

THE DETERMINATION OF FINANCIAL COSTS STRUCTURE FOR COMPANIES IN ROMANIAN ECONOMY

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Regardless their nature, all the capitals have a cost. The cost is the highest risk element, which accompanies the capital, because, is in inverse proportion to the profit: a higher cost leads to a lower profit. For attracting the sources of capital, a firm must spend certain sums, which are proportional to their price. The content of this thesis tries an efficiency of financial structure for companies based on the minimizing of finance costs. In this case, it has proceeded to a deep analysis of financial source on long term. In the purpose of efficiency of financial structure has followed the costs for variant of financial structure through point out models of analyses and assemble the costs recommended by international and national specialty literature.

Keywords: financial structure, financial sources, capital cost, efficiency

The capital represents the ensemble of material values resulted from the human activity and all out financial values owned by a company, used with the purpose of obtaining a profit.“ (Encyclopedic Dictionary, 1993 edition.

The capital is defined to be „that production factor who in his ensemble of yields and used to obtain other goods and services, destined for sale, with an economic advantage, profit“.

The company’s capital, participating at these economic processes, upholding them, and turn into products and services, the management quality of their using, the company’s efficiency, liquidity, solvency, earnings, it’s chances of success in competition, it’s existence, it’s development and it’s one selfness.

The capital account represents the difference between the economic capital and the company’s debt, and the loan capital is, how the name seas, the capital drown from different financial sources, which the company has to pay and repay.

The form of propriety for the capital, they are frequently situation in which the capital account are much more expensive then the loan ones, situation that has generated the sentence “*is more profitable to work with someone else’s money then with yours*”.

This state of things arises from the financial risk and, from the so-called efficiency by the usherette to assume the risk. The placement in a company is more risky then that on a bank or any other zone, with fix payment, for at least two reasons:

- The payment of invested capital in company it is done by dividend from profits and the level of profit is the result of a sum of factors hard to administrate and multiply, a lot of them being unpredictable, derived from a state of specific uncertainty .
- The collection of advanced capital it’s conditioned by the economic-financial performance of company that keeps, at least the same state of things, restored at the first theme.

As follows, the capital holders place their funds in companies only if the offered dividend is much bigger then the interest offered by the bank or the payment offered by other financial forms, this difference carries to a much bigger capital cost.

Regardless their nature, all the capitals have a cost. The cost is the highest risk element, which accompanies the capital, because, is in inverse proportion to the profit: a higher cost leads to a lower profit.

The capital is a product with a price and a cost supported by the user. In the capital price and cost comes in a series of specific factors like: confidentiality, the utilization rate, the importance, the risk, the wangles, the guarantees and the loan categories.

For attracting the sources of capital, a firm must spend certain sums, which are proportional to their price. The respective expenses represent the average of the marketing cost of the sources of capital, i.e. of the loans and the authorised share capital and equity.

The cost of the equity is interesting for evaluating any investment project, both in financing from equity, as well as mix financing (equity and loan capital).

The cost of the loan capital varies with the capital demand and offer, the length of the loan, the importance of the credit for the one who needs it, etc. The sums, which are paid for loans, vary a lot, sometimes reaching very high rates.

The global cost of the capital (equity and loan), regarded as a hope for paying the capital investors (shareholders and creditors), actually expresses the market value of the firm.

We can conclude that the expenses or the cost of the loan capital are measured mainly by interest and the cost of the equity by dividends. Thus, the sum of the interest represents the cost of the loan capital, and that of the dividends is the cost of the equity, both forming the total cost of the capital.

A problem of great importance in the analyzing and evaluation of financial sources constitute the financial lever effect of capital about the financial costs of company. *"Can the company affect their costs, in a favorable or unfavorable way, by the diversity of the financial sources used?"*¹⁹⁸,

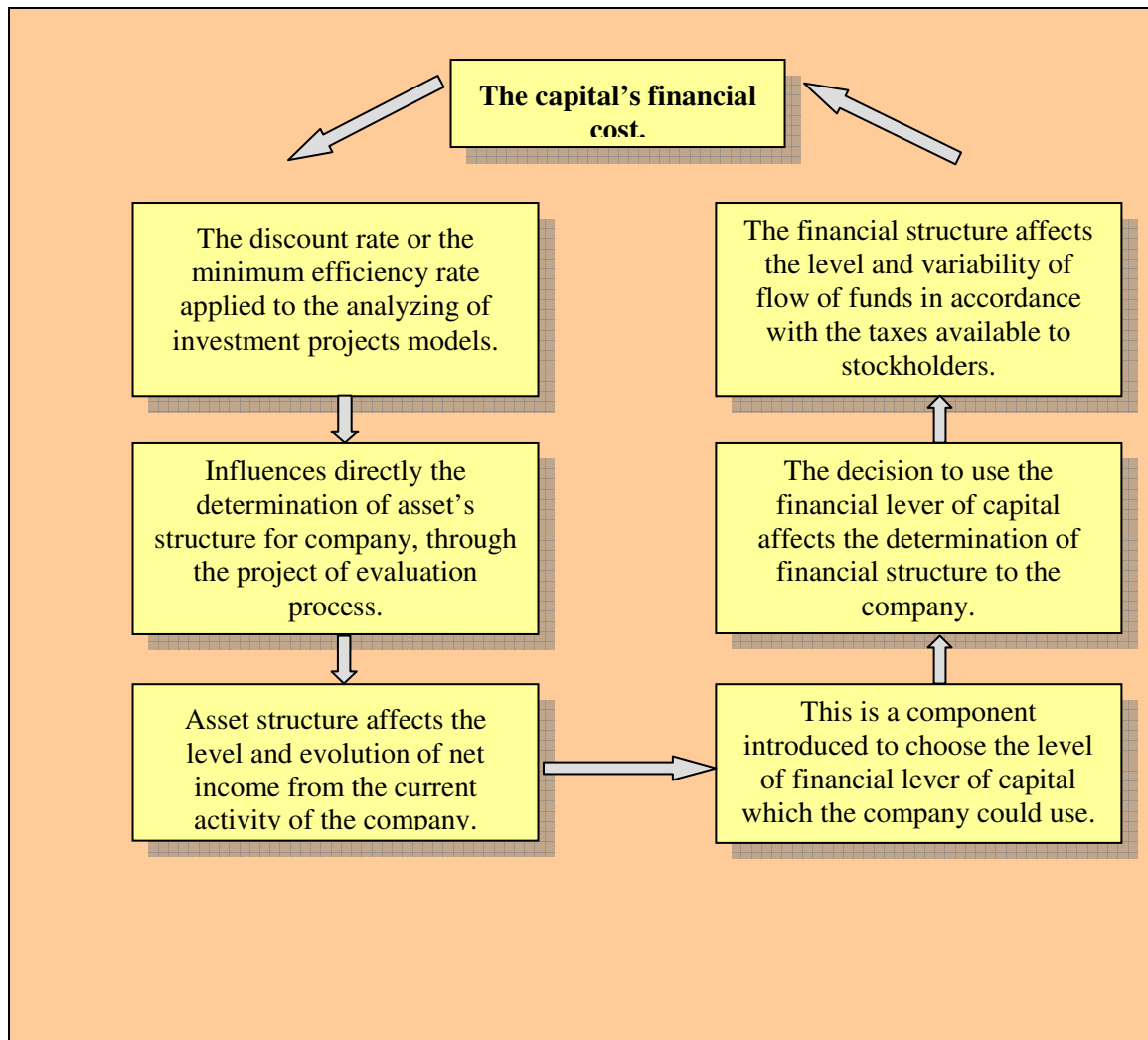
The financial cost keeps a direct bundle between the elaborating of capital structure and his financial structure. Has economic sense that the company tries to minimize the financial cost. The capital costs and the other costs, share a common characteristic in that of they can reduce the dividend size paid to stockholders.

Having in view that the value of an asset depends on the financial results of investments. Now to keep constant all the factors that can affect the asset price is necessary of capital costs. If these costs would be minimized, the stockholder's dividend would be maximized. This thing will go to the maximizing of company's asset price.

If this financial costs can be affected by his capital structure, then the structure management capital is clear an important element of company's financial management. This thing is shown in the next figure¹⁹⁹.

¹⁹⁸ Burton A. Kolb, Richard F. DeMong, Principles of Financial Management, Irwin, 2005

¹⁹⁹ Leopold A. Bernstein, John J. Wild, Analysis of Financial Statement, Dow Jones-Irwin, 2005



The capital's financial cost

The manner of introduction for the analyzing investments of project models from the investments expenses point of view is represented by the financial costs of capital. Next it shall be examined the instruments used in determination of financial structure accordingly to the company. By studying the technical analyze of investments projects, from the investments expenses point of view, it has been reported a “risk” as being a variable associated with the expected income.

The cost of capital account concerns in evaluation of any investment project as much as integral financial from capital account, and mix financial.

The global cost of capital, looked as a capital investors payment hope express the market value of the company. Net cash flow cleared by the company serves for the payment of capital “suppliers”. The creditors have priority to be paid with the interest agreed. The stockholders will be paid, in accordance with “rest role”, with the positive difference left between net cash flow and paid interest, respective net profit. If the net cash flow is smaller or equal with the interest that needs to be paid, then, the value of capital account is naught.

In conclusion, the expenses or *the loan capital is measured through interests, and the capital account costs through the dividend*. Thus, the sum of interest represents the capital account costs, and the interest is the capital account cost, both form the sum of capital cost.

The indexes used to analyze the capital cost (as an efficiency rate claimed by the investors point of view) they are taken from the most known models from financial theory. Thus, for *the capital account costs* it is

used the efficiency after the CAPM model, for the actualization rate (**k**) it is used the Gordon Shapiro model and the financial efficiency (**R_{fin}**).

Thus, the analyze purpose is to offer points of view to ensure the manager's financial decision, and on the base of the investment, representing one of the fundamental index that guides the company's financial activity. In theory they are a lot of analyses under restriction assumptions, from, the analyses in oblige company, the analyses of investment project financed integral from capital account, the analyses of investment project on company's structure.

GORDON & SHAPIRO

$$V_a = \int_0^{\infty} D_t \times e^{-k \times t} \times D_t, \text{ available in continuous time}$$

$$V_0 = \sum_{t=1}^n \frac{D_t}{(1+k)^t}, \text{ available in discrete time.}$$

$$P_t = P_{t-1} + r \times b \times P_{t-1}, \text{ the profit formula.}$$

When $n \rightarrow \infty$, $k = \frac{D_t}{Cb} + \frac{P_{net} - D_t}{VN}$, the value of capital cost in condition of available of the model (the profit growth rate).

V_a – the value of the asset at the moment of foreseeing. The value will be the stock market rate of exchange, not taken count of the incorrect evaluation possibilities by the market. The deductive cost will be compared from the model with the ones obtained through other methods. It is observed that adequate to the calculation methods, the stock market exchange rate it is a future price, the market estimating the expectation of investors in the future flows manner offered by the company. In opposition the accounting value it is a reflection of past events from the company's activity. An eloquent comparison between these two values can be obtained through the comparison between capital cost with the formula from upstairs (k, when $n \rightarrow \infty$) and the financial efficiency decayed in accordance with the formula:

$$R_{fin} = \frac{P_{net}}{Cb} = \frac{D_t}{Cb} + \frac{P_{net} - D_t}{Cb}$$

D_t – the dividend in t period. After the Gordon&Shapiro model the future dividend represents a progression based on D₀- the dividend on past period.

g - increase rate of dividend. In fact, g is the only one from the model of which estimation raises problems. In the model, g represents the product of two terms:

b – the profit distribution rate;

r – the efficiency of reinvested profit rate, the same with the company's efficiency rate.

Taken in consideration, that it doesn't exist a constant in the same rate, it has been chosen g to be the medium increase recorded in a period of time by an action. Taken in consideration that the inflation influences the company's course just through the appearance of differences from reevaluation and the net profit it shall be ignored. Another solution would be the calculation of an index equivalent, taken in consideration the upstairs mentioned influences. The used formula for g will be:

$$g = \sqrt[n]{\prod_{t=1}^n (1+g_t)} - 1, \text{ where } g_t = \sqrt[n]{\frac{C_t}{C_0}} - 1$$

The base parameter of Gordon&Shapiro model, the increase rate g it is very difficult to be obtained on the historic data base. A study on the most transaction companies at BVB example, it takes as to conclusion that they are very uncommon cases of companies with constant increases. The negative values of the increases met in the majority of cases it stumble us to put in practice the described methodology, in which is calculated the increase as a geometric average of a previous values.

Thus it has been chosen a simpler variant, but with more restrictedly and less credible assumptions, calculated as a product between the efficiency rate of reinvested profit and the distribution rate of these,

having doubt about the truthfulness of the conclusions because of big differences registered from one year to another. The data from the columns with financial efficiency and the capital cost of k can be used more in comparison between the market's rate of exchange and the accounting values of assets.

Another mechanism can be underlined on the data base from this table is the attribution method of dividend. In a country with capital market developed, the dividend is one of the principle demands of stockholders, and the companies pay sometimes the dividend from the reserves so that they wouldn't challenge variations of courses. The strict "mathematic" loses the value in Romania's case. Most investors on the Romanian capital market follow the rapid increase of course or they don't follow under any form a direct profit being strategic investors. Thus, in over 50% of cases, the dividends of the most important companies are 0. Sometimes the profit is missing, some other times because is insignificantly size that don't justifies the expenses shown on the occasion of their agreement.

All this difficulties can be suppressed through capital market development from Romania and the fundamental reorganization of these. The main premise necessary to be carried out is the increase of the investor's interest, an impossible thing to achieve without a base of viable companies, with an investment policy and transparent development. Thus, will be solved an important problem: market liquidity who through it's consequently affects the stock market. It has been believed that all of this will happen along with the economic development which will offer the fundamental of competitive capital market.

CAPITAL ASSETS PRICING MODEL (CAPM)

$$R_i = R_d + (R_{PB} - R_d) \times \frac{\sigma_i}{\sigma_{PB}} \times \rho_{iPB} \quad \text{or} \quad R_i = R_d + (R_{PB} - R_d) \times \beta_i^{200}$$

R_d – interest rate at the bonds issued for three months. For the data compatibility it shall be transformed the data equivalent rates in annual percents. Another problem is the existence on the same period of two types of bonds: interest bearer and the discount issued ones. The problem is that an efficiency calculation for each of these bonds goes to different results. An explication would be the restrictive access of a type of bonds. If would exist issues of both types for each analyzed period it shall be chosen the average to be a possibility of an alternative investment. When the rates are different it shall be chosen an average rate.

R_{PB} – the efficiency of stock market. As a principal index it shall be used the BET index value for the

$$R_{PB} = \frac{I_t - I_0}{I_0}$$

analyzed period. The efficiency it shall be calculated after the formula:

Where: I represents the index value at different moments (0, t). This calculation sits at the compatibility base of this rate with the rest of indexes, all of the rates being expressed in annual percent.

$\sigma_i \times \sigma_m \times \rho_{im}$ **sa** σ_{im} - Co variation between the market efficiency's evolution and that of the analyzed title. It will be calculated on the base of two series of data, one of the market efficiency rallied in weeks average, and one of efficiency calculated on the base of stock exchange rates after the market's efficiency model. The period taken in calculation is of 18 months, equal to almost 75 weeks indexes.

σ_{PB}^2 - The variation of market efficiency in the analyzed period.

β is obtained reporting the co variation of market title at the market variation. In the previous estimations is considered to be constant.

R_i – asked efficiency. This obtained efficiency from the CAPM model can be used at the establishing of a balance course which through it's comparable with the market ones can lead to results that can offer a serious base of analyzing the market parameters. In the normal way the fair value represents a reper for the market's future evolution and for manager's decisions.

For the application of CAPM model is necessary to take over the data about an efficiency analyze of bonds with a three months term, which can be adapted after a period of 40 weeks. A problem to be solved was a comparison calculation of the two efficiencies that intervene in CAPM and the chosen of a period when the

²⁰⁰ Sharpe, Williams „Capital assets pricing: a theory of market equilibrium under conditions of risk”, The Journal of Finance, vol. XIX, no.3, September, 1964;

market efficiency outruns the bonds. This choice restricts the application of correct payment assumptions of the risk by the market; it has been considered next the assumption that all the investors are sensible at risk and ask a payment accordingly to this one. The analyzed period can be chosen on the upper method (efficiency without risk is smaller than the market one) and after the actualization data, being chosen the last month that carried out all conditions.

It has to underline the situation of companies depending on the way of period chosen, a period much longer that could eliminate from the graph some companies, and another period could change completely the sample's configuration. Intuition, the companies from BET calculation would "resist" at any change, the others not appearing constant in the samples about the most transactionated companies.

The situation of the rate of exchange – accounting value report makes difficult the analyses of calculated costs after the Gordon&Shapiro method, but after CAPM too. At the calculation of these indexes the purpose was to find the capital casts that could be drowned from the market. As long as is out of discussion a financial source, because of the small price offered by the market for a new asset, the calculation doesn't find a practical utility, the calculated costs loses its significance. More, the lose of market liquidity, materialized in the price difference of offer-demand, don't take in consideration the significance of the sum which the stockholders are willing to pay per asset. From most of ways, the rate of exchange formation mechanism is based on a level where the interest disappears for the asset's sale; in general the buyers follow the profit from the missing of liquidity's demand offering always smaller prices. Like an example, it is offered a rate of exchange differences registered at the public offers of buying, that overtakes at a price that outruns few times the market price. This differences increase the supremacy of diversity of interests about the investment one.

The CAPM study shows the influence of market evolution on the principal assets on the market. Important in this study is beta obtained for each asset. It's previous use of beta in calculation of efficiency asked explicit by investors doesn't offer any useful results for conclusions. The efficiency list obtained doesn't resist to any significantly testing. Comparing the normate efficiency CAPM with the ones obtained by investors it sees the weak connection materialized through the big dispersion of results.

The calculation of beta was established taken in consideration the two measurement indexes of market efficiency: the BET index and the BET-C index. The justified choice of the parallel measurement of market efficiency forms is given by the inconvenience met at the two market indexes: BET is a restrictive representation (only ten companies) and the BET-C has in his calculation a series of companies of which the liquidity is minimum, some not being transactionated for markets. As expected, the results were completely different, each one reflecting a different face of reality.

In the calculation of beta's case on the co variation of assets base: with BET rate of exchange, all companies that comes in the index calculation have registered positive values and at near majority 1 (Dacia's- 0,890674, Terapia-0, 67948). At some assets the market increase period has dovetails with a faster growth of exchange rate, the beta value being more up then the normal level (ALRO Slatina-2, 48015, Arctic Găești- 4, 28626). In the other companies case the beta index has known a large scale of values, the conclusion being that not the evolution of BET index establishes significant variation in the assets rate of exchange.

When the market efficiency is considered to be the BET-C it is observed a bigger spreading of values, more than half mark evolution of exchanging rate in reverse way the market evolution. In an ensemble observation, the majority of companies negative correlated with BET-C are positive correlated with BET. A study of these two indexes specific feature on the analyzed period takes at the conclusion of a superior variation of the calculated efficiency on the base of BET index (0,040233) given by BET-C (0,009502), co variation between the two indexes being positive (0,01709). This aspect can be interpreted as a variation in the same way of indexes. The BET-C index being calculated on a bigger base of assets, lots of them having immobile rate of exchange, is less mobile then BET, has in essence only transactionated assets.

In Romania, the transparency and the completitude of financial information are in continuous development, but they found in the incipient phase. Thus, to have a necessary detailed information for the elaboration of a global study must be taken real information of financial indexes that should dovetail in the fundamental way with the one asked by theory. The main problem that it has to meet and offered as an example is the publishing of data about the debt and expenses with the rates. Thus the debts are not detailed after their nature in financial and exploitation, the majority of information referring generic to the sum of debt. In the expenses case, from the total of expenses are distinguished only the exploitation expenses, but for a

fundamental analyses of loan capital costs is necessary a detail at the credit contracts level with the banks, about what the data are practically non existing.

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