

Determination of the Company's Value under the Influence of Various Factors

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Abstract

The authors studied and analyzed various concepts and approaches to company value management. They described the advantages and disadvantages of the leading traditional approaches to assessing the value of an enterprise and proposed a model of the dynamics of the company's value, taking into account the ownership structure, explaining the mechanism of the influence of the company's ownership structure on the capital structure. Using an example, we examined the change in the company's value by individual factors and identified which factors have the most significant positive and negative impact.

Keywords: Company; Dynamics; Factor; Model; Ownership; Structure; Value.

1. Introduction

At the present stage of economic development, the importance of objective and reasonable assessments of the value of enterprises increases significantly (Carugati *et al.*, 2020; Lang and Ofek, 1996; Štrukelj and Sternad, 2019). They underlie the development of strategies for raising capital, conducting collateral, insurance and other operations in which a company (a separate business) acts as a particular investment product (Prokopenko *et al.*, 2019). Its value plays the role of a critical financial and economic indicator that accumulates not only the market valuation of assets but and (within the framework of the income approach) the projected results of market activities in the production-commercial and financial-investment spheres, reflected by the values of the generated income and cost streams (Kwilinski *et al.*, 2020). World economic practice shows that today value management through a targeted redistribution of cash flows between spheres of activity and centres of income and costs, taking into account production, technical, financial and resource and market constraints, remains the most effective tool for planning and managing commercial and economic activities that can increase efficient use of resources, competitiveness and investment attractiveness of the enterprise (Oliynyk, 2015; Zenkina and Firtseva, 2017).

The basis of the value management concept is that for the leaders (shareholders) of companies, the most important

thing is to increase their welfare as a result of the functioning of the organization (Dzwigol *et al.*, 2020). At the same time, this growth is measured neither by the capacities introduced, nor by the number of employees, nor by the company's turnover, but by the value of the enterprise owned by the shareholders (Balan *et al.*, 2020). At the same time, the cost is the most accurate assessment of the results of the enterprise, since it contains complete information about the current state of the organization and the prospects for its functioning.

The created value in the long term becomes the only final indicator that synthesizes the influence of other indicators of the enterprise's activity, as factors that increase or decrease the cost. It is also the best criterion for the optimality of management decisions. At the same time, increasing the value of business meets the interests of all participants in corporate governance.

The concept of managing the company's value in the long term allows satisfying the interests of the owners to the maximum extent, to determine the optimal strategic directions of its development and to develop a system of management measures that contribute to the achievement of the set goals (Kwilinski *et al.*, 2020; Yaremko *et al.*, 2018). Value management creates opportunities for balancing the interests of management, owners, shareholders, which contributes to improving the efficiency of corporate governance (Malyarets *et al.*, 2019).

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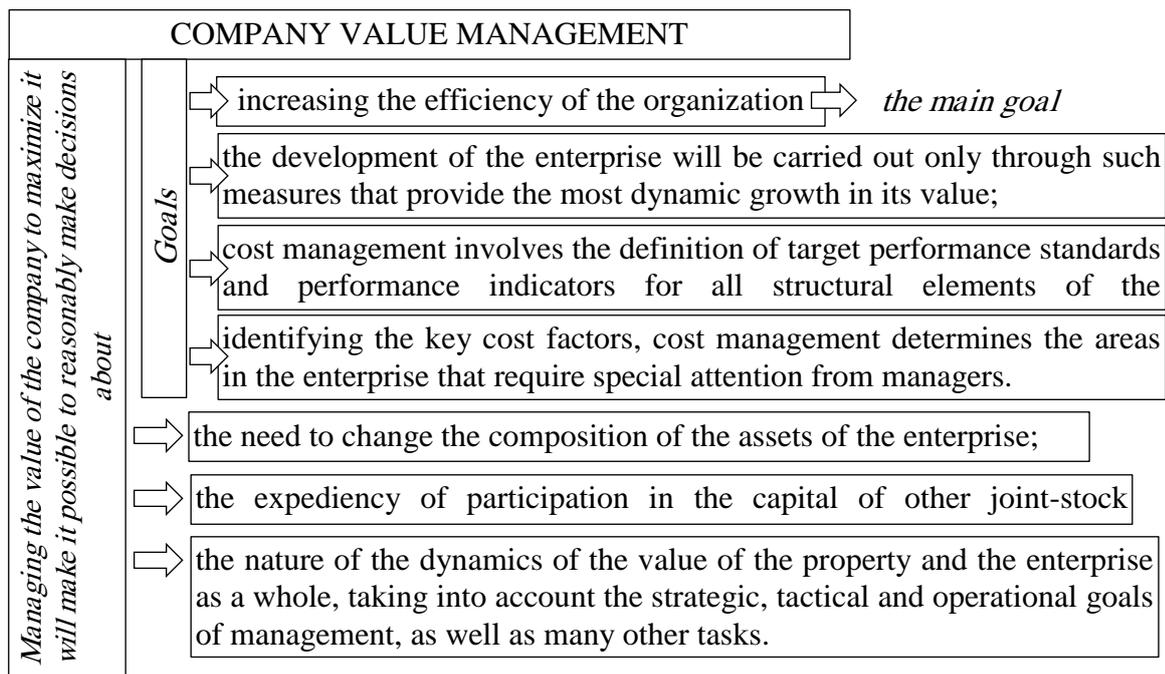


Fig 1. Company value management

2. Company Value Management Concepts

Management seeking to maximize enterprise value is the tool that links strategic decisions made at the board level with those of lower management levels (Fig. 1). There are many methodologies for determining the value of a business, but most of them can be grouped into three approaches (Fig. 2).

These approaches and valuation methods allow us to consider the value of an enterprise from different angles.

3. Modelling of the Dynamics of the Company's Value Taking into Account the Ownership Structure

Many scholars have looked at company value through the prism of the ownership structure. Thus, M. Modigliani and M. Miller put forward the idea that firms can increase cash flows to a greater extent through borrowed capital than their own. In trade-off theory, a company increases its leverage until the marginal benefit of the tax shield is equal to the marginal cost of the loan. Research for large companies supports the theory of compromise (Grossman and Hart, 1986). Williamson (1988) examines the

influence of the degree of transferability of assets on financial leverage and shows the positive effect of this indicator on the D/E ratio (Yaremko *et al.*, 2018). It was noted that companies operating in regulated industries are characterized by more stable cash flows and less likelihood of financial difficulties; therefore, companies from such enterprises have a capital structure with a higher level of financial leverage (Štrukelj and Sternad, 2019). Scientists have also analyzed tax advantages in the investment process that are not related to debt obligations: companies with small or negative EBIT cannot write off interest payments to current expenses and, therefore, take advantage of the tax shield (Masulis and DeAngelo, 1980). The relationship between the uniqueness of the product, the industry and the ratio of the company's own and borrowed funds was revealed (Titman, 1984). Some authors (Bradley *et al.*, 1984) also attribute agency costs to the costs of financial difficulties, Myers and Majluf (1984) focused on the values that arise as a result of disagreements between creditors and shareholders. This problem can be solved through debt financing, which limits the described abuse of managers (Carugati *et al.*, 2020).

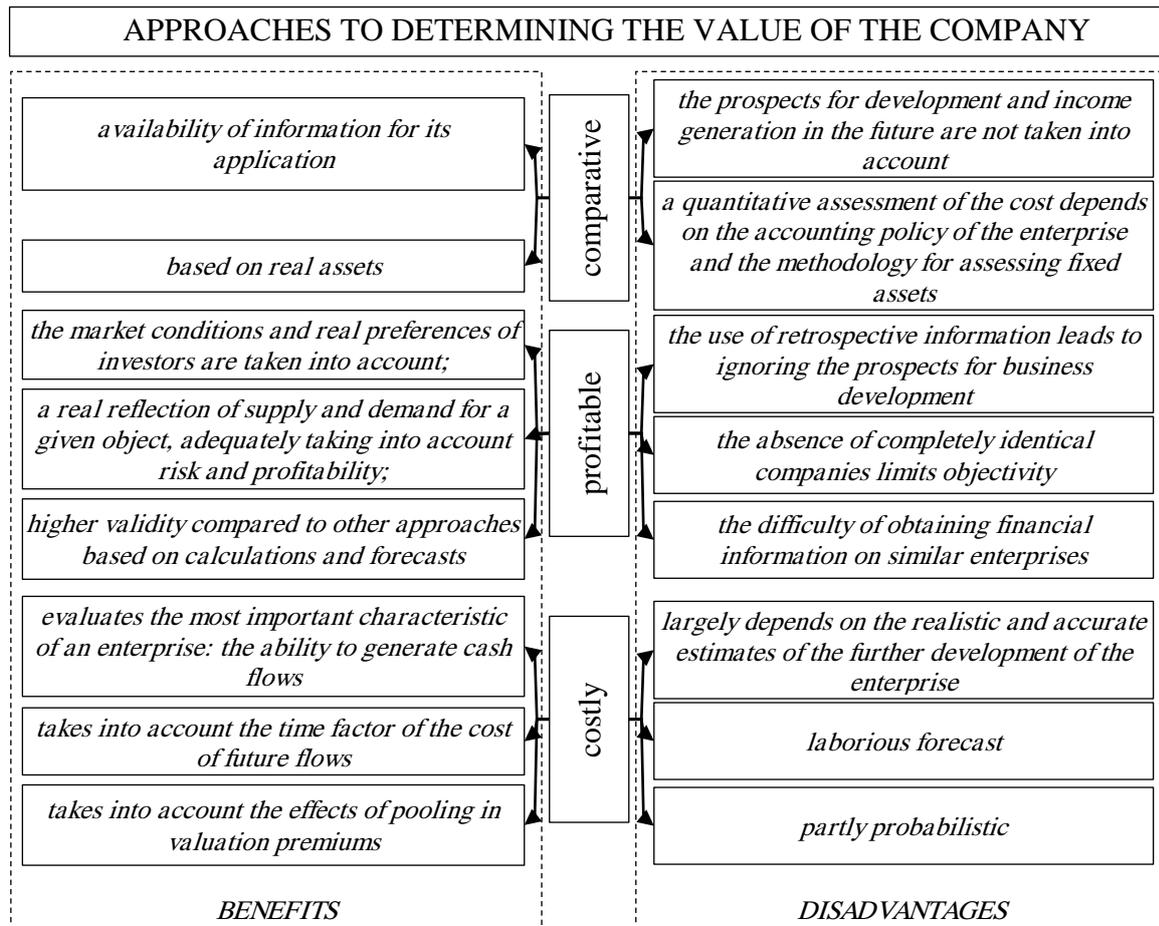


Fig. 2. Characteristics of approaches to determining the value of the company

The theory of hierarchies also studies the structure of capital, but in the context of the influence of information asymmetry on it. The founders of this theory and their followers come to the conclusion that highly profitable firms, having own sufficient resources to finance projects, are characterized by a lower leverage ratio (Gontareva et al., 2020). Researchers note that companies whose dividend policy does not imply the payment of dividends on ordinary shares have information asymmetry to a greater extent; therefore, they prefer debt financing to their own (Goyal and Frank, 2007; Myers and Majluf, 1984). (Shleifer and Vishny, 1998) showed a positive dependence on the company's profit on the concentration of ownership in the hands of management personnel (Perevozova et al., 2019). A higher concentration of property in the hands of managers, which makes it possible to reconcile the interests of managers and owners, is also characterized by a higher leverage ratio (Myers and Majluf, 1984).

Empirical studies of the impact of the quality of the legal system on the capital structure of a company do not give unambiguous answers to the question of why companies in a country with a given level of development of the legal system prefer to use different sources of financing. On the other hand, the empirical results of researchers to identify the relationship between management property and the level of debt are not unambiguous: some researchers conclude that there is a negative relationship (Lang and Ofek, 1996).

Ultimately, the sign of the dependence of the capital structure on various quantitative indicators of the ownership structure depends on a variety of external indicators.

The model below (Fig. 3) describes the company's behaviour under ideal conditions and shows how the capital structure should depend on the ownership structure (and, accordingly, on the protection of property rights) without the influence of external factors.

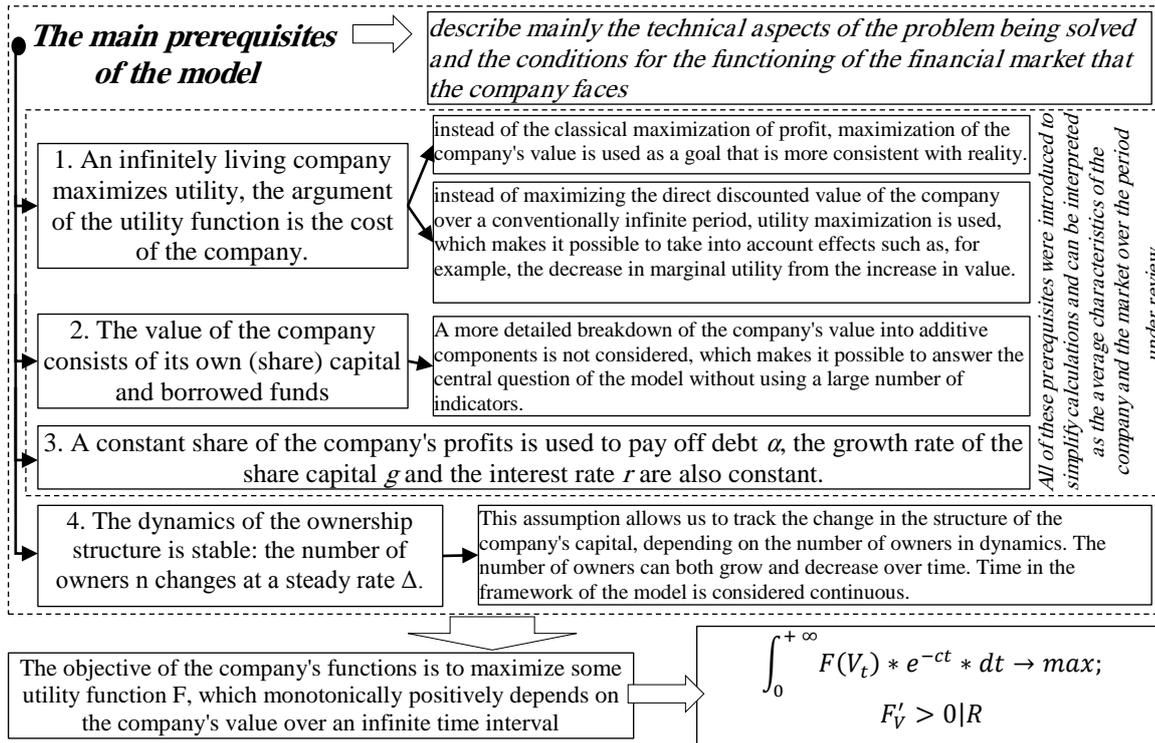


Fig. 3. Model for determination of the company's value: V_t – the value of the company in the period t ; F – utility function; dt – the discount rate in the period t

Under some constraints and the assumptions of the model, the problem of maximizing the present value of the company can be described as an optimal control problem. All used variables are translated into account on average per owner:

$$v = \frac{V}{n}; d = \frac{D}{n}; i = \frac{I}{n}; r = \frac{R}{n}; s = \frac{E}{n}; \pi = \frac{P}{n};$$

- where v – the company's value per shareholder;
- V – the value of the company
- d – the amount of debt per shareholder;
- D – borrowed capital;
- i – debt raised per shareholder;
- I – the amount of debt attracted over the period (determined exogenously);
- r – repaid debt per one shareholder;
- R – the amount of the repaid debt;
- s – share capital per shareholder;
- E – equity capital;
- π – profit per shareholder;
- P – the total profit;
- n – number of owners.

The objective function is transformed by replacing the value of the company with the value on average per owner. The dynamic budget constraint is converted in a more sophisticated way.

As the study showed, the value of a company depends not only on the capital structure; we were able to offer a model that neutralizes the influence of other factors. However, we consider it necessary to briefly review the changes in the cost indicator concerning other cost factors. Consider the example of the company "MIZOL", which has branches in all major cities of Ukraine, including Ivano-Frankivsk, Kyiv, Lviv, Sumy, Kharkiv, Kherson, etc. The main task was to analyze the change in the cost indicator concerning the following cost factors: an increase in prices for manufactured products and related growth in revenue; change in fixed capital using a leasing payment scheme and with the involvement of a long-term loan; change in the amount of working capital as a result of a decrease in the period of its turnover; reduction in the cost of products sold as a result of tax planning; growth in sales and revenue as a result of the transition to a new product. The calculation results are shown in Table. 1.

Table 1
Change in the value of the company by selected factors

Cost factor	Factor number	Cost (USD)	Change in value indicator (USD)	Costs of events (USD)
Revenue growth: price rise	1	18,5	5,86	0,57 (-)
Fixed capital change: using leasing to finance fixed capital investments	2	34,7	17,57	3,45 (+)
The attraction of a long-term loan (term 3 years, repayment at the end of the term)	3	25,8	11,40	2,17 (+)
The attraction of a long-term loan (term 3 years, repayment of 2 in equal instalments in 2 and 3 years)	4	24,9	10,93	1,95 (+)
Change in working capital by 10%: reduction of the turnover period	5	16,7	-5,6	0,17 (-)
Cost reduction: tax savings	6	12,7	-4,23	0,23 (-)
Revenue growth: production diversification	7	25,6	11,53	13,28 (+)
Revenue growth: increased sales	8	32,1	7,70	12,15 (+)

Thus, the most significant positive impact on the company's value is exerted by the use of leasing to finance

investments, diversification of production and attraction of long-term loans (Fig. 4).

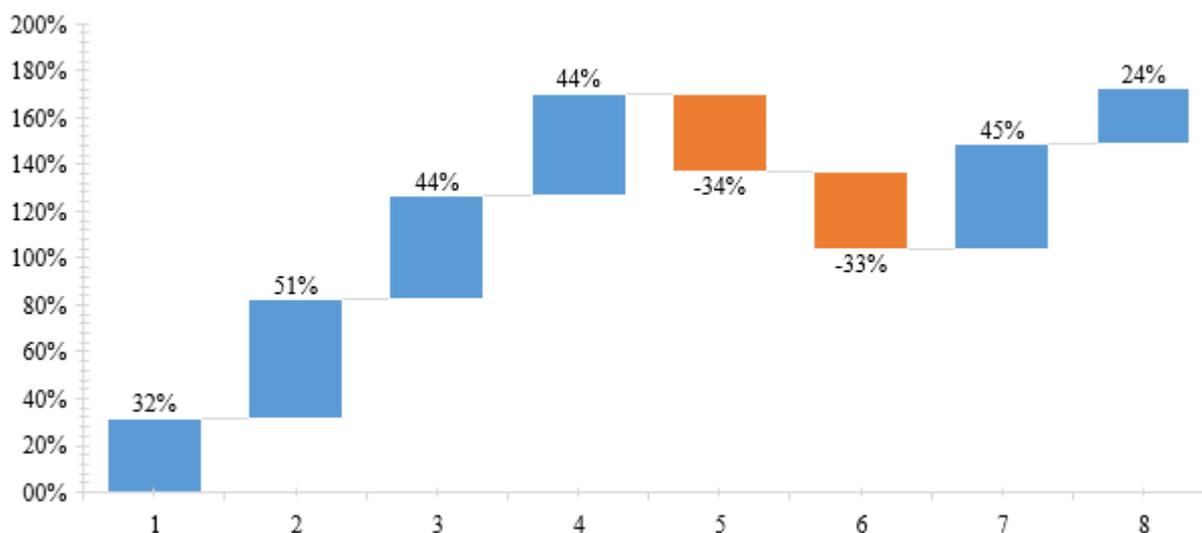


Fig. 4. Influence of factors on the company's value indicator

Based on the results obtained, the following conclusions can be drawn:

- attracting long-term loans allows you to increase the value of the company with little cost. It should be noted that the disadvantage of the cerebral palsy method in managing the value of the company based on the optimization of lending is the emerging contradiction between the advantage of long-term loans and the underestimated cost of the company if the loans are repaid in the last period;
- leasing is a useful tool for managing the value of an enterprise, allowing you to expand the financing of long-

term investments in fixed assets and reduce the taxable base for property tax. The main factors that have a positive effect on the value of a company with the existing structure of income and expenses are an increase in the price of an innovative product, the use of leasing schemes and an increase in fixed capital based on attracting medium-term loans.

4. Conclusion

Management of the company's value is a new direction in management, the emergence of which is due to the interests of the company's owners. For the latter, the value

of a company is the only criterion for assessing its financial well-being, which gives a comprehensive view of the effectiveness of business management. Sales volume, profit, cost price, financial indicators (liquidity, financial stability, asset turnover and efficiency) are, as it were, intermediate characteristics of certain economic aspects of the company's activities. And only its cost serves as a general indicator. At each moment, the company and each of its business units actually and objectively have the so-called true value, equal to the sum of all net (free) cash flows. Value management is a process aimed at qualitatively improving operational and strategic value decisions at all levels of an organization.

The constructed model provides a theoretical basis for the dependence of the capital structure on the ownership structure. At a practical level, such a relationship was found using econometric calculations, but the results, including the sign of the relationship, are ambiguous. Within the framework of the model, the ambiguity is explained by the different dependence of the capital structure on the ownership structure for various companies.

The model allows, depending on the individual parameters of companies, to divide them into groups and draw up a comprehensive portrait of a group of companies demonstrating a positive dependence of D/E on ownership concentration, and a group of companies showing a negative dependence.

It is worth noting that the solution of the problems of optimal management of the production and financial activities of the company must be carried out using computer technology and appropriate software, which will be further research paths.

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