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**DETERMINING THE COMPANIES VALUE:
MODERN APPROACHES****Shtefan N.M., PhD in Economics***National Mining University***Shtefan T.Y.***National University of Kiev named after Taras Shevchenko*

The article describes basic models of companies valuation at the present stage of economy's development, determines the importance of income distribution mechanism that affects the pace of commercial development of enterprises, the mechanism of determining the significance of each approach in assessing the value of a particular business in the determination of its final value. The aim of the study is to develop and study the mechanism of determining the weight of each of the approaches to the assesment of a particular business in the process of determination of its ultimate value. The study found a relationship between the coefficient of depreciation of fixed assets, the ability of these assets to generate cash flow of the company and the weight of each approach in the estimate of business value in the process of determining of its ultimate value. The study allowed to establish the importance of each of the approaches to business valuation for each enterprise depending on the state of its assets. The practical significance of the results of the study is the possibility of their use in determining the value of Ukrainian enterprises

Keywords: business valuation, revenue approach, expenditures approach, comparative approach, combined approach, the discount rate

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СУЧАСНІ АСПЕКТИ ВИЗНАЧЕННЯ ВАРТОСТІ БІЗНЕСУ**Штефан Н. М., к.т.н.***ДВНЗ «Національний гірничий університет»***Штефан Т.Ю.***Київський національний університет імені Тараса Шевченка*

У статті досліджено основні моделі оцінювання вартості компаній на сучасному етапі, визначено важливість механізму розподілу прибутку, який впливає на темпи розвитку підприємства. Метою дослідження є розробка і обґрунтування механізму визначення вагомості кожного з підходів щодо оцінки вартості конкретного бізнесу при визначенні його кінцевої вартості. В процесі дослідження встановлено залежність між коефіцієнтом зносу основних фондів, здатністю активів генерувати грошові надходження на підприємство і вагомістю кожного підходу щодо оцінки вартості бізнесу при визначенні його кінцевої вартості. Проведене дослідження дало змогу встановити вагомість кожного з

підходів щодо оцінки вартості бізнесу для кожного конкретного підприємства в залежності від стану його активів. Практичне значення одержаних результатів дослідження полягає в можливості їх використання під час визначення вартості українських підприємств.

Ключові слова: оцінка вартості бізнесу, доходний підхід, витратний підхід, порівняльний підхід, комбінований підхід, ставка дисконтування.

Formulation of the problem. Business valuation, determination of its value - is both one of the main indicators of success in the market and one of the most important tasks of corporate governance. Increase business value - is the main purpose of a management system of the enterprise and its owners. Therefore, the development and application of the most effective methods of business valuation is topical not only in theoretical aspect, but the practical importance of this issue is growing. World experience of determining the value of the business offers us a variety of methods of business valuation, but economic development brings new demands and problems in assessing the business, which leads to the need for continuous improvement of existing methods.

Analysis of recent research and publications. In modern scientific literature on business valuation dominate the works of such scholars as A. Damadaran [1], F. Modelyani and M. Miller [2], M. Gordon [3], William Sharpe, John. Bailey [4], S. Valdaytsev [5], V. Grigoriev and M. Fedotova [6], V. Yesipov [7], V. Scherbakov [8], N. Chebotarev [9], which deals with the theoretical and methodological approaches to business valuation prevailing in the countries with developed market economies. The authors explore along with traditional methods (within the framework of market (comparative) approach, revenue, expenditure approaches) and use other methods and techniques. They offer a variety of options for determining discount rates and capitalization rates, give examples of determining the length of the forecast horizon. But despite the significant amount of research on the methods of assessment, a universal method that could be effectively applied in all enterprises in the conditions of economic growth or in a volatile economy is still remain undeveloped. Therefore, improvement of assessment methods of the value of business in modern conditions is an urgent task today.

The **aim of the study** is to develop and study the mechanism of determining the weight of each of the approaches to the evaluation of a particular business in the determination of its ultimate value.

Presenting the basic material. Business valuation is provided by means of determining the value of liabilities and assets: real estate, machinery and equipment, productive reserves and finished products stocks, long-term and current financial investments, intangible assets. In addition, the estimate is given to company's effectiveness, revenues dynamics, prospects of development and competitive environment at the market. As a result, the ability of businesses to generate profit was assessed. These capabilities are very important for business, so as the system of their profits efficient distribution.

The self-financing of business is very dependable from the profit distribution mechanism so as its pace in development.

If we analyze the structure of capital investments in Ukraine by source of funding, we can note the highest proportion of own funds in the total capital investment - up to 70.47% in 2014 (Table 1) [10]. The share of own funds in the total capital investment is growing.

Table 1 - Capital investment in Ukraine by source of funding

	2011		2012		2013		2014	
	Amount UAH	Share, %	Amount UAH	Share, %	Amount UAH	Share, %	Amount UAH	Share, %
Total	241286,0	100	273256,0	100	249873,4	100	219419,9	100
including								
state budget funds	17376,7	7.20	16288,3	5.96	6174,9	2.47	2738,7	1.25
local budget funds	7746,9	3.21	8555,7	3.13	6796,8	2.72	5918,2	2.70
own funds	147569,6	61.16	171176,6	62.64	165786,7	66.35	154629,5	70.47
bank credits and other loans	36651,9	15.19	39724,7	14.54	34734,7	13.90	21739,3	9.90
foreign invest- ments	5038,9	2.09	4904,3	1.80	4271,3	1.71	5639,8	2.57
public funds for housing	17589,2	7.29	22575,5	8.26	24072,3	9.63	22064,2	10.06
other funding sources	9312,8	3.86	10030,9	3.67	8036,7	3.22	6690,2	3.05

Source: [10]

The share of the state budget funds has decreased by 6 times (from 7.20% in 2011 to 1.25% in 2014). The same trend is observed for the funds of bank credits and other loans. Their proportion has decreased by 33%. Funds of local budgets take approximately 3% of all funding sources.

The total amount of capital investments decreased from 241286,0 mln. UAH in 2011 to 219419.9 mln. UAH 2014 (in 1,38 times) [10]. Herewith own funds of enterprises are account for over two thirds of all capital investments.

The development of market relations is accompanied by the growing role of profit as a factor providing further funding of the company, and effective distribution of profit provides the ability to better funding for further effective development of the company.

It is necessary to take into account the fact that profit, as a result of the company's effectiveness is the most important factor of increasing value of the company. This helps achieve the main goal of owners - to increase the value of their businesses. Therefore, the business valuation is not only a final indicator of a certain stage of development of the company, but also a basis for further effective development.

It should be noted that the property valuation process may be a necessary condition of purchase and sale of the assets or the company as the whole; herewith the business valuation is a part of design process and one of conditions of development strategy. Therefore, the relevance and timeliness of the issue of efficient distribution of profits, determination of optimal distribution proportions are not in doubt.

Generally known three main (traditional) approaches to business valuation: revenue, expenditure and comparative [2, 3, 4].

1. Revenue approach - an approach that is based on an assessment of future income flows of enterprise, meaning enterprise valuation based on the determination of the present value of expected benefits (income, cash flows) received from the ownership of corporate rights of the company. In this approach, it is very important to make a reasonable forecast of cash flows at the enterprise, to prove and justify the discount rate, which should take into account both country risk and industry risk so as regular business risks of the enterprise.

2. Expenditure (costs) - an approach, according to which the valuation is determined by the difference between the value of assets and its liabilities. Modern enterprise – is a structure that combines assets of a different nature - from real estate to the business reputation of the company.

The essence of the cost approach is to assess the individual groups of assets on the balance at a certain date considering their wear. Through detailed analysis of the assets, this method does not account their ability to generate cash flow. Thus, this approach is not associated with the results of the company's activity and does not consider the prospects of its

development. That fact may be called as its significant disadvantage. Although it might be possible to introduce the relationship between the rate of depreciation of fixed assets (moral, physical, etc), proportion of illiquid stocks in the value of company assets and the ability of the company to generate the cash flow.

For example, the higher the rate of depreciation of fixed assets, the higher the proportion of illiquid stocks in total assets, the lower the ability of these assets generate sufficient positive cash flow in the enterprise (Table 2).

3. Comparative (market) approach - an approach that is based on that the value of the company - is the real selling price of similar enterprises.

The essence of the comparative approach is that business value is determined by the value of similar objects. A potential investor will not agree to pay for a certain facility more than the cost of purchase of the same object with the same utility. Therefore, the selling price of similar objects is initial information to estimate the value of the object. But the application of this approach is possible only in case if the company operates on a developed market.

Table 2 - The relationship between the rate of depreciation of fixed assets and the ability of assets to generate the cash flow of the company

Coefficient of wear	Range	An ability of assets to generate the cash flow
moral	$CW_{mor} \leq 20\%$	Modern technological armament of the company can produce competitive products – thus high assets value and high ability to generate the cash flow
	$20\% < CW_{mor} \leq 50\%$	Quite high rate of obsolescence of equipment leads to a decline in competitive advantages of products and thus reducing of the cash flow
	$CW_{mor} > 50\%$	Reduced ability to generate cash flow
physical	$CW_{phys} \leq 30\%$	An ability to manufacture big volumes of production and thus the ability to generate high cash flow
	$30\% < CW_{phys} \leq 50\%$	Quite high rate of physical deterioration of equipment suggests frequent downtime due to repair operations and thus reducing of the positive cash flow
	$CW_{phys} > 50\%$	High probability of equipment failure and therefore, assets incapability to generate sufficient positive cash flow

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Generally, to get a real assessment all three approaches should be used and only then the evaluation may be objectively substantiated.

The final assessment of value can be determined by the formula:

$$V = \sum_{i=1}^n V_i Z_i, \tag{1}$$

where V_i - evaluation of the company using the i -th approach;
 $i = 1, \dots, n$ – an array of approaches applicable in this assessment;
 Z_i – weight coefficient of the i -th approach

Substantiation as the last stage of the business evaluation determines the weight of each approach, namely, in determining the specific weight of every approach evaluation in the process of determining the weighted average value of the company, which is thus appear to be the reasonable value of the company.

Among the methods of each approach the final cost of the company for this approach can also be calculated by using the weighted average. In this case you should also evaluate the reliability and validity of estimates according to each method. In other case you can set the interval for the value (minimum - maximum of the business value for each method within each assessment in each approach) and to determine the arithmetical mean between these values. The impact of changes in the wear amount of fixed assets on the ability to generate cash flow and thus determine the share of the income, expenditure and comparative approaches in business valuation during determining the reasonable cost of business are presented in Table 3.

Table 3 - Determining the validity of each business valuation approaches for substantiation of its value

Coefficient of wear	Range	Coefficient of the cash flow generating capability	The specific weight of the revenue, expenditure, comparative approaches values in determining the reasonable cost of business
moral	$CW_{mor} \leq 20\%$	1	Higher role of revenue and expenditure approaches (at the level of 40%)
	$20\% < CW_{mor} \leq 50\%$	0.6-0.8	The weight of all approaches is approximately the same
	$CW_{mor} > 50\%$	0.5	crucial role of comparative approach in case if there is a market for this kind of business
physical	$CW_{phys} \leq 30\%$	1	Higher role of revenue and expenditure approaches (at the level of 40%)
	$30\% < CW_{phys} \leq 50\%$	0,6-0,8	The weight of all approaches is approximately the same
	$CW_{phys} > 50\%$	0.5	crucial role of comparative approach in case if there is a market for this kind of business

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So the question what is more significant: the book value of the assets or their ability to generate positive cash flow of the company is crucial in determining the reasonable cost of a particular company.

A distinctive feature of the economy in Ukraine is its economic and financial instability at the present moment. The risks that businesses face in Ukraine are much higher than the average values, typical of countries with developed market relations. This situation deteriorates with high inflation, so that current information that can be obtained for the evaluation process (or an existing data) may reflect the existing state of affairs distortedly.

At first sight, in the inflationary economy most suitable method of business evaluation is the present value of the company (discounted cash flow method) because the inflation rate is taken into account in the discount rate. But it becomes possible if there is an appropriate inflation forecast, and the economy is functioning normally. Predict the flow of net income of the company on several years ahead in a volatile, crisis economy turns to be very difficult task.

Substantiation the discount rate for determining the present value of future cash flows of the company is also very complex and important issue. Overestimation of the discount rate leads to the investor refusal from the profitable investment project and underestimation leads to the choice of the projects with less favorable performance when the market has better investment proposals. So maybe it makes sense to choose a discount rate for each year of the forecast period, predicting the expected changes of impact factors.

Thus, despite the considerable amount of researches on the evaluation methods, scientists have not managed to develop a universal technique that would effectively apply to all businesses and bring no subjectivity in determining the value of the business.

The same subjectivity may occur when evaluating the business with a comparative approach by multipliers. Firstly, if the shares of the company elected analog are overvalued by the market, the multipliers of the evaluated company will be too high. Secondly, the average multipliers value of group of companies-analogues depends very much on their number and the «quality» of businesses-analogues. Successful businesses provide high-value multipliers. The selection (structure) of the enterprises-analogues could be changed and that consequently may significantly change the multiplier value. Therefore there is a need to define more reasonable selection rules of analog companies to determine the value multipliers.

Moreover, an additional justification is required on the matter of the adjustment of the ultimate value of the business on the amount of possibly unrecorded assets value that are not involved in the production process during the economic crisis. These non-performing assets have a market value, which should be reflected in the amount of the final value of the business. Also may need to be adjusted possible underestimation of the tangible and intangible assets in the crisis period of the economy.

Addressing these issues will allow taking effective management decisions from the point of view of cost management principles. Thus, further studies to evaluate the business are still topical.

Conclusions. Thus the results of the research may lead to the following conclusions. Methods of evaluation of the company at present require constant improvement, accordingly with the society development. Increase the business value - is the main purpose of a management system of the enterprise and its owners

Combining evaluation methods of determining the validity of each approach to evaluate the business for each separate company will provide more specific and reliable data as of the company's value.

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