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**DEPRECIATION AS THE SOURCE OF REPLENISHMENT OF
ENTERPRISE CURRENT ASSETS**

Sofia KAFKA, Assoc. Prof., PhD,

Ivano-Frankivsk National Technical University of Oil and Gas, Ukraine

E-mail: Kafka@i.ua

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Abstract

Along with the classical approach to understanding the meaning of such economic category as depreciation, we have considered the issues if the amortization is the source of the fixed assets renewal. For the purposes of the study we used methods of analysis and synthesis, systematic approach - to study the processes of working capital enterprises, logical method and simulation - to systematize information security of these processes.

Results of investigations to determine the characteristics of the economic substance of depreciation established: depreciation is a compensation of working capital, which at one time was removed from circulation for the purchase of fixed assets, so you cannot treat depreciation as a source of investment in fixed assets. The source of the formation of the working capital of own funds is certainly profits and depreciation - only if profitable economic activity. So when it comes to sources of funding something, including the acquisition (creation) of fixed assets, only the working capital can be the source that's why it is important to use them efficiently and the conditions of the limited resources.

The practical significance is to develop scientifically based recommendations on formation and sources of working capital enterprises and reproduction of fixed assets, which provide methodological support to forming the depreciation policy of enterprises

Keywords: depreciation, fixed assets, current assets, cost, price, profit, operating costs.

1. Introduction

Depreciation attracted attention both of theorists and practitioners. The total of accumulated depreciation, included in the cost of sales (works, services), alongside with revenue falls on the enterprise current account and remains in circulation. Therefore, depreciation is often interpreted as a source of investment in fixed assets, but at the initial acquisition of fixed assets some funds were spent, i.e. cash and its equivalents were seized out of the current assets. Is it legitimate to consider depreciation of fixed assets to be a source of renewal?

In the course of the company activities the circulation of money is constantly going on. A part of it is withdrawn from circulation for a long period of time (acquisition of fixed assets, intangible assets, etc.), but with the proceeds from sales it comes back into circulation in the amount of accumulated amortization included in the cost of sales, i.e. the previously used (withdrawn from circulation) working capital returns back through depreciation. Amortization is often interpreted as a proper source for financing of fixed assets renewal. The Cabinet of Ministers of Ukraine Resolution № 1075 of 09.06.1996 „On approval of the Regulation on the procedure of determining depreciation and transference of amortisation to production cost (turnover)” [1] and the Direction of the Ministry of Finance of Ukraine of 12.12.2003 „On amending the Order of the Ministry of Finance of Ukraine of November 30, 1999 № 291” [2] consider depreciation as a financing source for investments in fixed assets. The extent to which this approach corresponds with the economic content of depreciation is a problematic issue.

2. The degree of investigation of the problem at present and the purpose of the research

The economic meaning and purpose of fixed assets depreciation has been considered by many researchers, beginning with the classics of economic theory to the scientists of the present time. Based on the classic approach, such scholars as Van Breda M. and Hendryksen E. [9], Krupka Y. [6], Lozovsky L., Rayzberh B. Starodubtseva E. [8], Orlova V., Senchishak S. [7] and others have contributed to the development of the theory and disclosure of the practical purpose of depreciation. However, today there are issues that require further study, namely: can we consider amortization to be a source of financing the processes of fixed assets renewal?

The problematic issues of charges and accounting of fixed assets amortization are under special focus of economic science. However, at the present stage of economic development the issues of opening the economic essence of fixed assets depreciation require additional research and identifying the main purpose of depreciation, taking as a basis its economic essence in the market environment.

3. Methods and materials applied

To investigate and ascertain the economic effect, the formation and evolution of the category of amortization accounting the historical method is applied. Theoretical methods of cognition (abstraction and generalization, analysis and synthesis, induction and deduction and other methods produce conceptual knowledge) were used for the synthesis of theoretical and methodological principles of accounting depreciation. Analytical research methods were used for a tabular presentation and comparison of information. Works of local and foreign scientists and economists on problems of calculation and recording the depreciation of fixed assets, regulatory and legislative acts of Ukraine governing the scope of accounting and financial reporting is the methodological basis of the study.

4. Results obtained and discussions

For accounting purposes the definition of „depreciation” is practically the same in the regulations governing accounting of fixed assets and corporate taxation.

P (S) 7 „Fixed Assets” p. 4 defines depreciation as a systematic allocation of the depreciable cost of fixed assets over their useful life (operation) [3]. The depreciable cost is „the original cost or revaluation of fixed assets after the deduction of their residual value”. IAS 16 „Fixed Assets” defines the terms under consideration in the following way: depreciation is the systematic allocation of the amount of the assets that is amortized during its useful life; and the amount amortized is the cost of assets, or other amount that replaces the cost after the deduction of its residual value [4].

In the Tax Code of Ukraine (pp. 14.1.3 p. 14.1 Art. 14) depreciation is defined as a national standard P (S) 7 „Fixed Assets” [3].

From these definitions in IAS 16 „Fixed Assets” the amount amortized is defined as a cost or other sum which replaces it, but in the national standard it is the origin cost or revaluation [4]. Consequently, the cost (L (S) 7) and origin cost (IAS 16) is the same thing. With regard to the

revalued amount of fixed assets (P (S) 7) and the amount that substitutes the cost (IAS 16) - it may not be the same. Doubts relate to the economic essence of depreciation. In the course of acquisition of fixed assets (this also applies to other non-current assets, but in this case it will concern only fixed assets) the expenditures are known not to be recognized and the transition of assets from one form (usually of money) to another (in fixed assets) is going on. This situation is connected with the fact that the main means of production are used in many industrial processes for a long time. It means that fixed assets constitute income (economic benefits) for a long time. According to one of accounting principles and the economy as a whole (matching of revenues and expenses) the assets spent on the purchase of the main production means in the form of depreciation are recognized as expenses.

Regarding the economic essence of depreciation the point of view fairly widespread among economists is that depreciation is a source of fixed assets. Therefore, we are going to consider depreciation in connection with funding sources. For example, in 2015 imaginary company A is established with a registered capital of 1 000 thousand UAH, which is fully paid by fixed assets. During the first year of its activity the company sold products for 5 000 thousand UAH, the initial cost of which is 4 000 thousand UAH, including raw materials and materials are 2 000 thousand UAH, wage costs along with social contributions are 1 200 thousand UAH, depreciation is 600 thousand UAH. Money for sold products is obtained, the suppliers are paid and arrears of wages and social liabilities are extinguished. There are no residues of finished products. The balance sheet at the end of 2016 (the first year) is the following (Table 1).

Table 1: Balance sheet of company A at the end of 2016, thousand UAH

Assets	at the beginning of the reporting period	at the end of the reporting period	Liabilities	at the beginning of the reporting period	at the end of the reporting period
Fixed assets:			Share capital	1 000	1 000
- Residual value	1 000	400			
- Initial cost	1 000	1 000			
- Depreciation	-	(600)	Profit	-	1 200
Money and Cash Equivalents	-	1 800			
Balance	1 000	2 200	Balance	1 000	2 200

Source: own development

In this example we can see that depreciation is a source of working capital, resulting in revenue from sales of finished goods (5 000 thousand UAH) 600 thousand UAH of depreciation are transferred to the current account of the enterprise at the bank (along with a profit of 1 200 thousand UAH). Thus, it can be affirmed that depreciation is a source of forming the working capital at the enterprise. When assets are current, they can be used for any purpose, including the purchase of new capital assets. The conclusion is that depreciation is a source of forming the working capital but it is only in the case of profitable activity.

If we change the amount of labour costs along with the social liabilities in the above example - they will increase to 3 200 thousand UAH instead of 1 200 thousand UAH and the other initial data have not changed, then the balance sheet at the end of the first year will look like this (see. Table 2):

Table 2: Balance sheet of company A at the end of 2016 under the second condition, thousand UAH

Assets	at the beginning of the reporting period	at the end of the reporting period	Liabilities	at the beginning of the reporting period	at the end of the reporting period
Fixed assets:			Registered (share) capital	1 000	1 000
- Residual value	1 000	400			
- Initial cost	1 000	1 000			
- Depreciation	-	(600)	Profit (loss)	-	(800)
Money and Cash Equivalents	-	-	Current payables for goods and services (or arrears of wages)	-	200
Balance	1 000	400	Balance	1 000	400

Source: own development

We can see in the balance given in Table 2 that the company did not have enough revenue from sales to pay debts because it sold products for 5 000 thousand UAH, the costs amounted 5 800 thousand UAH, that is the company received a loss in the amount of 800 thousand UAH. There was a situation in which depreciation is 600 thousand UAH and there is no working capital, i.e. in the presence of amortization the company cannot purchase fixed assets. Thus, it must be concluded that the depreciation cannot be interpreted as a source of investment in fixed assets.

Let us consider another situation: the company is profitable (as in the first example), but it paid 1 800 thousand UAH to suppliers for raw materials. The raw materials are received. Other conditions are not changed. The balance sheet of the company at the end of the first year of operation will be the following (see. Table 3):

Table 3: Balance sheet of company A at the end of 2016 under the third condition, thousand UAH

Assets	at the beginning of the reporting period	at the end of the reporting period	Liabilities	at the beginning of the reporting period	at the end of the reporting period
Fixed assets:			Registered (share) capital	1 000	1 000
- Residual value	1 000	-			
- Initial cost	1 000	1 000			
- Depreciation	-		Profit	-	1 200
Stocks (raw materials)	-	1 800			
Balance	1 000	1 000	Balance	1 000	2 200

Source: own development

As we see the balance in Table 3, the company has a profit of 1 200 thousand UAH and the depreciation of 600 thousand UAH is accumulated, but the company cannot buy anything including fixed assets as all money is invested in raw materials. Thus, only under the condition of profitable activity the depreciation can be regarded as a revenue source of working capital, but not as a source of investment in fixed assets. Any funds can be invested into fixed assets including those which got in circulation through depreciation. But the costs of depreciation are special funds. Everything included in the cost of production (expenses) is returned to someone: to suppliers, to employees, to the budget but amortization remains in the company's turnover because once it has already been paid at the acquisition of fixed assets. Thus, the acquisition of fixed assets is the process of reducing working capital but in the result of depreciation - on the contrary: the fixed costs are transformed into operating ones.

The depreciation charges are transferred to the finished products of the company. They are a part of the capital, previously advanced for the purchase of fixed assets, which moved from the non-current assets into current. The need for a gradual transfer and distribution of the cost of fixed assets over their useful life is due to the principle of matching revenues and expenses in accounting. To comply with this principle the part of the value of fixed assets, which is used in manufacturing of products, from selling of which the company receives income, should be included to the costs of the enterprise.

Fig. 1 shows the components of the price in summary form.

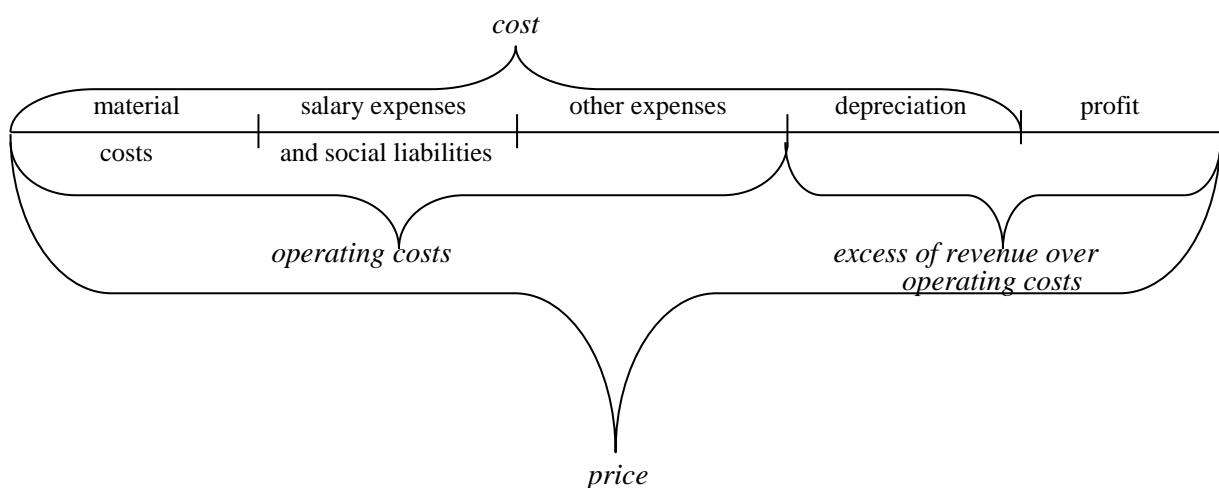


Figure 1: The components of price in general form

Source: own development

The excess of revenues over current expenditures is considered in two parts: depreciation and profit. Since the value of depreciation depends on the company, which has been granted the right to set the period of useful life of fixed assets with regulatory documents and choose the method of depreciation charge, the amount of the profit depends on the depreciation policy adopted by the company. Thus, the surplus of revenue over current expenditures is allocated into two parts by means of depreciation. In terms of unprofitable activity Fig. 2 shows a schematic display of price components in the following way:

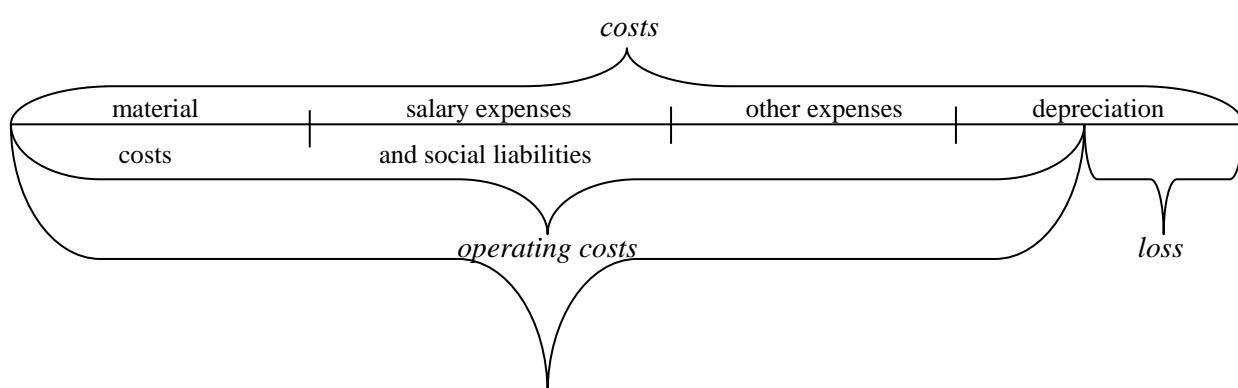


Figure 2: Price components in terms of loss-making activities

Source: own development

Fig. 2 shows the situation when the damage is less than the amount of accumulated depreciation. Then the company can offset the operating costs with revenue, but not the whole amount of accumulated depreciation replenishes the working capital: the amount of loss cannot increase the amount of working capital. However, another situation can occur (Fig. 3).

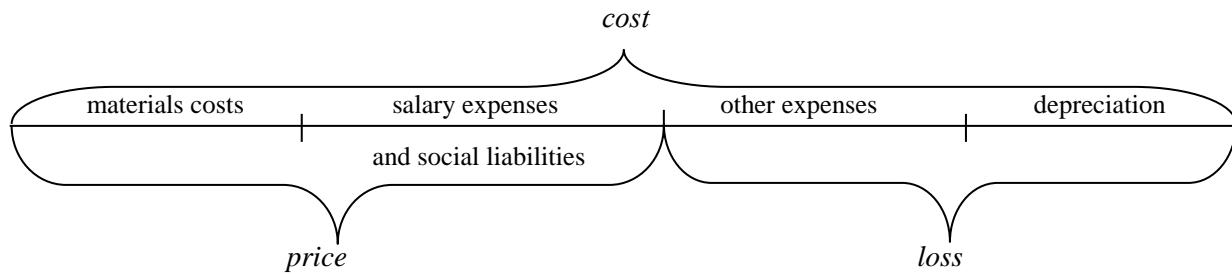


Figure 3: Proportion of cost and price under circumstances when the loss is greater than depreciation

Source: own development

In the situation in Fig. 3 a company will not be able to pay for operating expenses. This situation clearly shows that depreciation cannot be a source of investment in fixed assets. However, depreciation performs a very important function: it reduces the profit before tax. Let us recall that the costs are not recognized at the acquisition of fixed assets but there is the transition of one form of assets into another one (usually cash is converted to fixed assets). The expenses are recognized during the activity in the form of depreciation. Thus, the costs for acquisition of fixed assets are derived from taxation by means of depreciation charge.

Table 4 shows data on depreciation and profits in recent years (2010-2015) of two Ukrainian and one Russian companies in oil and gas mining complex.

Table 4: Proportion of profit and depreciation to the amount of the excess of revenue from sales over current costs

Enterprise	Years	Excess of revenue over current costs	Profit	Depreciation	The distribution of excess of revenue over current costs between, %	
					depreciation	profit
1	2	3	4	5	6	7
PJSC „Ukrnafta”, million UAH	2010	4376	3709	667	15,2	84,8
	2011	2279	1507	772	33,9	66,1
	2012	3674	1809	1865	50,8	49,2
	2013	2339	712	1621	69,3	30,7
	2014	4560	2991	1569	34,4	65,6
	2015	-2206	-3513	1307	-	-
Total 6 years		15022	7215	7801	52,0	48,0
PJSC „Ukgazvydobuvannia”, million UAH	2012	1940	-237	2177	100,0	-
	2013	2817	332	2485	88,2	11,8
	2014	3023	772	2251	74,5	25,5
Total 3 years		7780	867	6913	88,8	11,2

1	2	3	4	5	6	7
PJSC „LUKOIL”, million USD	2010	15687	11533	4154	26,5	73,5
	2011	17628	13155	4473	25,4	74,6
	2012	18902	14070	4832	25,6	74,4
	2013	16003	10247	5756	36,0	64,0
	2014	15942	7126	8816	55,3	54,7
	2015	16606	8048	10558	63,6	36,4
Total 6 years	102768	64179	38589	37,5	62,5	

Source: developed by the author based on [10, 11, 12]

The analysis of the information provided in Table 4, allows us to make the following conclusions. The oil-and-gas mining enterprises are mainly profitable because the whole amount of depreciation, included in the cost of sold goods, goes to recharge (increase) working capital. But in 2015 PJSC „Ukrnafta” worked with a loss of total 3.513 million UAH. During that year depreciation amounted in 1.307 million UAH. Thus, the depreciation charged in 2015 did not increase the value of working capital. In this situation the company lacks the proceeds from sales to cover operating costs in the amount of 2.206 million UAH ($3.513 - 1.307 = 2.206$).

In PJSC „Ukrgazvydobuvannia” in 2012 the loss was 237 million UAH while the accumulated depreciation was 2.177 million UAH. In such situation not the whole amount of accumulated depreciation falls in company operating assets but only the positive difference between the amounts of depreciation and loss, i.e. 1.940 million UAH ($2.177 - 237 = 1.940$).

One more feature should be pointed out: the share of depreciation has a stable upward trend. This is certainly a result of optimizing the enterprise taxation with income tax. And multivariate methods of depreciation charge and the fact, that companies are allowed to set the period of useful life of fixed assets in regulatory documents on accounting on their own, permit to optimize the amount of income tax payable to the budget. All this makes the depreciation such a tool with the help of which it is possible to distribute the revenue excess over current expenditures between amortization and profit in the way the company requires in this or that situation, taking into account both the tax burden and dividend policy. The significant role in this belongs to the company accounting policy.

5. Conclusions

The following results in the course of investigations as to determining the characteristics of the economic essence of depreciation have been established:

- Depreciation is a compensation of working capital, which once were removed from circulation for fixed assets acquisition, so you cannot treat depreciation as a source of investment in fixed assets;
- Depreciation together with revenue increase working capital, i.e. they are sources of increasing working capital;
- There is the transition of funds from non-current to current ones by means of charging the depreciation;
- Depreciation divides the excess revenue over current expenditures into two parts: depreciation and profit. Thus, the amount of profit depends on the company depreciation policy;

- Depreciation performs many functions, the chief among them at the present stage is withdrawal from taxation the costs for acquisition (creation) of fixed assets.

The source for formation of working capital is own and borrowed funds. Among the own funds is definitely profits, and depreciation only under conditions of cost-effective economic activity. So when it comes to funding sources for something, including acquisition (creation) of fixed assets, only current costs can be the source. In conditions of limited resources it is important to use efficiently the working capital. We believe that this is the main task of the enterprise for the management of financial resources.

REFERENCES

1. The Cabinet of Ministers of Ukraine Decree № 1075 of 09.06.1996. „On Approval of the procedure for determining the classification of amortization and depreciation to cost of production (turnover)” [online]. <http://zakon2.rada.gov.ua/laws/show/1075-96-%D0%BF>
2. Order of the Ministry of Finance of Ukraine dated 12.12.2003. „On Amendments to the Ministry of Finance of Ukraine of November 30, 1999 № 291” [online]. <http://zakon5.rada.gov.ua/laws/show/z1254-03>
3. National Accounting Standard 7 „Fixed Assets” [online]. <http://zakon2.rada.gov.ua/laws/show/z0288-00>
4. International Accounting Standard 16 „Fixed Assets” [online]. http://zakon3.rada.gov.ua/laws/show/929_014
5. Economic Encyclopaedia: in 3 vol. / Ed. MOCHERNY. S., Kyiv, publication centre „Academy”, 2000. Vol. 1.: A-C. 864 p.
6. KRUPKA, Y. Options keeping innovative processes at the enterprise. Magazine „Accounting and Auditing”, 2006, No. 5, pp. 11-18.
7. ORLOVA, V., SENCHISHAK, S. Depreciation as a source of working capital and fixed assets // Science. Ivano-Frankivsk National Technical University of Oil and Gas. Ivano-Frankivsk, 2002, No. 1, pp. 73-77.
8. RAYZBERH, B., LOZOVSKY, L., STARODUBTSEVA, E. The Economic dictionary. - Moscow: INFRA-M., 1996. 476 p.
9. HENDRYKSEN, E., VAN BREDA, M. Theory and accounting. - Moscow: Finance and Statistics, 2000. 576 p.
10. The financial statements of PJSC „Ukrnafta” [online]. <http://smida.gov.ua/db/emitent/report/year/xml/show/75024>
11. The financial statements of PJSC „Ukrgazvydobuvannya” [online]. <http://smida.gov.ua/db/emitent/report/year/xml/show/73496>
12. The financial statements of PJSC „LUKOIL” [online]. http://www.lukoil.ru/static_6_5id_2293_.html

Rezumat

Simultan cu abordarea clasică conceptuală a conținutului categoriei economice, precum amortizarea, s-a supus studiului problema posibilității examinării amortizării în calitate de sursă aferentă reînnoirii mijloacelor fixe. În procesul cercetării metodele analiza și sinteza, abordarea sistematică au fost utilizate pentru investigarea proceselor de completare a mijloacelor circulante, iar metoda logică și metoda modelării - în scopul sistematizării asigurării informaționale a acestor procese.

Ca rezultat al studiului efectuat, în scopul aprecierii economice conceptuale a amortizării, s-a stabilit că amortizarea este recompensa capitalului circulant, retras anterior din circuitul economic pentru achiziționarea mijloacelor fixe și prin urmare amortizarea nu poate fi tratată ca investiție în mijloacele fixe. Sursă de formare a mijloacelor circulante, ca parte componentă a mijloacelor proprii, cu siguranță, este profitul, iar amortizarea poate apărea ca sursă doar în cazul unei activități economice rentabile. Prin urmare, atunci cind este vorba de surse de finanțare, de exemplu pentru achiziția (crearea) mijloacelor fixe, sursă poate fi doar mijloacele circulante, de aceea în condițiile limitate ale resurselor este importantă utilizarea rațională a acestora.

Semnificația practică a investigației constă în elaborarea recomandărilor fundamentate științific privind determinarea și crearea surselor de completare a capitalului circulant al întreprinderii și reproducerea mijloacelor fixe, ce ar constitui suport metodologic în formarea politicii de amortizare a întreprinderilor.

Cuvinte-cheie: amortizare, mijloace fixe, active circulante, cost, preț, profit, cheltuieli curente.

Аннотация

Наряду с классическим подходом к пониманию содержания такой экономической категории как амортизация, нами рассматриваются вопросы о том, есть ли амортизация источником обновления основных средств. Для целей исследования использованы методы анализа и синтеза, системный подход - для

исследования процессов пополнения оборотных средств предприятия, логический метод и моделирование - с целью систематизации информационного обеспечения указанных процессов.

Результатом проведенных исследований по определению особенностей экономической сущности амортизации установлено: амортизация - это компенсация оборотных средств, которые в свое время были изъяты из обращения на приобретение основных средств, поэтому нельзя трактовать амортизацию как источник инвестиций в основные средства. Источником формирования оборотных средств среди собственных средств безусловно является прибыль, а амортизация - только при рентабельной хозяйственной деятельности. Поэтому, когда речь идет об источниках финансирования чего-то, в том числе и приобретение (создание) основных средств, то источником могут быть только оборотные средства, поэтому в условиях ограниченности ресурсов важно рационально их использовать.

Практическая значимость исследования заключается в разработке научно обоснованных рекомендаций по определению и формированию источников пополнения оборотных средств предприятия и воспроизведения основных средств, обеспечивающих методическое сопровождение формирования амортизационной политики предприятий.

Ключевые слова: амортизация, основные средства, оборотные средства, себестоимость, цена, прибыль, текущие расходы.

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