INFLUENCE OF THE INVESTMENT DECISIONS ON THE RETURN OF THE COMPANY

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We propose in this study, to make an analysis of the influence of the investment decision on the return of the company. The goal of our research is the quantification of the influence of investment activity on profitability. Fulfilling such a goal has forced us to research the existing literature in this field, both in our country and abroad, ascertaining the existence of a unitary meaning of the criteria for investment projects' evaluation.
Of course, the realization of such research was possible only after close consideration of the opinions expressed in the relevant literature on this area.
Our research aims to be a theoretical-applied one. It is based on comparisons we make between the two criteria for assessing investment projects namely: that of net present value (VAN) and internal rate of return (RIR). By creating a suite of phase calculations, based on information from economic and financial documentation of corporate investments, we separated the influence of the policy investment decisions on profitability. We are convinced that the most accurate determination of the influence of policy investment decisions on profitability helps the financial management, facilitating the process of adopting the most appropriate policy decisions that ultimately leads to the objectives formulated by the financial policy.
The result of our research is the quantification of the influence of investment policy decisions of the firm on profitability.

Key words: politics, investment decisions, evaluation criteria, updated net income, internal rate of return, influence.

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1. Introduction

Investment activity always involves risk taking to achieve a certain gain in the future, called the expected gain. The gain is called expected gain for reasons of uncertainty, as we don't know for sure what the result of the investment will be tomorrow, or next year.
With respect to investments in real assets, productive, the gain recorded by these can appear as a gain rate (usually the internal rate of return) and as the absolute value of earnings such as the net present value of cash flows generated by investment project over its period of life.
Given the influence of time factor for the development of investment processes, we could not ignore the update on future value on quantifying the effects and effort of the investments.
Through the conducted research, we tried to answer the question: to what extent do the investments affect the company`s profitability and, ultimately, its fundamental purpose, which is the maximization of its market value.
The research results and the conclusions that we reached show that investments are the major route of modernization of business activities, to strengthen the position on the market in the specific field of activity, to increase investor's confidence in the company's activity.

2. Methods of evaluation of investment projects

Whether we face the situation to determine the rate of earnings or its absolute value for a specific investment to be made, the values we work with can only be expected or estimated, as we face uncertainty about the value of cash flows that the project will generate in the future. If we can

determine a set of states or possible events to occur in the future by attaching probabilities to each of them, estimating the obtaining of certain cash flows, we are in the position to determine the expected gain of an investment. In other words, we can move from a non-quantifiable situation, defined by uncertainty to a quantifiable one, defined by risk.

Reputable economists (Flouzat and Pondoven 2004: 313; Helfert 2006:251; Cistelecan 2002: 319; Binţinţan 2005: 105; Todea 2006: 52), both foreign and national authors argue that, theoretically and practically, the most well founded and robust criterion for the selection of effective investment projects is the one of net present value = VAN, respectively, the added value that new investment projects "promise" to bring to the existing value of the company. Selecting the best investment projects will be made in relation to maximizing the net present value.

The added return that the investment projects with maximum VAN bring in relation to the normal rate of return will help to maximize the enterprise value, the property of investors and therefore, the realization of the major objective of the company. Complementary to net present value, the most efficient investment projects have also internal returns (RIR) greater than the average money market return, chosen as reference.

The evaluation of selecting the most effective investment projects appeals to the following model for calculating the net present value (also known under the name of updated net income VNA (Binţinţan 2005: 105)):

$$VNA = \sum_{h=1}^{n} [V_h \quad (C_h' + I_h)] \times \frac{1}{(1+a)^h}$$

where: - VNA - updated net income;

- V_h – income in year "h";
- C_h - operating expenses (excluding depreciation) in year "h";
- I_h - investment in year "h";
- $\frac{1}{(1+a)^h}$ - the update factor.

The condition of efficiency provided by a project in terms of this indicator is to accept all project versions whose VNA> 0, at an appropriate update rate.

Internal Rate of Return (RIR) - is that update rate for which the updated value of revenues equals to the updated value of costs, so the ratio revenue / cost is equal to 1 and the updated net income is zero. RIR calculation is done by successive approximations in the sense that we determine the VNA at an appropriate update rate, considered as minimum rate for which, the VNA must be positive. Then, we determine VNA at an update rate higher than the minimum rate and high enough to obtain an updated negative net income. Finally, the exact calculation of RIR (Binţinţan 2005: 105) is achieved by interpolation, as follows:

$$RIR = R_{min} + (R_{max} \quad R_{min}) \times \frac{VNA_{(+)}}{VNA_{(+)} + \left|VNA_{(\ )}\right|}$$

where: - R_{min} - the minimum update rate;

- R_{max} - maximum update rate;
- $VNA_{(+)}$ - positive updated net income obtained at the minimum rate;
- $VNA_{(-)}$ - negative updated net income obtained at the maximum rate.

As the internal rate of return is higher, the project is stronger, more viable and the economic efficiency is higher.

The efficiency requirement of a project, seen in terms of RIR, is that it should be higher than the updated rate required by the efficiency level currently existing in the economy. If there are more project versions with different internal rates of return, we will choose that option which has the highest RIR.

3. Determination of the influence of investment policy decisions on the firm profitability

Given the reasons above and taking into account the fact that following the economic and financial analysis of investment projects, the company will retain in its portfolio only those elements that meet the used efficiency criteria, we intend to show how investment activity of SC Alfa SA has influenced its overall profitability.

A special place in the company's concerns is occupied by the development and implementation of a rigorous and structured investment program. Through the investments included in this program the company has tried to answer the most pressing and current needs of production and marketing of their domestic and export products. Throughout the period under review, in the investment program, there can be performed a number of shaped upgrading works to buildings with directly productive and administrative spaces. A special place is occupied by the purchases of machinery and technological equipment of high technical level, aimed at the upgrading of the production flow, at raising the quality of products, at the absorption in manufacturing of new products and upgrading existing products.

Such an investment program of the company had as purpose the increase of the physical volume of production and of the quality level of products in terms of relative stability in sales prices (even if in the analyzed period the cost of utilities increased).

Our research intends to highlight how this program of investment influenced the increase of the overall economic efficiency of the firm and in a direct manner, the positive influence on financial profitability.

For this purpose, we used the model of computation based on the VNA and RIR on which we made some previous considerations.

To determine the internal rate of return on investments made by SC Alfa SA, we used the information taken from the technical-economic documentation of investment projects, carried out within the analyzed period.

After we watched on each investment project the net present values and internal rates of return, sizes calculated with the occasion of the decision to implement those projects, we proceeded to the calculation of average size of VAN and RIR for all the investments included in the program for each year of analysis of activity.

We synthesized (Table. 1) the information on the ongoing of the investment process during the review period:

Table no. 1

Summary of information on accomplished investments

No.	Indicators	Symbol / Method of calculation	UM	The period of analysis				
				2007	2008	2009	2010	2011 preview
1.	Total Investments	It	Thousand lei	9.391	14.447	8.367	1.616	2.778
2.	Total expenditure	Cht	Thousand lei	67.064	88.969	80.955	92.046	101.251
3.	Net profit	Pn	Thousand lei	8.094	8.058	5.849	5.170	5.816
4.	**General Return Rate**	**Rrg = Pn/Cht**	**%**	**12,07**	**9,06**	**7,23**	**5,62**	**5,74**
5.	**Internal rate of return on investment**		**%**	**32,51**	**35,83**	**19,83**	**20,69**	**23,16**

Source: own calculations made, based on technical-economic documentation

We included in the above table the information on calculating the rate of overall profitability for possible future comparisons between total expenditure and investment expenditure, which have the same economic content. We note that in the company's total costs there are included the investment spending each year of the analysis period. Consequently, in the total income, there are included the incomes generated by the operation of realized investment.
Separating the two figures of sizes, and attaching them the appropriate returns, we obtain the following data (table no. 2):

Table no. 2

Information derived from the decomposition of indicators

No.	Indicators	Symbol / Method of calculation	UM	The period of analysis				
				2007	2008	2009	2010	2011 preview
1.	Total expenses exclusively the investment expenses	Ct'	thousand lei	57.673	74.522	72.588	81.195	99.063
2.	Total revenue exclusively investment generated	Vt'	thousand lei	-	81.452	78.055	85.636	105.836
3.	Gross profit	Pb'	thousand lei	-	6.930	5.467	4.441	6.773
4.	Taxes on profit	Chi'	thousand lei	-	1.122	1.155	1.035	1.578
5.	Net profit	Pn'	thousand lei	-	5.808	4.312	3.406	5.195
6.	**General Return Rate (exclusively investments)**	**Rrg' = Pn'/Cht'**	**%**	**-**	**7,79**	**5,94**	**4,30**	**5,24**
7.	Operating expenses associated with investments placed in service	Cexpl.i	thousand lei	-	13.241	8.000	11.235	2410
8.	Revenues generated from investments placed in service	Vi	thousand lei	-	17.373	10.315	13.152	3000
9.	Gross profit from investments	Pbi	thousand lei	-	4.132	2.315	1.917	590
10.	Taxes on profit for investments	Chiinv.	thousand lei	-	550	430	408	101
11.	Net profit of investments	Pni = Pbi – Chiinv	thousand lei	-	3.582	1.885	3.509	489
12.	**Return rate on investment activity**	**Rri = Pni/Cexpl.i**	**%**	**-**	**27,05**	**23,56**	**31,23**	**20,29**

Source: own calculations based on information from economic and technical documentation

Analyzing the data in the table above we can conclude that without achieving the ambitious investment program to which we referred earlier, the company had achieved a much lower return. The fact that the performance indicators calculated by us on the basis of technical and economic documentation of investment projects have been implemented in practice, almost to the pre-calculated level, have led to increasing the overall efficiency of the company and have generated returns in years when, without the investment, the return would be lower.
Comparing the return on investment activity (row 12 in Table no. 2) with the internal rate of return on investment (row 5 in Table no. 1), we see a consistent size difference in favor of the

latter. This is explained by the fact that while the overall return on the investment activity is calculated annually, by taking into account the operating expenses generated by investment, the internal rate of return is calculated once in the implementation year of investment projects and it considers the entire economic life time of new capacity into operation. In the size of the internal rate of return on investment there can be felt the influence of the fact that during the years of economic life, the functioning capacities touching in a relatively short time the designed techno-economic parameters, the effects arising from the investment are greater than the effort involved in the productive exploitation of a completed investment.

The pieces of information taken from Table no. 2 strengthen our conviction that aside from the beneficial effect on profitability, induced by the accomplishment of investments, the quantitative, qualitative and other factors influenced their action on the evolution of company`s profitability. Sometimes, the action of these factors is so intense that it can diminish the positive effects of investment on company`s profitability.

In order to try to quantify the positive influence of investment on firm`s profitability, we proposed the following data analysis (Table no. 3):

Table no. 3

Evolution of return expressed in coefficient

No.	Indicators	Symbol / Method of calculation	UM	The period of analysis				
				2007	2008	2009	2010	2011 preview
1.	Return rate of investment activity	Rri = Pni/Cexpl.i	%	-	27,05	23,56	31,23	20,29
2.	General Return Rate	**Rrg = Pn/Cht**	%	12,07	9,06	7,23	5,62	5,74
3.	General Return Rate (exclusively investments)	**Rrg' = Pn'/Cht'**	%	-	7,79	5,94	4,30	5,24
4.	Coefficient of evolution of overall profitability rate	**KRrc**	nr.	-	0,75	0,80	0,78	1,02
5.	Coefficient of overall return rate (exclusively investments)	**KRrc'**	nr.	-	-	0,76	0,72	1,22

Source: own calculations based on data from previous tables

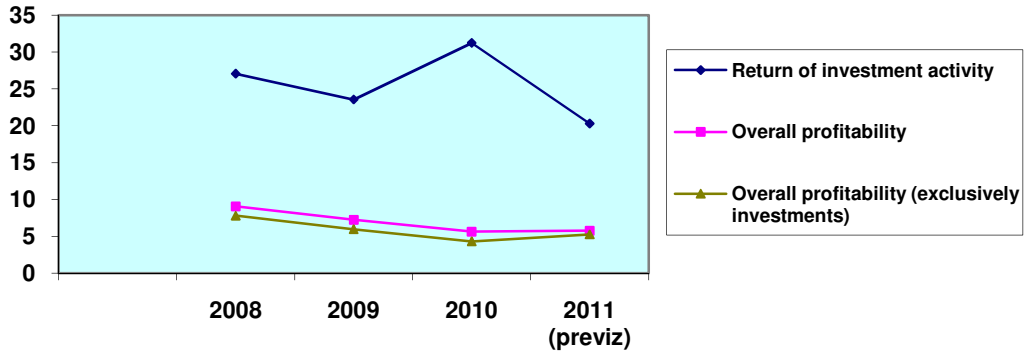

Chart no. 1. Evolution of overall profitability, of overall profitability rate (exclusively investment-related) and the profitability in investment activity

Analyzing the data presented in Table no. 3 and following the Chart no.1 of the evolution of indicators throughout the analyzed period, we can highlight two phenomena, namely:

- the high rate of return on investment activity (row 1 of table no. 3.) can be argued through the fact that the company agreed to achieve and to fund only the projects that have gone through the "mesh" of financial analysis;
- by comparing the rate of the overall profitability of business activity, excluding the effort and the related effect of investments (row 3 of table no. 3) with the overall profitability rate (row 2 of table no. 3), which includes the coordinates of the investment activity (effect and effort), we find a higher level of the latter. By considering the differences between the two levels of profitability in each of the examined years, we accredit on the positive impact of the performance of the company's investment program.

4. Conclusions

As we previously stated, on the overall profitability of the firm (and hence on the financial return) aside from the investment program, there are other incidental factors, which may exercise a positive influence, such as: fluctuation of exchange rates, fluctuation of interest rate, fluctuations of rates of stocks and bonds on the stock exchange market etc., whose direct influence on the financial profitability of the company is very difficult to quantify through econometric models. Therefore, as required by the economic and financial analysis methodology, which provides the positive influence on the interaction of factors on quality factor, we also affirm that this part of the positive influence can be attributed to the company's investment program implementation.

The positive influence of investment programs conducted by the firm is also due to the fact that the decision to invest was substantiated thorough market studies and based on the consumer trend in relation to the products of the company.

We can draw the same conclusions if we analyze the evolution of positive cash flows emanating from the investing activity. It is argued once again that investments are the main way of boosting the activity of firms and to improve all indicators which reflect the efficiency of the company.

5. References:

Books

1. Flouzat, Denise & Pondaven Claude. *Économie contemporaine. Les fonctions economiques.* Paris: Presses Universitaires de France, 2004;

2. Helfert, Erich, *Tehnici de Analiză Financiară-ghid pentru crearea valorii.* Bucureşti: Editura BMT Publishing House, 2006;

3. Cistelecan, Lazăr. *Economia, eficienţa şi finanţarea investiţiilor.* Bucureşti: Editura Economică, 2002;

4. Binţinţan, Petru. *Strategii şi politici de investiţii.* Cluj-Napoca: Editura Casa Cărţii de Ştiinţă, 2005;

5. Todea, Alexandru. *Investiţii.*, Cluj-Napoca: Editura Casa Cărţii de Ştiinţă, 2006.