

ECONOMIC VALUE ADDED AND STAKEHOLDERS' INTERESTS

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Abstract. *The value creation is the major objective of companies' functioning. It aims at meeting the general interests of stakeholders. The shareholders are directly interested by value added as they can recover the investments made and obtain the expected profit. Managers and the other employees are motivated through certain salary incentives to act for creating value. The general interest of national economy to increase the value created is due to the fact that this indicator is the main condition for raising the standard of living and quality of life. This is why, the analysis of economic value added created by companies and identification of factors which can influence it, is an important element in the process of substantiating the managerial decisions and investments options. There are different methods that can be used to measure the companies' performance in the process of value creation but sometimes they provide contrary or partially information. The paper presents the indicator Economic Value Added which can be used both to substantiate the strategic and operational decisions and assess the results of their implementation. The case study presented in the paper is a theoretical and practical tool to analyze this indicator and evaluate the influence factors that determined its manifestation. The findings highlight some directions to act for increasing the Economic Value Added according with the stakeholders' interests. The paper contributes in a theoretical and practical way to academic debate through proposing an analysis model which is based on the DuPont equation. Information provided by it, constitutes important arguments to shift the traditional view of appreciating performance with profit, in favour of adopting a value created oriented corporative philosophy, which concerns the cost of all capital sources. The management based on economic value added allows increasing performance through the re-modelling of the internal and external investment portfolio, and optimizing the financial structure by minimizing the weighted average cost of capital. However, it does not exclude traditional policy, based on maximum turning to account of internal reserves that influence economic results (decrease of costs, production increase, increase of inventory rotation speed etc.).*

Key words: economic performance, Economic Value Added (EVA), cost of capital, stakeholders' interests

JEL classification : G11, G12, G31, M21

1. Introduction

The value creation is the main objective of companies which can be achieved by the common actions of operational and decisional structures. The efficient utilisation of resources and the financial performance are revealed and evaluated by economic value added in a period of time and therefore all internal components of companies interact in order to create value. This aspect justifies the major decisions and actions in operational, investments and funding areas of business. An integrated perspective on the mechanism of value creation becomes a condition to increase on long-time the economic growth ending with addition of supplementary value and rewards for stakeholders (Helfert, 2003).

Performance assessment based on the "Economic Value Added" indicator provides the supplementary information to evaluate the grade of accomplishment of the stakeholders' interests. They want to achieve a higher profit than the capital cost used in financing resources. Therefore the decisions to finance investments and operational activities aim at the opportunity cost meaning an alternative way to use capital.

The shareholders are directly interested in value creation as this is the payment they expect in return of the capital invested and the risks taken. The strategic objective to increase company performance and new value creation also satisfies the managers' and the employees' immediate interest. It is a guarantee for safe jobs and wages often include clauses on some payment off the company profit or capital share. For a national economy, value creation means the efficient use of the national economic potential and the increase of the gross domestic product that contributes to the increase of social welfare.

The implication of value creation in achieving the stakeholders' interests led to development of numerous concepts and specific indicators which are used to assess the companies' results and manage their activity based on some strategies and operational programmes which aim at value creation. A value creation-based management system was developed, in which decisions are based on the analysis of indicators of company value, out of which the most relevant are: Economic Value Added (EVA), Market Value Added (MVA) and Cash Value Added (CVA).

The current value creation-based company performance assessment changes the traditional perspective on performance, which was measured by the accounting net profit. In this case, only explicit costs were considered to be expenditure, and equities were not considered to generate expenditure. Although the company registers profit but returns in the economy less than it received as resources, then the company does not create value, does not register economic performance and does not satisfy the interest of shareholders that expect payment on invested capital (Drucker, 1995).

This paper intends to present some indicators for evaluation the value created by companies. Although they are present in the specific literature, they are not yet generalized in practice for analyzing the performance in Romania companies and are not taken into consideration by legislation. The case study presented had operationalized the calculus modality of Indicator "Economic Value Added". Interpretation of the indicator evolution justifies its utilisation in assessment of achieving the stakeholders' interests. Use of the DuPont analysis provides the possibility to identify the factors which have a great impact on EVA trend and meanwhile it serves to substantiate some decisions for increasing the companies' performance.

2. Literature review

Accomplishment of the stakeholders' interests through an efficient use of resources and maximization of value creation became an axiom accepted in the economic theory and practice. Utilization of capital cost in assessment the real profit obtained from business was proposed even since the beginning of the last century by Marshall (1920).

A noteworthy step in the methodology of company assessment was to establish the importance of financial structure in assessing economic performance (Modigliani and Miller, 1958). Thus, the theoretical and practical background for the development of modern finance systems was created. Later David Solomon (1965) calculated the economic profit "as the difference between two quantities, net earnings and the cost of capital"

Theoretic and practice fundamental principles concerning the calculus of Economic Value Added were evidenced by Stewart (1991), who highlighted the advantages of managing for value in comparison with managing for earnings. This kind of management directs the strategic and operative decisions towards actions that aim to maximization of shareholders' wealth (Arnold, 2003).

After that, the information superiority of value-oriented indicators in comparison with the traditional performance approaches was tested and evidenced in numerous empirical studies. Ghanbari and More (2007) analyzed the relationship between Economic Value Added and Market Value Added in Indian Automobile Industry. Růčková (2008) analyzed the companies on the Prague Stock Exchange according to the way how they embody EVA and whether these companies have a larger ROE than the costs of equity. A comparative analysis of economic value-added with earnings, cash flow and residual income is made by West and Worthington (1999). Economic Value Added can be used as a metric of performance in macroeconomic analyses. Cachanosky (2009) highlighted the superiority of EVA in comparison with GDP for evaluation the macroeconomic performance. The author considers that EVA utilisation is more adequate than GDP because it takes into consideration the invested capital cost of opportunity.

In Romania there are also many researches who propose utilisation of some indicators to evaluate the amount and mechanisms of value creation. Our previous studies (Burja and Burja, 2010) revealed the relationship between patrimonial resources' management and effects on the Economic Value Added. Circiumaru and Siminică (2009) present a parallel between indicator Refined Economic Value Added (REVA) and EVA and put in evidence the information content of the two indicators. Arguments pros and cons for use of EVA is provided by Vasilescu and Popa (2011) in an ample study. A new approach for financial valuation of business was proposed by Tabără (2010). He showed advantages and limits of EVA and indicated some general directions of actions to increase the companies' performance.

3. Economic Value Added

This indicator has been used on a large scale to assess economic performance 1991. G.B. Stewart reviews the computation of residual income of adjusted accounting data and thus sets the EVA computing methodology.

The most usual method of finding the economic value added is if we calculate it as *economic profit*, as part of net operating profit after tax (NOPAT) determined for a certain period of time, less the cost of capital invested (CKI):

$$EVA = NOPAT - CKI$$

The calculus of the net profit is not problematic in general. However, there are difficulties in determining the cost of invested capital especially as it can be equity or loan capital.

The cost of equity is equal to the rate of earning required by the financiers of the investment projects, be they shareholders or debtors. The minimum return accepted by the shareholders for the equity determines the potential shareholder to buy a share or the existing shareholder to keep it. In financial theory and practice, the accepted rate of return on equity is the interest rate without the risk and a risk premium. The risk that shareholders take can be generated by the variability of macroeconomic indicators (GDP, rate of inflation, interest rate, currency exchange rate), also named systematic risk and/or specific risk due to the enterprise (variability of economic and financial profitability, bankruptcy risk etc.) or the economic sector to which it belongs.

The cost of loan capital equals the loans with the current value of payments on future redemption and interest. A rate, the cost of loan capital generally corresponds to the rate of nominal interest, when redemption takes place once at the end of the period and when taxes are not considered (the calculated cost is pre-taxation) and the expenditure for issuing and operating the loan is not considered.

Weighted cost of capital used is often a weighted average rate based on the structure of capital in the balance sheet liabilities. Weighted average cost of capital (WACC) is the sum of costs for different sources of funding, weighted with a share quota in the total funding:

$$WACC = \frac{KPR}{KI} \times Ceq + \frac{DAT}{KI} \times Cd \quad , \text{ where:}$$

<i>KPR</i>	-	equity;
<i>DAT</i>	-	loan capital;
<i>Ceq</i>	-	cost of equity
<i>Cd</i>	-	cost of debt.

The cost of equity is most often estimated in financial theory and practice based on two models: Gordon&Shapiro and CAPM (Capital Asset Pricing Model). The hypotheses on which these models are built are quite restrictive, but the easy computation makes them frequently used (Stancu, 2002).

The Gordon&Shapiro model implies a constant dividend increase rate. The formula for cost of equity is the following:

$$C_{eq} = \frac{D_1}{P_0} + g, \quad \text{where:}$$

D_1 represents dividends per share for next year;

P_0 - current market value of stock;

g - growth rate of dividends.

According to the CAPM model, a company's cost of equity is influenced by macroeconomic factors: the risk-free interest rate (R_f), return on the market portfolio (R_m), and the risk variation (sensitivity) per share related to the total risk of the stock market (the beta indicator– β , which may be the BET C index for instance). The calculation formula for cost of equity using CAPM is:

$$C_{eq} = R_f + \beta \times (R_m - R_f)$$

Indicator β in this formula has the following meaning: an improper value means that the shares of the company increase or decrease sooner than the market in its whole, they are riskier. On the other hand, a proper value means a lower share risk, as their rate changes slower than the market evolution.

If we determine by g_i the weight of capital categories and by k_i the costs of funding sources, then WACC is determined as follows:

$$WACC = \frac{\sum_{i=1}^n g_i \times k_i}{100}$$

The weighted average cost of capital is seen as an opportunity cost representing the return that capital providers may obtain if the amount is invested in an economic alternative. This opportunity cost should be subjected to significant adjustments according to the future market value of capitals and it should not be considered as alternative option costs discarded at the time when the investment was decided. (Cheremushkin, 2008)

The cost of invested capital is obtained by multiplying the invested capital and the weighted average cost of capital. In this case, economic value added is calculated as follows:

$$EVA = NOPAT - KI \times WACC = \left(\frac{NOPAT}{KI} - WACC \right) \times KI$$

The following relation includes the return on invested capital ($ROIC = NOPAT/KI$). By deducing the cost of invested capitals we obtain a value that shows in relative numbers the profitability increase generated by the operation of the entire capital invested. Economic value added will be obtained if the return on the investment is higher than the weighted average cost of capital. Thus, the company registers a low economic performance and the capitals invested by the shareholders are practically completely used. EVA is calculated as:

$$EVA = (ROIC - WACC) \times KI$$

4. Economic Value Added Analysis. A Case Study

The analysis of indicators characterising a company performance based on the created value must continue with the study of causes determining the evolution of indicators in view of finding solutions that can lead to a constant performance increase. Thus, the shareholders' and the other stakeholders' interests are satisfied. We shall give an example of how the causes influencing value creation can be studied based on EVA.

We have noticed that the created economic value increases along with the increasing difference between the net return on invested capital and the weighted average cost of capital and vice versa. The relative return increase is financial leverage - FL. The outcome of negative investment leverage will be the loss of economic value. A positive value shows that the company is able to produce positive effects for investors. EVA calculated in relation to financial leverage is:

$$EVA = FL \times KI$$

If the influence of sales activities is taken into account, then the created value closely depends on the return ($NOPAT/CA$) and the rotation of invested capital (CA/KI). EVA is calculated as:

$$EVA = \left(\frac{NOPAT}{CA} \times \frac{CA}{KI} - WACC \right) \times KI$$

Understanding how value is created allows managers to base their strategic decisions on the shareholders' interest. The aim is to reshape the investment portfolio and to optimize the financial structure of companies. These decisions are taken under the influence of *factors* determining created economic value and namely:

- the operation profit, which, at its turn, is influenced by operation incomes and related expenditure;
- capital invested in immobilized assets and to cover the need of floating assets;
- the weighted average cost of capital depends at its turn on the size of the loan capital and of the equity, adding the interest rate for loans and the risk-free interest rate and the risk premium required by the investors.

A complex analysis of created economic value starting from the previous relations identifies two major factors influencing created economic value in a decisive manner: financial leverage and invested capital. At its turn, financial leverage is influenced by the weighted average cost of invested capital and the return on invested capital. At a third level of influence, we identify the following factors: structure of the invested capital (w_i), individual costs of invested capitals (k_i), return on sales (ROS) and the rotation speed of invested capital (RSIC).

A methodological approach of value-based management is further discussed. The practical means for determining created economic value of a company and the

analysis of change caused by various influence factors are presented. Causality relations between EVA and influence factors are measured through the model developed from previous relations based on factor analysis.

The case study is based on a company's financial situation, for which EVA was calculated and analysed beginning with the determination of the weighted average cost of capital, which is calculated in Table 1. The cost of equity was estimated based on the CAPM model using data from the financial market related to the analysed period. An decrease by 0,6 %, of WACC can be noticed in the last year of our analysis, both due to the decrease of the cost of equity and of the cost of debts (due to an decrease of the interest rate).

Table 1: The weighted average cost of capital (thousands RON)

Cr. No.	Indicatori	Fiscal year	
		Previous	Current
1.	Equity	160430	157590
2.	Financial debts	106014	107470
3.	Invested capital (1+2+3)	266444	265060
4.	Operating profit	23796	14374
5.	Profit tax	1091	-
6.	Net operating profit after tax	22705	14374
7.	Interest expense	13320	12314
8.	Weight of equity (%)	60	59
9.	Weight of debts (%)	40	41
10.	Cost of equity (%)	6,80	6,50
11.	Cost of debts (%)	9,56	8,45
12.	Weighted average cost of capital (%)	7,9	7,3

Source: Financial statements

Table 2 shows that the company registered a significant net operating profit after tax, but the economic value for the same time span was lower, mainly due to the small difference between the return on invested capital and the weighted average cost of capital. The company will have to minimize its cost of capital by improving its financial structure. It will also have to increase the level of return on invested capital. In the current year EVA has negative levels proving that firm's activity doesn't satisfy the stakeholders' interests although the net operating profit after tax is still positive.

Table 2: Economic value added (thousands RON)

Indicators	Symbol	Fiscal year		Deviations	
		Previous	Current	+,-	%
Turnover	CA	194197	161599	-32598	-16,7
Net operating profit after tax	NOPAT	22705	14374	-8331	-36,6
Invested capital	KI	266444	265060	-1384	-0,52
Weighted average	WACC	7,9	7,3	-0,6	-7,6

cost of capital (%)					
Return on invested capital %	ROIC	8,5	5,4	-3,1	-36,5
Economic value added	EVA	1599	-5036	-6635	-414,9

Source: Financial statements and own calculations

The economic value added decreased by 6635 thousand RON as compared to the previous period. The factors that influenced the change of EVA acted in the following manner:

1. The influence of the invested capital:

$$\Delta EVA(KI) = \Delta KI \times (ROIC_0 - WACC_0) = -8,3 \text{ thousand RON}$$

2. The influence of financial leverage:

$$\begin{aligned} \Delta EVA(FL_0) &= KI_1 \times [(ROIC_1 - WACC_1) - (ROIC_0 - WACC_0)] = \\ &= -6626,5 \text{ thousand RON} \end{aligned}$$

- 2.1. The influence of cost of invested capitals:

$$\Delta EVA(WACC) = -KI_1 \times \Delta WACC = 1590 \text{ thousand RON}$$

- 2.1.1. The influence of the structure of invested capital:

$$\Delta EVA(w_i) = -KI_1 \times \left(\frac{\sum w_1 k_1}{100} - \frac{\sum w_0 k_0}{100} \right) = -80 \text{ thousand RON}$$

- 2.1.2. The influence of individual costs of invested capitals:

$$\Delta EVA(k_i) = -KI_1 \times \left(\frac{\sum w_1 k_0}{100} - \frac{\sum w_0 k_0}{100} \right) = 1670 \text{ thousand RON}$$

- 2.2. The influence of return on invested capital:

$$\Delta EVA(ROIC) = KI \times \Delta ROIC = -8216 \text{ thousand RON}$$

- 2.2.1. The influence of return on sales:

$$\Delta EVA(ROS) = KI_1 \times \Delta \frac{NOPAT}{CA} \times \frac{CA_0}{KI_0} = -5402 \text{ thousand RON}$$

- 2.2.2. The influence of the invested capital turnover:

$$\Delta EVA(RSIC) = KI_1 \times \frac{NOPAT_1}{CA_1} \times \Delta \frac{CA}{KI} = -2810 \text{ thousand RON}$$

The analysis of the factors' influence shows the negative influence of the decrease of invested capitals (8.3 thousand RON) and of financial leverage (6626.5 thousand RON) on economic value. At its turn, financial leverage was positively affected by the weighted average cost of invested capitals (1590 thousand RON) and negatively by the return on invested capital (-8216 thousand RON). WACC was bad influenced by the structure of invested capital (-80 thousand RON), and favorable impacted by decrease of its individual cost (1670 thousand RON).

The negative influence of the return on invested capital was determined by the influence of return on sales (-5402 thousand RON) and the invested capital turnover (-2810 thousand RON). Depending on the information available, the analysis of the influence of return on sales can be further continued by establishing the influence of the structure of production, of unit costs and prices.

5. Conclusions

Value creation is a main objective of companies. However, the companies' economic actions may contribute to value creation but may as well remain neutral or may have harmful consequences concerning value. Therefore, the computation and analysis of adequate indicators for company performance assessment from the perspective of value creation is a good support for management decisions.

EVA maximization implies a re-orientation of investments (re-modelling of the investment portfolio) towards more profitable sectors or activities. Those, which return more than the weighted average cost of capital, are in advantage. A rational investment policy will always select projects that contribute to the growth of *EVA* and disinvestments will be made in activities that negatively affect this indicator.

Another direction aimed by management based on value indicators refers to the *optimization of the financial structure* by minimizing the weighted average cost of capital. Thus, a higher created value is obtained. Some studies show that *EVA* has an increased sensitivity towards the cost of own funding sources and a lower sensitivity towards the cost of loaned sources, which suggests that economic value added is strongly influenced especially by the return of equity (Salmi, and Virtanen, 2001).

It is generally admitted that debts cost less than equities for at least two reasons: on the one hand, the shareholders' risks are higher than the creditors' and thus, shares are more profitable than bonds; on the other hand, debts are tax-deductible while dividends due to shareholders are not. From these conclusions, we are tempted to identify an optimum structure of a company's capital, in view of minimizing the procurement cost and of increasing created value.

Other authors identify a close interdependence between created value and the structure and type of rewards for company management as a *method of cost reduction*. By promoting a proper system of interests based on value creation, the employees and especially the company executives will turn into entrepreneurs-shareholders. This may be achieved by buying shares and including in the salary agreements several conditions regarding the contribution brought to created value in their line of work, production line, plant etc. (Evans, 2002). In this way, each department or place of work can be managed based on the value added indicator, which thus becomes a standard for results measurement.

The leverages of value creation can be identified and transposed into economic indicators in order to increase the degree of understanding, accessibility and utility. Often, EVA is seen as an abstract notion, which, due to its character as indicator, which is expressed in absolute numbers, is more difficult to use when comparing companies.

Even in this situation, created value-based performance management has the role of a corporate philosophy. If transposed in company practice, *the employees are motivated and educated to make a difference between activities* that lead to value creation and activities that lead to value destruction (Phani and Bhattacharya, 2000). Therefore, decisions on the value creation mechanisms are based on a series of specific actions for each decision level (group, divisions, and operational units) and they refer to: defining value centres, measuring created value, identifying development directions, measuring market attractiveness, assessing possible strategic orientations, resource allocation and the implementation of the established measures.

References

- Arnold, G. (2003) *Corporate Financial Management*, Financial Times/Prentice Hall, London, 2nd edition.
- Burja V. and Burja C. (2010) Patrimonial resources' management and effects on the Economic Value Added *Annales Universitatis Apulensis Series Oeconomica*, **2**, issue 12.
- Cachanosky, N. (2009) *GDP vs EVA as an Economic Indicator*, MPRA Paper, University Library of Munich, Germany.
- Circiumaru, D. and Siminica, M. (2009) Refined economic value added, an indicator for measuring the performances of the companies, *Theoretical and Applied Economics*, 05(534) (supplement), pp. 204-213.
- Cheremushkin, S.,V. (2008) *What's Wrong with the Economic Value Added?*, Available at SSRN: <http://ssrn.com/abstract=1120917>.
- De Wet J.H. and Hall J.H. (2004) „The relationship between EVA, MVA and leverage”, *Meditari Accountancy Research* Vol. 12, No. 1, pp.39-59.
- Drucker, P. (1995) „EVA measurement”, *Harvard Business Review*.
- Evans J.P. and Evans T. (2002) *An Examination of Economic Value Added and Executive Compensation*. EFMA London Meetings. , p.10, Available at SSRN: <http://ssrn.com/abstract=313974>.
- Ghanbari A., M., & V S More, V., S. (2007) An Empirical Analysis in Indian Automobile Industry, *The IUP Journal of Accounting Research and Audit Practices*, vol.6, issue 3.
- Helfert, E.,A. (2006) *Techniques of Financial analysis a guide to value creation*, BMT Publishing House, Bucharest.
- Marshall, A. (1920) *Principles of Economics*, Porcupine Press, 8th Edition, Macmillan: London, 1990 Reprint, pp. 495-522.
- Modigliani and F., Miller, M. (1958). *The Cost of Capital, Corporation Finance and the Theory of Investment*, American Economic Review vol. 48 (3): pp. 261–297
- Phani, B.V. and Bhattacharyya, (2000) Asish K., „Economic Value Added - a General Perspective” *Decision*, Volume 27, No.2, pp.25-55. Available at SSRN: <http://ssrn.com/abstract=545444> or <http://dx.doi.org/10.2139/ssrn.545444>

- Růčková, P. (2008) *Economic value added as an instrument of the efficiency's evaluation in the conditions of the Czech capital market*, MPRA Paper, University Library of Munich, Germany.
- Salmi T. and Virtanen I. (2001) „Economic Value Added: A simulation analysis of the trendy, owner-oriented management tool”, *Acta Wasaensia*, no.30, pp. 23-25.
- Solomons, D.(1965) *Divisional Performance: Measurement and Control*, Homewood, IL: Richard D. Irwin.
- Stancu, I. (2002) *Finanțe (Finance)*, Economic Publishing House, Bucharest, pp. 651-659.
- Stewart, G., B. (1991) *The Quest for Value*, New York: Harperbusiness
- Tabără M., (2010), Financial valuation of business. A new approach, *EuroEconomica*, issue 25, p. 96-104.
- Vasilescu, L. and Popa, Ana, (2011) Economic Value Added: Pros and Cons, *Finante - provocarile viitorului (Finance - Challenges of the Future)*, 1, issue 13, p. 60-65.
- West, T. and Worthington, A., C. (1999) *The information content of economic value-added: A comparative analysis with earnings, cash flow and residual income*, No 066, School of Economics and Finance Discussion Papers and Working Papers Series, School of Economics and Finance, Queensland University of Technology.