THE FACTORIAL ANALYSIS OF THE ECONOMIC VALUE ADDED (EVA) WITHIN A COMPANY FROM THE ROMANIAN SEASIDE HOTEL INDUSTRY

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ABSTRACT
In this paper we aimed to show that the only indicator that can provide solutions at the operational level of a company is the economic value added. That is why we focused on the factorial analysis of this indicator, trying to highlight the influences that the economic value added determinants had on value destruction in the analysed company.

KEY WORDS: the factorial analysis; the economic value added; weighted average cost of capital; return on invested capital.

JEL classification: M41

1.Introduction

The factorial analysis reveals primary causal relationships underlying the formation and evolution of an economic phenomenon, as well as the factors that interact and influence this phenomenon in different proportions.

The factorial analysis is a very relevant analytical approach and also gives maximum objectivity for obtained results. The factorial analysis also outlines precisely sides that are less effective in an enterprise activity on which an enterprise management must take responsibility and act with professionalism.[1]

The factorial analysis is a statistical analysis tool that allows the use of multiple factors (variables) for the operationalization of the concept. It is an inductive causality analysis tool that highlights groupings and suggests cause and effect relationships.

The strategies and policies made by management structures have an important share in underlying and developing the company's activities. Materialized in forecasts, they are at the core of the development of every company, their contribution often depending on the effectiveness of interface with the over-systems to which it belongs, so that they maintain and increase their market share and their profitability.

The economic value added is the only indicator that can provide solutions at the operational level of a company. Through the factorial analysis aims to determine the change in the economic value added as against the value of the basis of comparison, the contribution of factors influence change and identify measures to revive economic activity.

In order to highlight the importance of the factorial analysis EVA assessment method, we performed a case study on SC ALFA SA. In order to illustrate how to measure the value created/destroyed for shareholders, we used a number of indicators found in most of the reports published by a company listed on the stock exchange.

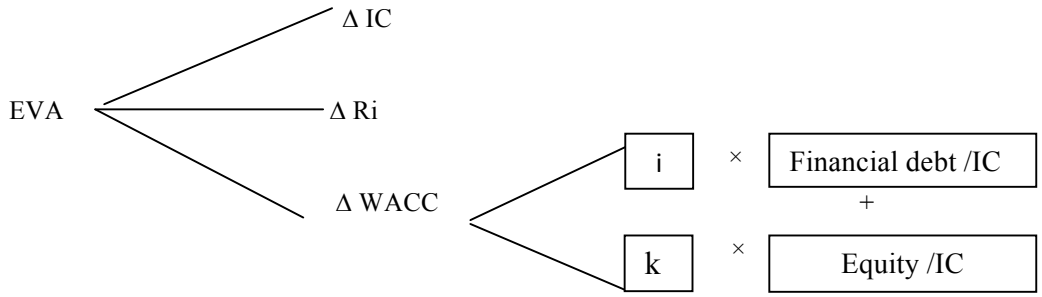
There are companies which operate and report outstanding performance as in the example of the company referred to in the case study, company which, however, does not create value; in fact, it destroys the existing one. Regarding ALFA SA, it is a representative company which, according to BSE Bucharest reports, has registered positive financial results in accordance with the classical methods assessing company performance.

2.The factorial analysis of the economic value added at SC ALFA SA

The factorial analysis of the EVA is based on the following equation: [4]

$$EVA = (Ri - WACC) * IC \quad (1)$$

Figure 1. Model of the EVA factorial analysis



where:
EVA = the economic value added
Ri = Return on Invested Capital;
Ri = Net operating profit / IC
WACC = weighted average cost of capital
IC = Invested capital
i = financial debt remuneration rate;
Equity / IC = the weight of equity in the invested capital
Financial debt / IC = weight of financial debt in invested capital

In this analysis we present the factors leading to the decrease or increase of the EVA.

The factorial analysis of the EVA was made for the timeframe n – (n+4), informational base is contained in Table 1 and 2. Tables include information on the basic indicators adjusted for the calculation of the EVA indicator. The exemplification of the calculation was based on the data from the company's annual financial statements, adjusted according to the calculation method.

Table 1. EVA calculation model at SC ALFA SA, for the timeframe n - (n+4)

(thousands euros)

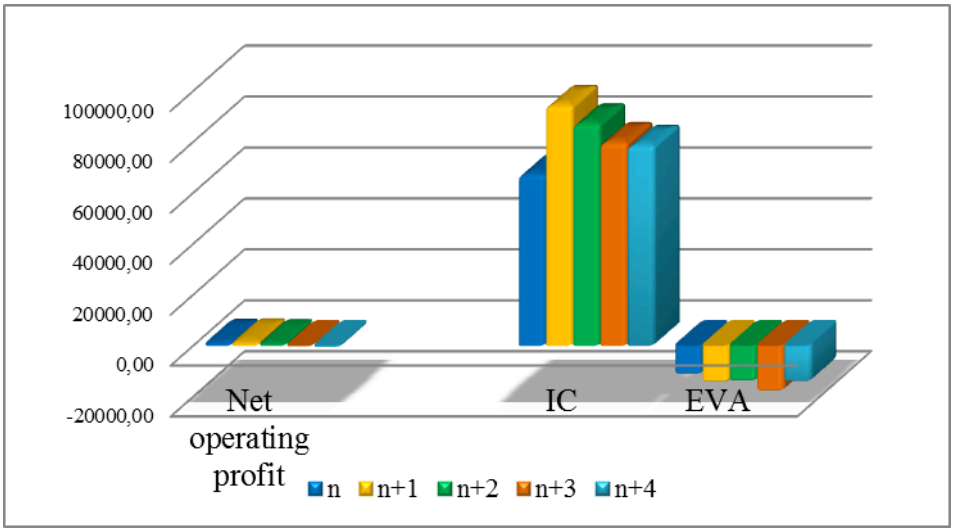
Indicators	measure	n	n+1	n+2	n+3	n+4
Profit on turnover	thou. euros	1238	1461	797	-300	-905
Tax rate	%	17.60	16.29	13.65	-	-
Net operating profit	thou. euros	1020	1223	688	-300	-905
Invested capital (IC)	thou. euros	66456	93582	86322	79033	77887
Return on Invested Capital (Ri) Ri = Net operating profit / IC	%	1.53	1.31	0.80	-0.38	-1.16
WACC = i(1-Ptr / 100) * Debt / IC + COE * Equity / IC	%	19.82	17.52	17.93	23.29	18.22
i= financial debt remuneration rate	%	3.02	6.77	8.77	21.60	22.61
COE = Rf + β * Smrp	%	20.02	17.59	17.99	23.33	18.21
Risk-free interest rate (Rf)	%	7.75	7.18	7.76	9.98	6.96
Volatility coefficient (β)	%	1.50	1.50	1.50	1.50	1.50
Market risk premium (Mrp)***	%	8.18	6.94	6.82	8.90	7.50
Weight of financial debt in the invested capital	%	1.14	0.63	0.53	0.83	1.02
Weight of equity in the invested capital	%	98.86	99.37	99.47	99.17	98.98
EVA = (Ri - WACC) * IC	thou. euros	-12152	-15168	-14792	-18704	-15094

*** This is the country risk premium, based on the data provided by http://pages.stern.nyu.edu/~adamodar/. [2]

Table 2. The comparative presentation of indicators for the timeframe n-(n+4) (%)

Indicators	n+4/ n+3	n+3/ n+2	n+2/ n+1	n+1/ n
Profit on turnover	301.74	-37.61	54.57	118.03
Tax rate	-	-	83.75	92.60
Net operating profit	301.74	-43.55	56.30	119.89
Invested capital	98.55	91.56	92.24	140.82
Return on invested capital (Ri) Ri = Net operating profit / IC	306.18	-47.56	61.03	85.14
WACC = i(1-Ptr/ 100) *Debt/IC + COE *Equity/IC	78.23	129.85	102.39	88.37
i = Interest expenses / Financial debt (financial debt remuneration rate)	104.70	246.43	129.43	224.26
COE = Rf + β * Mrp	78.05	129.68	102.27	87.86
Risk-free interest rate (Rf)	69.74	128.61	108.08	92.65
Volatility coefficient (β)	100.00	100.00	100.00	100.00
Market risk premium (Mrp)	84.27	130.50	98.27	84.84
Weight of financial debt in the invested capital	122.30	157.22	84.30	55.16
Weight of equity in the invested capital	99.81	99.69	100.10	100.52
EVA = (Ri - WACC) * IC	80.70	126.44	97.52	124.82

Graphic 1. EVA for the timeframe n – (n+4) at ALFA SA



Source: The data from Table 1

2.1.Timeframe: n+1/n

The global change of the indicator is:

$$\Delta EVA = EVA_{n+1} - EVA_n = -3016159 \text{ euros}$$

The influence of factors:

1. The influence of the invested capital (as an indicator for assessing the development of the company)

$$\Delta IC = (IC_{n+1} - IC_n) \times (Ri_n - WACC_n) = -4960220 \text{ euros}$$

2. The influence of the rate of return on investments

$$\Delta Ri = (Ri_{n+1} - Ri_n) \times IC_{n+1} = -213390 \text{ euros}$$

3. The influence of the average return rate of the capital used by the company

$$\Delta WACC = -(WACC_{n+1} - WACC_n) \times IC_{n+1} = 2157451 \text{ euros}$$

It is noticed that during the timeframe n - (n+1), the economic value added registered a negative value of 3016159 euros, due to the influence of the rate of return on investments, which registered a negative value of 213390 euros. It is further noticed an increase of 40.82% of the invested capital and an increase of only 19.89% of the net operating profit in n+1 compared to n. Even if the weighted average cost of capital had a positive value of 2157451 euros, it could not positively influence the variation of this indicator.

2.2.Timeframe: n+2/n+1

The global change of the indicator is:

$$\Delta EVA = EVA_{n+2} - EVA_{n+1} = 376010 \text{euros}$$

The influence of factors:

1. The influence of the invested capital

$$\Delta IC = (IC_{n+2} - IC_{n+1}) \times (Ri_{n+1} - WACC_{n+1}) = 1176818 \text{ euros}$$

2. The influence of the rate of return on investments

$$\Delta Ri = (Ri_{n+2} - Ri_{n+1}) \times IC_{n+2} = -439532 \text{ euros}$$

3. The influence of the average return rate of the capital used by the company

$$\Delta WACC = -(WACC_{n+2} - WACC_{n+1}) \times IC_{n+2} = -361276 \text{ euros}$$

It is noticed that, during the timeframe (n+2) – (n+1), the economic value added registered a positive value of 376010 euros, due to the negative influence of the rate of return on investments, with the negative value of 439532 euros. It is also noticed a decrease of the invested capital (7.76%) and of the net operating profit (43.70%) in n+2, compared to n+1.

2.3.Timeframe: n+3/n+2

The global change of the indicator is:

$$\Delta EVA = EVA_{n+3} - EVA_{n+2} = -3911743 \text{ euros}$$

The influence of factors:

1. The influence of the invested capital

$$\Delta IC = (IC_{n+3} - IC_{n+2}) \times (Ri_{n+2} - WACC_{n+2}) = 1249026 \text{ euros}$$

2. The influence of the rate of return on investments

$$\Delta Ri = (Ri_{n+3} - Ri_{n+2}) \times IC_{n+3} = -930022 \text{ euros}$$

3. The influence of the average return rate of the capital used by the company

$$\Delta WACC = -(WACC_{n+3} - WACC_{n+2}) \times KIC_{n+3} = -4230747 \text{ euros}$$

It is noted that during the (n+3) – (n+2) timeframe, the economic value added registered a negative value of 3911743 euros, due to the influence of the rate of return on investments, with the negative value of 930022 euros. It is also noted a decrease of the invested capital (8.44%) and of the net operating profit (143.55%) in n+3, compared to n+2. Even if the weighted average cost of capital had a negative value of 4230747 euros, it could not positively influence the variation of this indicator.

2.4.Timeframe: n+4/n+3

The global change of the indicator is:

$$\Delta EVA = EVA_{n+4} - EVA_{n+3} = 3609918 \text{ euros}$$

The influence of factors:

1. The influence of total assets (as an indicator for assessing the development of the company)

$$\Delta IC = (IC_{n+4} - IC_{n+3}) \times (Ri_{n+3} - WACC_{n+3}) = 271146 \text{ euros}$$

2. The Influence of the rate of return on investments

$$\Delta Ri = (Ri_{n+4} - Ri_{n+3}) \times IC_{n+4} = -609111 \text{ euros}$$

3. Influence the average return rate of the capital used by the company

$$\Delta WACC = -(WACC_{n+4} - WACC_{n+3}) \times IC_{n+4} = 3947883 \text{ euros}$$

It is noticed that during the (n+4) – (n+3) timeframe, the economic value added registered a positive value of 3609918 euros, due to the negative influence of the rate of return on investment (609111 euros). However, while the invested capital decreased by 1.45%, the net operating profit increased by 201.74% in n+4, compared to n+3. Even if the weighted average cost of capital had a positive value of 3947883 euros, it could not positively influence the variation of this indicator.

Conclusions

Also, in the case of hotel companies, we can make an analysis based on modern indicators, in order to quantify the financial and economic performance.

The necessity of value creation indicators comes from the limits of the performance measurement indicators that are based on accounting information, including: the necessary adjustments for comparability (by applying different accounting treatments), the non-reflection of the risk and the non use of the opportunity cost of equity.

In order to calculate the indicator EVA, there was necessary to calculate a series of indicators, such as: the cost of equity, the cost of debt, the average cost.

Within this analysis, it is noticed throughout the study that the company succeeds to earn enough in order to cover the cost of the financial debt and the opportunity cost of capital. Within the analyzed company, the EVA indicator has a negative value throughout the entire study, which shows that the company does not cover the capital cost from the achieved operational results. This destruction of value is determined by the fact that the efforts to pay capital are much higher than the operational result.

In other words, we find that this hotel companies lose money, even if they register a positive sheet record.

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