European Journal of Business Startups and Open Society

Vol. 4 No. 8 (Aug - 2024): EJBSOS

http://innovatus.es/index.php/ejbsos

Scientific-Theoretical and Practical Aspects of Assessing the Capital Value of Joint Stock Companies

Khurshid Kgudoykulov

DSc, professor, International School of Finance Technology and Science

Abstract: The article discussed the scientific and theoretical aspects of the cost of capital of a joint-stock company, and also summarizes the practical aspects of capital valuation. It is also based on the capabilities and benefits of using the cost of capital valuation methodology.

Key words: cost of capital; weighted average cost of capital; cost of debt capital; cost of equity capital; financial asset pricing method , capital structure.

Introduction

The practice of rapidly developing countries shows that financial managers of companies need to use the most optimal methods of assessing the company's capital value when making investment decisions, when investors assess the investment potential of companies, when implementing investment projects. In addition, the growth of investment flows in the companies of developing countries at a fast pace requires the introduction of modern methods of capital cost assessment, determination of the degree of influence of private capital and debt capital affecting the company's capital, financial asset valuation model, determination of weighted average cost of capital, optimal composition of capital need to be identified. When determining the business value of companies in developed countries of the world, it is explained by determining its capital value. In particular, in the case of 2018, this indicator shows that the expected return on equity of companies in the USA is 7.0 percent, in Europe it is 7.16 percent, in Japan it is 3.2 percent, in China it is 9.14 percent, and in India it is 9.18 percent [13] [1]. This, in turn, shows the business value of the companies in these countries, the level of implementation of investment projects, and the investment potential.

Currently, extensive work is being carried out in Uzbekistan to develop the activities of joint stock companies. In particular, in the following years, the legal basis for the public sale of assets belonging to the state share was created during the implementation of investment projects of joint stock companies operating in the country. However, the existence of a state share in the capital of joint-stock companies in our country, the lack of development of the stock market and its low share in the economy, in particular, are obstacles to the use of modern methods of assessing the capital value of joint-stock companies. Accordingly , the strategy of action on the five priority directions of the development of the Republic of Uzbekistan in 2017-2021 in the "year of active investments and social development" has been specifically defined as the task of "developing the stock market and increasing its share in the economy" [1] .

In order to fulfill the above tasks, the research work is important to demonstrate the scientific and theoretical aspects of the methods of assessing the capital value of joint-stock companies, to clarify the problems related to the methods of assessing the capital value, and to analyze the theoretical views on their elimination.

[1] http://pages.stern.nyu.edu/~adamodar/

Literature review (analysis) on the topic

A number of research studies have been carried out to assess the value of the company's capital. In the 50s of the last century, the theory of the assessment of the capital value of companies, taking into account the existing risks in the financial market, the theory of the assessment of the capital value and the determination of the optimal composition of the capital appeared. It is worth noting that Modilyan and Miller, among the foreign economists, studied the capital structure and capital valuation, and explained the principles of capital structure formation. In particular, Modilyan and Miller founded the theory of determining the value of capital and determining the capital structure without taking into account such factors as taxes, bankruptcy, unstable capital market, inflation, which are factors affecting the real economy in the theory of determining the capital structure and capital value [2] . According to the theory of Modigliani and Miller, when determining the optimal composition of capital, it considers the relationship between private capital and the composition of debt capital. It should be noted that Modilyan and Miller's theory mainly determined the capital value of the company, taking into account such factors as the company's capital value, profit, and the value of the company, which affect the capital structure of the company. According to Modilyan and Miller, if the company chooses the optimal capital structure, the weighted average cost of capital will be minimized, resulting in an increase in the value of the company. In particular, according to their theory, in finding the value of the company, it does not depend on the value of the debt capital, but it showed that its capital value depends on the fixed fund of the company. Based on Modilian and Miller's theory, the debt capital represents the weighted average cost of capital as WACC (Weighted Average Cost of Capital) by connecting the level of leverage.

$$WACC = k_0 = k_e w_e + k_d w_d (1)$$

If the value of assets is found here k_e, the formula is expressed as follows.

$$k_e = \frac{k_0}{w_e} - k_d \frac{w_d}{w_e} = \frac{k_0(S+D)}{S} - k_d \frac{D}{S} = k_0 + (k_0 - k_d) * L$$

Here;

D- the value of the company's debt capital;

S- private equity value of the company;

$k_{d,} w_d = \frac{D}{D+s}$- share of debt capital in the capital of the company and its value;

$k_e, w_e = \frac{s}{D+s}$- share of private capital in the capital of the company and its value;

$L = \frac{D}{S}$- financial leverage[2]

Modilyan and Miller's theory was further refined and they continued their study by taking into account tax rates in the valuation of the company's cost of capital. It is worth noting that, when calculating the interest rates of debt capital, they set the tax base as t and determined the value of the capital, taking into account the tax obligations on this base [3] . When determining the value of the company, taking into account the tax obligations, if the debt capital of the company is higher than its capital value, it has been shown in his research to finance it entirely through private capital. In particular, Modilyan and Miller found in their research that an increase in tax liabilities leads to an increase in financial leverage. In their research, in turn, they set the corporate tax rate as T and the debt value as D , and expressed the formula for determining the weighted average cost of capital as follows.

$$WACC = k_0 = k_e w_e + k_d w_d (1 - T) (2)$$

Here;

[2] https://efinancemanagement.com/financial-leverage financial leverage is the ratio of debt funds to equity capital. This is an indicator that shows that the increase in the company's profits has increased the debt.

$1 - T$- is a tax liability.

In our opinion, Modilyan and Miller's theory of weighted average cost of capital does not take into account the market value of enterprise capital, business risks, the premium for the country's risk, and the company's business risks. In particular, in Robert Hamada's scientific research, Valuation of financial assets in determining the value of private equity of the company, Modilian and Miller modified the model of average cost of capital using William Sharp and Modilian and Miller models [4] . In turn, taking into account the financial and business risks in the assessment of private capital, it is reflected in the following formula.

$$k_e = k_f + (k_m - k_f) * b_u + (k_m - k_f) * b_u * \frac{D}{S}(1 - T)(3)$$

Here;

b_u- the beta coefficient of the company equal to the level of business risk, but in the case where the financial leverage is zero;

k_f- risk-free profit;

$(k_m - k_f) * b_u$- compensation paid in the value of shareholders' funds, premium for business risk;

$(k_m - k_f) * b_u * \frac{D}{S}(1 - T)$- premium for financial risks;

Foreign economist Stiglitz showed in his research that Modilian and Miller's theory has five flaws. According to him, the effect of the bankruptcy of the company on the average cost of capital was not taken into account. In particular, the theory of Modilyan and Miller did not take into account the bankruptcy and financial difficulties of the enterprise, but bankruptcy is one of the main factors in the assessment of the capital value of the enterprise [5] . Donaldson, in his scientific research, used the theory of capital structure in the implementation of various financial strategies of several companies in the United States, and came to the conclusion that the capital structure of the company is related to the hierarchy of this company [6] . On the other hand, the purpose of the company's hierarchy is not financial leverage, but the importance of asymmetric information in the assessment of the company's capital value is considered great. Myers and Maylouf in their research emphasized the use of retained earnings, debt capital and private equity indicators in determining the company's capital value [7] . Fama and French, in their scientific research, noted that these two factors are important in evaluating the capital value of the company, taking into account factors such as financial difficulties and the hierarchy of the company.

Russian economists Nikolay Golovetsky and Anna Lebedeva studied the problems of assessing the capital value of construction enterprises in the research, and in this study, the Goddon model and the stock market multiplier P/E (price/earning) coefficients were low, which was caused by the low debt value of the campaign, and from these methods Empirical analysis of the advantages of using the company was not modest, in turn, it reflects the company's capital structure and financial policy [8] . Blazhevich Oleg and Kirilchuk Nadejdalar in their research stated that one of the most important conditions for effective capital management of a company is the assessment of its capital value. In particular, the valuation of the capital not only shows the value of the company's financial resources, but also reflects the minimum return on investment capital, which is carried out on the part of the company so that the company does not suffer losses. In addition, in turn, the evaluation of the capital value of the building first of all evaluates the investment efficiency of the enterprise. The following are the most basic models for assessing the value of the company's capital. These include the cumulative capital assessment method BUM (Build-Up Method), capital assessment model CAPM (Capital asset pricing model), weighted average cost of capital WACC (Weighted Average Cost of Capital), arbitration assessment model APT (Arbitrage pricing theory) investment project models and showed that the use of these models in capital cost estimation is considered a popular method in the world [9] . In the scientific research of the economists of Uzbekistan, Karlibaeva Raya emphasized the following hypotheses to be taken into account when determining the optimal composition of the capital of a joint-stock company. First,

it depends on the business value of these companies in attracting private capital and debt capital for joint-stock companies. Secondly, the high debt capital of joint-stock companies ensures the low level of economic profitability of this company. Third, determining the capital structure of joint-stock companies depends on the level of development of financial instruments in the financial market of our country [10] . In addition, in the research of Khodiev B.Yu., Berkinov B.B., Kravchenko A.N., they focused on the methods of assessing the capital value of the enterprise using the main methods of comparing income, cost and sales approaches and methods of calculation algorithms in determining the business value of the enterprise [11].

Analyzing the specific aspects of the researches of local and foreign scientists considered above, in our opinion, the most widely used method for evaluating the capital value of the company today is the valuation of financial assets, the weighted average value of capital, and the discounted cash flow estimation method. Through these methods, developing countries are considered to have the opportunity to measure risk in the value of capital assessment. In developed countries, when using the method of capital cost evaluation, it is possible to determine the market value of the company's private capital, the value of debt capital, the market value of the financial instruments of these companies, and the business value of the company.

Research methodology.

Scientific abstraction, empirical, economic-mathematical modeling, grouping of statistical data, comparative analysis, selective observational analysis methods were used to solve the task of the research. Based on Modilyan and Miller's theory, the capital cost of the world's largest industrial enterprise was determined using the WACC (Weighted Average Cost of Capital) model. In turn, it was analyzed using the Sharp-Linter financial asset valuation (CAPM) model. This model is shown as follows.

$$E(R_i) = R_f + \left[(E(R_M) - R_f)\right]\beta_{i,M}, i = 1, \dots, N$$

Here: $E(R_i)$the expected return on assets,R_f describes the risk-free interest rate (usually the interest rate paid on government securities), $\beta_{i,M}$and the coefficient of sensitivity to changes in the return on assets in the market, that is, the relationship between the covariance of the return on assets and the dispersion of the market return on the market return Market beta (b) = B_{iM}= $\frac{COV(R_i,R_M)}{\sigma^2(R_M)}$. $(E(R_M) - R_f)$which means getting a risk-reward by spending money on risky assets in the market. In our study, we analyzed the risk-free interest rate as an alternative to the rate of return on US Treasury bonds.

Analysis and results.

Today, several companies in the world use WACC (Weighted Average Cost of Capital) and financial asset valuation (CAPM) model to find the cost of capital. Financial managers around the world are using it to evaluate the company's capital and determine the business value of the campaign and the minimum return on investment projects. In our research, we selected the world's largest industrial companies and used the financial capital valuation model to find the capital value of these companies.

Table 1. OF INDUSTRIAL COMPANIES IN THE WORLD PRIVATE CAPITAL VALUE (2010-2018)[3]

Years	Comanias the number	Beta coefficient	Private capital value	Private of capital connect E /(D + E)
2010	5857	1.15	8.72%	69.33%
2011	5891	1.15	8.81%	68.19%
2012	6177	1.17	8.53%	69.97%

[3] Prepared by the author based on information from http://pages.stern.nyu.edu/~adamodar/ .

2013	7766	1.01	8.07%	57.38%
2014	7887	1.06	8.29%	60.19%
2015	7480	1.13	9.06%	58.31%
2016	7330	1.00	8.15%	59.56%
2017	7247	1.00	7.49%	62.89%
2018	43848	1.10	10.81%	55.43%

From the data of Table 1, it can be seen that if we analyze the capital cost of the world's largest industrial enterprises by year, the expected return on the cost of private capital was 8.72 percent in 2012, and it was 10.81 percent in 2018. It can be seen that the increase in the capitalization of the financial market in the world is the reason for the expected increase in the value of the private capital of the world's largest industrial enterprises. In addition, in turn, the market risk of financial instruments in the world's financial market fluctuates significantly. Looking at the market risk beta coefficient in the analyzed table, it was 1.15 points in 2010, and 1.0 points in 2018. This means that the market risk of financial instruments in the financial market is almost low. The share of private capital in the capital structure of enterprises is reflected in the decreasing trend from year to year. Looking at the data analysis, in 2010, the share of private capital in the capital structure of the world's largest enterprises was 69.33 percent, and in 2018, it was 55.43 percent. The main reason for this can be explained by the increase in debt capital in the capital structure of large enterprises in the world in recent years. The reason is that today financial market debt instruments are developing and the market capitalization of these instruments is increasing.

When evaluating the capital value of the company, the value of the debt capital of this company should be evaluated. In our study, the following Table 2 estimates the cost of capital in the world (Table 2).

Table 2. OF INDUSTRIAL COMPANIES IN THE WORLD VALUE OF DEBT CAPITAL (2010-2018)[4]

Years	Comanias the number	Debt capital value	Tax rate	Tax from the payment after debt capital	Debt kaitalini share in percent D /(D + E)
2010	5857	5.29%	15.19%	4.49%	30.67%
2011	5891	3.87%	15.48%	3.27%	31.81%
2012	6177	3.26%	14.93%	2.77%	30.03%
2013	7766	6.04%	10.32%	5.42%	42.62%
2014	7887	3.67%	10.76%	3.28%	39.81%
2015	7480	4.02%	10.95%	2.41%	41.69%
2016	7330	3.70%	10.44%	2.22%	40.44%
2017	7247	3.91%	10.04%	2.97%	37.11%
2018	43848	5.75%	13.88%	4.29%	44.57%

As can be seen from Table 2, the expected debt-to-equity ratio of large companies in 2010 was 5.29 percent, and in 2018, it was 5.75 percent. In turn, we can see that the share of debt capital of companies was 30.67 percent in 2010, and 44.57 percent in 2018. This is due to the reduction of tax rates affecting debt capital. The reason for the increase in the value of the debt capital in the world can be explained by the change in the tax rates of the debt instruments traded in the financial market. Data analysis shows that in 2018, the company's debt capital ratio was 5.29 percent, the tax stack was 15.19 percent, and as a result of the increase in tax liabilities, we can see that the company's expected return on equity after taxes was 4.49 percent. And in 2018, the expected income from the cost of capital of companies It was 5.75 percent, and after taxes it was 4.29 percent.

[4] Prepared by the author based on information from http://pages.stern.nyu.edu/~adamodar/ .

Using the data from the table above, the capital value of industrial companies in the world is reflected in the figure below (Figure 1).

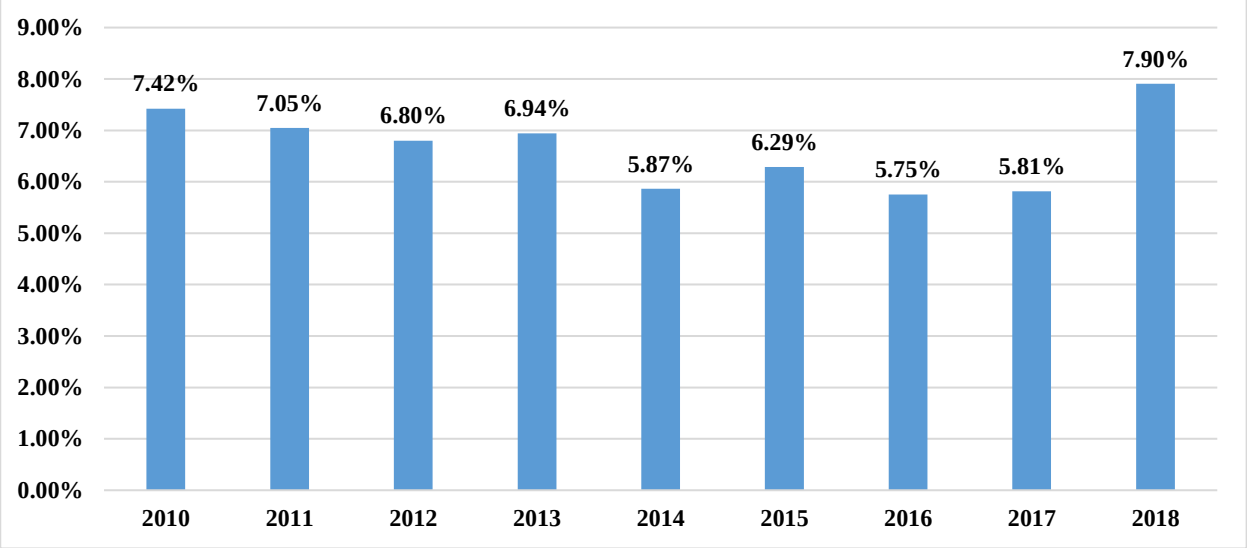

Figure 1. Capital value of industrial companies in the world (2010-2018)[5]

The data in Figure 1 shows that we can see that the capital cost of industrial enterprises in the world has increased significantly. In 2010, the company's expected return on equity was 7.42 percent, and by 2018, it was 7.90 percent. One of the main reasons for the increase in the capital value of industrial enterprises in the world is the changes in the capital structure of these companies. The share of private capital in the capital structure of the companies was almost 60 percent in 2010, and by 2018 it was 55 percent. Therefore, it has led to an increase in the cost of debt capital of companies around the world.

In conclusion, it should be noted that the growth of debt capital in the capital value of industrial enterprises in the world is observed. In particular, the increase in the market value of debt financial instruments in the structure of debt capital, uneven distribution of tax stacks, sharp fluctuations in the indicators of the default period of the enterprise are the reasons.

Conclusions and suggestions

In conclusion, it can be said that the use of the method of capital valuation of joint-stock companies enables the analysis of the investment opportunities of these joint-stock companies, the determination of the capital structure, the correct implementation of the dividend policy, the determination of the expected minimum level of income from the investment project, and the possibility of determining the balance of debt instruments and equity investments in the investment portfolio of the joint-stock company. gives Therefore, the capital cost assessment of joint-stock companies gives these joint-stock companies the following opportunities.

First, the capitalization of joint-stock companies in the financial market makes it possible to determine. In particular, when determining the company's capital value, the private capital and debt capital of these companies are evaluated by connecting the market value of financial instruments.

Secondly, it allows you to determine the level of expected income from the capital of joint-stock companies. In turn, it serves to determine the minimum profitability level of projects that domestic and foreign investors are ready to invest.

Thirdly, the assessment of the capital value of the joint-stock company, in turn, provides an opportunity to determine the level of corporate governance practices, the sovereign credit rating of the country and the level of risk.

[5] Prepared by the author based on information from http://pages.stern.nyu.edu/~adamodar/ .

Fourth, it serves to determine the capital structure of joint-stock companies. In particular, the proportion of joint stock companies with debt capital and private capital allows maximum profit in rapidly developing countries.

References

1. Decree No. PF-5635 of the President of the Republic of Uzbekistan dated January 17, 2019 "On the state program on the implementation of the strategy of actions on the five priority directions of the development of the Republic of Uzbekistan in the year of "active investments and social development" in 2017-2021."
2. Modigliani F, Miller MH 1958. The cost of capital, corporate finance and the theory of investment. The American Economic Review, Vol. 48, No. 3 pp. 261–97
3. Modigliani, F. and Miller, MH (1963) Corporate Income Taxes and the Cost of Capital A Correction. American Economic Review, Vol. 53, No. 3 pp. 433-443.
4. Hamada R (1969) Portfolio analysis, market equilibrium, and corporate finance. The Journal of Finance, Vol. 24, No. 1. pp. 13–31
5. Stiglitz, Joseph E, (1969). "A Re-Examination of the Modigliani-Miller Theorem," American Economic Review, American Economic Association, Vol. 59, No. 5 pp. 784-793
6. Donaldson G. Strategy for Financial Mobility. Boston, Division of Research, Harvard Graduate School of Business Administration. 1969
7. Myers, S., and NS Majluf , (1984). Corporate Financing and Investment Decisions When Firms Have Information That Investors Don't Have, *Journal of Financial Economics* Vol. 13 , No. 2 pp. 187-221
8. Fama E., French K. (2002) Testing tradeoff and pecking order predictions about dividends and debt, The Review of Financial Studies Vol. 15, No. 1, pp. 1-33
9. Golovetskij N. Ja., Lebedeva AA (2018). Problems of assessing the cost of equity in the construction industry (housing construction). The Eurasian Scientific Journal, Vol. 15, No. 2, [online] pp. 1-10
10. Blajevic O.G., Kirilchuk N.A. Model otsenki stoimosti kapitala Scientific journal: Finance, banking, investment - 2016 - №3 st.47-52
11. R.H. Karlibaeva "Ways of effective organization of the financial management system in joint-stock companies" Autoreferat, T,- 2018, pp. 1-30;
12. Khodiev B.Yu., Berkinov B.B., Kravchenko A.N. "Assessment of business value" Study guide//-Tashkent: Science, 2006, p. 228.
13. http://pages.stern.nyu.edu/~adamodar/