta, vypusk 6/1, 2012. №10/1.
[5] Selezneva N.N. Finansovyy analiz. Upravleniye finansami [Tekst] / N.N. Selezneva, A.F. Ionova // 2-ye izd., pererab. i dop.-M.:YUNITI-DANA,2006. – 639 s.
[6] Koptjaev E., Popkov E. 2019 AC-multiphase adjustable electric drive with two-channel conversion. 2019 International Conference on Industrial Engineering, Applications and Manufacturing, ICIEAM 2019. DOI: 10.1109/ICIEAM.2019.8743074
[7] Aleshina, A., Vladimirov, I., Kozhukar, E 2019 The Values of Specific Consumption of Energy in the Assessment of the Level of Future Demand. 2018 International Multi-Conference on Industrial Engineering and Modern Technologies, FarEastCon 2018, art. no. 8602833. DOI: 10.1109/FarEastCon.2018.8602833
[8] Yakovlev, A., Lebedeva, T., Malyutenkova, S., Kepp, N 2019 Methodological fundamentals of quality management theory in condition of digital economy. IOP Conference Series: Materials Science and Engineering, 497 (1), art. no. 012136. DOI: 10.1088/1757-899X/497/1/012136
[9] Krasyuk, I., Kirillova, T., Bakharev, V., Lyamin, B. 2019 Life cycle management in network retail enterprise based on introduction of innovations. IOP Conference Series: Materials Science and Engineering, 497 (1). DOI: 10.1088/1757-899X/497/1/012125

[10] Shamina, L., Borisova, I., Syrneva, E., Zdolnikova, S. 2019 Features of forecasting process in modern digital society. IOP Conference Series: Materials Science and Engineering, 497 (1). DOI: 10.1088/1757-899X/497/1/012091

[11] Voskresenskaya, E.V., Vorona-Slivinskaya, L.G., Snetkov, V., Ponomarenko, A. 2019 Ecological and economic mechanism for the formation of environmental measures in the gas extraction constructions. E3S Web of Conferences, 91, art. no. 08014. DOI: 10.1051/e3sconf/20199108014

[12] Alexandr, V.B., Gileva, A.T., Margarita, P.G., Gorshenina, E.M. 2019 Enterprise's Innovative Infrastructure Development Model Based on Quality Function Deployment Method. Proceedings of the 2018 International Conference "Quality Management, Transport and Information Security, Information Technologies", IT and QM and IS 2018, art. no. 8524924, pp. 27-34. DOI: 10.1109/ITMQIS.2018.8524924

[13] Klochkov, Y., Klochkova, E., Alasas, B.M., Kuzmina, T., Konakhina, N. 2018 Development of external customer classification based on the analysis of interested parties. 2017 International Conference on Infocom Technologies and Unmanned Systems: Trends and Future Directions, ICTUS 2017, 2018-January, pp. 729-732. DOI: 10.1109/ICTUS.2017.8286103

[14] Bril, A.R., Kalinina, O.V., Rasskazova, O.A. 2018 Financial and economic aspects of the assessment of innovative projects in the human resource management system. Proceedings of the 31st International Business Information Management Association Conference, IBIMA 2018: Innovation Management and Education Excellence through Vision 2020, pp. 5772-5782.

[15] Malevskaya-Malevich, E.D., Leonov, S.A. 2018 Financing decisions to improve quality. Proceedings of the 32nd International Business Information Management Association Conference, BIMA 2018 - Vision 2020: Sustainable Economic Development and Application of Innovation Management from Regional expansion to Global Growth, pp. 5444-5448.