THE COST OF CAPITAL – AN IMPORTANT CRITERION IN FUNDAMENTING THE FINANCING DECISION OF THE COMPANY

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Abstract: Through this paper we want to identify which are the main factors that influence the company's financing decision. And from all the factors we will analyze the cost of capital. We would like to see what role plays the cost of the capital in fundamenting the financing decision and what are the main methods of determining the cost of own capital and the cost of borrowed capital. Determining the cost of capital plays an important role for companies, their objective being the choice of those sources of funding which have the lower cost.

JEL classification: G30, G32

Key words: the financing decision, minimize the costs, weighted average cost of capital, cash flow, yield to maturity

Introduction

Enterprises are living organisms that have a fundamental role in a market economy because they produce goods and services and have therefore distribute the incomes from their work and create jobs.

On long term, any business objective is to obtain a sufficient return for the invested capital. Any company aiming to develop and to control a higher proportion of the market should obtain sufficient annual profits to distribute dividends to shareholders and at the same time, to accumulate a part of the net profit to increase its assets faster than competition.

This major objective must be supported by a series of objectives on medium term with very important role in fundamenting the financing decision. Among this objectives we can mention:

- Searching and identifying an optimal level of debt, which depends closely on the activities of the firm;
- Building a coherent strategy in terms of dividend distribution policy;
- Choosing the financing sources in accordance with the financing objectives and with the economic environment in which the company works;
- The financial strategy has to continuously monitor the indicators „Net income per share", "Net dividend per share", "gross dividend per share", because any investor base his financial decisions on the actual earnings;
- An efficient indebtedness policy, so that the benefits from indebtness to be as large as they can, both for shareholders and for creditors, in terms of a smaller

bankruptcy risk;

- A policy of capitalization argued to the shareholders, so the company is valued by the market as an efficient business. A firm in economic growth will repay debts on time, will pay providers without significant financial effort, and will have good relations with customers, who prefer to have as a business partner a firm without financial problems, without difficulties in getting funds.

Factors that influence the financing decision of the company

The financing decision at the microeconomic level is significantly influenced by how are functioning the economic mechanisms at regional, national and even global level.

The decision of selection the sources of funding should consider the influence of some factors, although they are difficult to measure, to quantify. These factors are: the structure of assets, the rate of growth of the business, the sales stability, the rate of return, taxes, tax savings which are not generated by debt, the operating lever, the solvency, prevailing market conditions, internal conditions of the company, financial flexibility, the competence and attitude of the management team, the attitude of investors, creditors and staff investments, the control.

However, in the opinion of several financiers, the main criteria for choosing the sources of funding of the company would be: the cost of financing, the financial return, actual payments and the surplus of the cash flow.

The cost of capital

The cost of capital is seen as the payment to be made by the company for the capital (debt, preferred shares, common shares and retained profits) which is used to finance new investments.

Determining the cost of capital is a particularly important issue in the business world for the following reasons:

- To maximize the market value of the company. For this purpose the managers must act to minimize costs, including the cost of capital;
- To take the right investment decisions, requiring the knowledge of managers about the cost of different sources of financing the business;
- To decide in appropriate and optimal terms about the financing policy and the revolving fund policy.

Models for determining the cost of capital

1. The Gordon-Shapiro model – is the simplest way to estimate the cost of capital, being a simplified version of the model of the present value of the future cash flows generated by the shares. The discount rate used is the rate of return due to shareholders (Ke), given the company's prospects and the risk that it incorporates.

The formula for this model is:

$$K_e = \frac{D_1}{V_0} + g,$$

where: $\frac{D_1}{V_0}$ = the dividend yield per share;

g = growth rate of dividend per share.s

The usage of this model can lead to problems caused by:

- The estimation of the growth rate of dividend per share;
- The way of the actual payment of the dividend, which may be made other than annually?
- The existence of a lag time between the moment when the model is applied to the cost of capital and the moment when the next dividend is paid.

2. The evaluation of the shares multiperiodic model or *Molodowski's model* starts from the same case as the Gordon-Shapiro model and has the following formula:

$$V_0 = \sum_{t=1}^{n} \frac{D_t}{(1+K_e)^t} + \sum_{t=n+1}^{\infty} \frac{D_n x\ (1+g)^{t-n}}{(1+K_e)^t},$$

where: **n** = number of years of steady growth;
n+1,…,∞ = number of years of growth with g constant.

The equivalent formula is:

$$V_0 = \sum_{t}^{n-1} \frac{D_t}{(1+K_e)^t} + \frac{D_{n+}\ P_n}{(1+K_e)^n}\ , \qquad \text{unde: } P_n = D_n \frac{1+g}{K_e - g}$$

This model takes into account three different periods of growth:

1. stable growth for T_1 years;
2. reduced growth for T_2 years;
3. zero growth, with net profits stable for indefinite time horizon.

3. The model for determining the cost of capital based on the coefficient of market capitalization, which has the following formula:

$$\text{PER} = \frac{1}{RR_{fin}} = \frac{1}{K_e}, \qquad K_e = \frac{d\ (1+g)}{V_t/EPS_t} + g$$

where: **d** = the rate of dividend distribution;
EPS$_t$ = profit per share at time t;

$$V_t/EPS_t = PER_t$$

4. The CAPM model makes a direct link between the profitability and the risk of an asset. Using this model to estimate the cost of own capital requires the calculation of β of the firm, estimating risk-free rate (Rf) and the risk premium E ((Rm) - Rf). The practical application of the model raises issues such as choice of the method for determining the volatility coefficient β and estimates the risk-free rate and the risk premium.

The formula for this model is:

$$\mathbf{E}\ (K_e) = R_f + \beta\ [\mathbf{E}\ (R_m) - R_f]$$

where: **R$_f$** = risk-free interest rate;

β = the title's volatility, expression of the systematic risk related to the market portfolio;

$E(R_m)$ = the expected return of the market portfolio.

5. The APT model has the following formula:

$$K_e = R_f + \sum_{k=1}^{K} b_{ik} * \lambda_k$$

where: **b_{ik}** = the sensitivity coefficient of the i firm at the risk factor k;

λ_k = $\sum_{t=1}^{T} \lambda_{kt}$ = the average value of the premium of risk in the analyzed period;

T = the number of analized periods;
$R_f = \lambda_{0t}$ = risk-free rate at time t;
K = number of risk factors.

6. The model of the discounted cash-flow for preferred shares which has the following formula:

$$V_0 = \sum_{t=1}^{n} \frac{DIV_t}{(1+K_p)^t} = \frac{DIV}{K_p}$$

where: **DIV_t** = the forecast dividend distributed for the year t;
$DIV_1 = \ldots = DIV_n = DIV$ = constant;
K_p = the cost of capital for preferred shares.

7. The Bates's model starts from the model of the current value of a share, based on future dividends but also uses a number of other variables, as can be seen in the formula:

$$PER_n = PER_0 * \left(\frac{1+K_e}{1+g}\right)^n + \frac{d(1+g)}{K_e - g}\left[1 - \left(\frac{1+K_e}{1+g}\right)^n\right]$$

where: **d** = rate of distribution of dividends (d = dividends per net income);
PER_0 = the coefficient of firms market capitalization (present value);
PER_n = PER estimated future value for the sector in which the company belongs.

Methods for determining the cost of borrowed capital.

To estimate the cost of debt can be used two types of methods:
1. Methods "exogenous" to the firm:
- By negotiating with potential funders (banks and financial institutions);
- Based on the market interest rates charged on loans with similar risks as the risk associated to the bonds issued by the analyzed company;
- Based on the effective interest rate subsidies by the sector firms.
2. Methods "endogenous" to the firm:

- *Yield to maturity method* (YTM) – with this method the firm can estimate the cost of debt based on the interest rates of the loans issued by the company.

The yield to maturity represents the interest rate that would be won by an investor in similar bonds who purchased the title at the current price and will keep it until the maturity.

- *The CAPM model* – through this model the cost of debt at time t can be calculated with the formula:

$$K_{datt} = Rf_t + \beta_{datorii}[E(R_m - Rf_t)]$$

$\boldsymbol{Rf_t}$ – the rate of return for a risk-free bond with the same maturity as the analyzed debt;

$\boldsymbol{E(Rm) - Rf_t}$ – the market portfolio risk premium.

Determination of the weighted average cost of capital

The cost of capital can be defined as an opportunity cost. For the capital investment to be justified, the return of the invested money must be at least equal to the profitability of alternative investment opportunities with the same risk. Choosing a method of financing is determined by its cost, on the one hand, and by the existing financial structure, on the other hand. An optimal financial structure corresponds to a minimum cost of the capital.

The weighted average cost of capital can be expressed by the following formula:

$$\mathbf{CMPC} = \sum_{i=1}^{m} w_i * k_i$$

where, $\boldsymbol{w_i}$ – the share of invested capital, on sources of origin;

$\boldsymbol{k_i}$ – the return required by each funding source;

$\boldsymbol{m}$ – number of funding sources used.

The basic principle in determining the weighted average cost of capital is that it must be fundamented in accordance with the exprimation of the cash flow which will be updated.

The classical model of the cost of capital

When discussing about financing a company first there are listed the potential sources of capital on which firm has access, coming then the problem of costs for each source in part. The purpose aimed generally by a manager of a firm is identifying those easily accessible sources of financing and the cheaper ones, so to be obtained the smaller weighted average cost of the capital with a favorably impact on the value of the firm.

The financing decision at microeconomic level has been the subject of study for many academics and practitioners. However one of the theories which led to the explosive development of the science and the financial practice is the model of the economists Franco Modigliani and Merton Miller, drafted in 1958, about the neutrality of the financing policy over the value of the firm and over the value of the weighted average cost of capital.

The initial model had a number of assumptions that have generated numerous controversies and criticisms:

1. the financial market operators behave is a rational one, seeking to maximize their wealth utility function. In the model of the two economists this hypothesis results from the objective of optimization of the financial structure of the firm: maximizing company value, shareholder wealth.

2. the model does not takes into calculation the company's observed venues form the past but the revenue expectations on future income.

3. firms are classified into homogeneous groups in terms of dividend per share, as advance income. All the companies form a homogeneous class are characterized by the same economic risk.

4. the firms are operating on financial markets which respect the condition of atomicity.

5. in each of the classes considered, the price of a financial title issued by a company must be proportional to the expected income for the firm.

6. securities are traded on a perfect market (on which two perfectly substitutable goods are sold at same price).

Criticisms of the model converge to rediscuss it:

a. the model refers to the theoretical assumption of the perfect market, the critics emphasize the financial market imperfection.

b. another unrealistic premise is considered the absence of taxation (even the authors consider that should be made a correction to the model in this regard).

Conclusions

From those presented above we have observed that the cost of capital is the most important factor that should be taken into account when funding the financing decision of a firm. An investment that produces a rate of income below the cost of capital will reduce the value of the company, while if the rate of income is higher than the cost of capital, the firm value will increase. Thus, the correct determination of the cost of capital is very important for the company.

The manager of a firm must choose between the methods of calculating the cost of capital that one that best suits to the characteristics of the firm, and to use this method when he decides to use certain funding sources. If the manager chooses the funding sources depending on the cost of capital, and there are choosed those sources with the smaller cost, than the company will have a better chance to repay the amounts received but also to obtain profit.

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