

Technology for Solving the Problems Related To the Implementation of the Concept of Preserving Capital in Accounting and Statistics



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Abstract: *At the present stage of economic theory development, a special role is acquired by the current cost of the organization's capital. The definition of the value of an asset was first explained by Fisher "The cost of a capital asset equals the sum of the present value of all future cash flow receipts" [17]. The concept of the current value of invested capital is the main tool for increasing the transparency of financial statements and a component of the concept of value and capital. In his work "The Nature of Capital and Income," the American economist Fisher stated that "The theory of capital is that the value of an asset is equal to future cash receipts, reduced to present value based on the appropriate discount rate" [1]. As for John Barr William, a well-known investor wrote in his book "The Theory of Investment Value" that "the value of any company is determined by incoming and outgoing cash flows, adjusted at a discount rate" [5]. The specific interpretation of capital by international standards largely determines the methodology for accounting for specific facts of economic life, as well as the approach to providing the financial position of an organization in its financial statements.*

Index Terms: *accounting, reporting, the concept of saving capital, the concept of preservation of cost, and transparency*

I. INTRODUCTION

The principles of the Capital Asset Pricing Model, which is based on the analysis of changes in equity returns traded on the stock market, were presented in the 1958 and 1961 publications by professors Modigliani and Miller "the value of any asset is the current value of the expected cash flow receipts" [2].

The concept of preserving (maintaining) capital is the basis of IFRS. Capital represents the difference between assets and liabilities of an organization. The main objectives of capital analysis are as follows:

- identify the sources of capital formation, as well as identify the consequences of their changes in the financial position of the organization;
- establish the ability of the organization to preserve (maintain) capital;
- identify legal, financial and contractual limitations in the distribution of current and accumulated retained earnings. [1, p. 146].

II. METHODS AND MATERIALS

A. GENERAL DESCRIPTION

The capital of an organization is considered in the following aspects: accounting, financial and legal [3, 12, 14, 18, 19, 21].

The accounting aspect implies an assessment of the initial capital investment, as well as subsequent changes that are associated with additional investments from net profit, after which there is an increase or decrease in capital. The aspect of this problem is reflected in the concept of capital preservation (maintenance), based on IFRS and other accounting systems (GAAP USA and others).

The concept is based on the following statement. In order to protect the interests of creditors, as well as for the owners to evaluate the final financial result and its distribution, the amount of capital of the entity should be maintained at a constant level. A prerequisite for the preservation (maintenance) of capital is the recognition received in the reporting profits period.

There are two concepts of maintaining capital used in the principles of preparation and composition of financial statements under IFRS:

- assessment of the preservation (maintenance) of financial capital;
- assessment of the maintenance of physical capital.



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The assessment of maintaining financial capital is based on an analysis of the value of net assets and their changes. It is necessary to assess whether the value of the net assets of the organization really remains at the end of the analyzed period compared with the value at the beginning of the reporting period, taking into account the decline in the purchasing power of funds.

Based on this approach, the profit is considered to be received if the amount of net assets at the end of the period exceeds the number of net assets at the beginning of the period after deduction of all distributions and contributions of owners during the period [4, 7, 20].

Assessment of the maintenance of physical capital is as follows: the preservation of capital by the end of the reporting period makes it possible to restore the tangible assets that the organization had at the beginning of the reporting period.

B. ALGORITHM

The economic entity chooses its own method of assessing the preservation of financial or physical capital and depends on the interests and needs of users. Taking into account changes in the purchasing power of money, if users are interested in maintaining the invested capital, then it is worthwhile to apply the concept of preserving (maintaining) financial capital. The concept of maintaining physical capital is applied with the interest of users of production capabilities and the preservation of productive assets.

In order to choose a certain concept of preserving (maintaining) capital, organizations conduct serious analytical work [6, 9].

Analytical procedures are as follows: a retrospective analysis - determining the cost of maintaining the current level of productivity, as well as determining conditions of the real-term exploitation of the asset.

Perspective analysis - identifying the future level of expenditure to maintain the future level of productivity.

III. RESULTS AND DISCUSSION

To further understand the impact of the concept of preserving (maintaining) capital on financial statements, it is necessary to consider the types of valuations used to determine the value of assets and liabilities of the organization's balance sheet. Table 1 discusses four possible approaches to assessing elements of financial statements based on IFRS.

Table 1. Approaches to assessing the elements of financial statements

Approaches	Description
Historical cost	Assets are carried at fair value at the time of acquisition. Liabilities are accounted for by the value of the benefit received in exchange for the liability at the time the obligation arises.
Current market value	Assets are accounted for by the amount of cash or cash equivalents that are required to acquire assets at the moment. Obligations are taken into account at the undiscounted amount of cash.
Costs of sales	Assets are recorded in terms of cash or cash equivalents minus the cost of implementation. Liabilities are measured in terms of cash or cash equivalents, which is necessary to fulfill the obligation under normal business conditions.
Present value	Assets are assessed at the present value of net future cash inflows. Liabilities are measured at the present value of net future

	outgoing cash flows.
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In the Russian accounting system, the historical cost was adopted as a base valuation of assets and liabilities. It's noteworthy to mention that all of the above methods for assessing assets and liabilities are used in world practice [8, 10, 11].

The financial aspect of capital is in the general requirement of protecting the interests of creditors, which means the property must exceed liabilities.

The legal aspect of capital is determined by the residual principle of satisfying the claims of owners for assets and received income. It must be considered as a financial risk factor when making decisions. Let's consider the indicators that characterize the use of capital and presented in Table 2.

Table 2. Capital structure indicators

Indicators	Symbol
Interest coverage ratio	EBIT/ Percentage to be paid
Financial Leverage (EuM)	TA/E
Coefficient of leverage	(Public debt + Brief obligations) / equity
Dividend payout ratio	Dividends/ net profit*100%

The interest coverage ratio is a financial measure that measures the amount of profit before interest on a loan and payment of taxes (EBIT, Earnings before interest and taxes) with interest costs. The value of the indicator is considered normal from 3 to 4. If the value of the coefficient becomes less than 1, then it should be assumed that the organization does not create a sufficient cash flow from the operating profit to service interest payments [15].

Financial leverage shows the effective impact of the use of the organization's borrowed capital on the amount of net profit. The ratio of financial leverage is the ratio of the organization's borrowed funds to equity. This ratio directly reflects the level of financial risk of the organization.

The dividend payout ratio is an indicator for assessing the stability and maturity of an organization, as well as dividend stability. This ratio shows the share of profit of the organization, which subsequently goes to the payment of dividends to shareholders. The interpretation of the indicator is as follows: from 40% to 70% is the optimal value, less than 40% is a disadvantage for the investor, more than 70% is a disadvantage for the organization.

Discount rate calculation models: essence, value, and scope. The solution to the problem of identifying the profitability of investments includes the use of a financial mechanism - discounting [13, 16, 22].

The method of discounting is to bring future cash flows to the present, which is based on the concept of compound interest. The process is time-consuming, since discounting includes steps such as determining the forecast and post-forecast periods, calculating the discount rate, and calculating the current values of future cash flows. The discounting formula is as follows:

$$PV = FV / (1 + i)^n, (1)$$

where PV is the present value;

FV - future value;

i is the discount rate;

n is the number of periods.

The discount rate is one of the key parameters of the discount formula. From an economic point of view, the discount rate is the rate of return on invested capital required by the investor.

The method of calculating the discount rate based on the model of the weighted average cost of capital (WACC - weight average cost of capital) is widely used because of the use in many organizations of not only own but also borrowed capital.

The method of calculating the discount rate based on the weighted average cost of capital was first used by the scientists Modelyani and Miller in 1958. The weighted average cost of capital characterizes the value of the advanced capital in the organization. If the level of profitability of made investment decisions is higher than the WACC index, then the measures would be economically justified. This indicator is subject to the influence of internal and external factors. The degree of impact is subject to change by the organization with respect to the following factors, such as capital structure, dividends, and investment policy. However, there are factors that are not amenable to adjustments, such as the level of interest rates and risk-free interest rate.

The WACC model is not acceptable for all organizations. For example, an organization is not an open joint-stock company and its shares are not sold on the stock exchange, but still, it is used in investment analysis and financial management.

The Capital Asset Pricing Model, which is based on the analysis of changes in the returns of shares circulating in the stock market, is another popular model for calculating the discount rate in the world practice of estimating the value of investments and business. In accordance with the presented model, the cost of equity is equal to the sum of the risk-free return and risk premiums calculated using the beta coefficient [4, p. 83].

The CAPM valuation model was developed by an economist and later Nobel Prize winner in economics William Sharp and presented in his book *Portfolio Theory and Capital Markets*. The basis of this model are two types of risk:

specific, i.e. the unique risk inherent in a particular asset that can be diversified (changed);

the market risk to which all securities that make up the market portfolio are exposed and which cannot be reduced by diversification.

The formula for calculating the discount rate based on this method is as follows:

$$R = R_f + \beta (R_m - R_f), (2)$$

where **R** is the rate of return required by the investor (on equity);

R_f is the risk-free rate of return;

β - beta coefficient - a measure of market risk and reflects the sensitivity of the yield of a security to changes in the yield of the market as a whole;

R_m is the total profitability of the market as a whole (average market securities portfolio).

The risk-free rate of return is understood as the percentage of profitability obtained from the use of a financial instrument subject to zero credit risk.

IV. CONCLUSION

Therefore, we conclude that the valuation of assets and liabilities and the reflection of changes of the capital in the financial statements in accordance with the concept of preserving (maintaining) capital is an independent decision of the organization.

Currently, when choosing one or another concept of capital maintenance, the organizations prefer financial concept. This happens because shareholders are interested in the increase of their investments purchasing power, as well as the increase in the value of assets as a result of the revaluation that improves the organization performance. The goal of a business is to increase the value of an investment, rather than maintaining current productivity when using a physical concept.

The availability of the main methods for calculating the discount rate (WACC, CAMP) enables the organization to choose the most appropriate method taking into account the specifics of the object of assessment, the possibility of applying the model in a particular case, as well as the availability of the necessary information.

It is important to take into account the condition of the organizational-legal form when choosing a cash flow for all invested capital (provided that the discount rate is calculated according to the WACC model) - a public joint-stock company and the possibility of selling shares on the stock market.

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