

## The Managerial Performances Evaluation through the Economic Value Added

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By

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### Abstract:

*The goal of this work is to provide a pertinent measure of managerial performances, starting from the idea that those are real only when they assure the satisfaction of all groups, which are interested in the good evolution of the firm. The performances of a firm come from the operating activities, which has to generate big enough cash flow to accomplish the satisfactory remuneration of the creditors, to overcome all the taxes imposed by the state and to lead to the growth of the shareholders' wealth. Measured through economic value added the performances of the firm are dependent on the strategies, which are applied by managers.*

**Keywords:** performance; economic value added; market value added; cost of the invested capital; cash flow from operating activities; the firm value

**JEL Classification:** M10, L25, L21, G32, G34

### 1. Introduction

The managerial performances evaluation is a more and more necessary problem for the Romanian enterprises due to the phenomena and processes which are taking place in economy: the success of restructuring firms; the post-

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privatization analysis; the viability and the success of the Romanian companies, all from the perspective of performances driven by the managers.

The economic literature puts at disposal a series of methods, techniques, instruments and quantifying indicators for these performances, after different hypotheses and for given goals. The managerial and implicitly firm performance is synthesized in the value of the firm, in the capacity of the management to create value, to grow the firm value.

Accepting this idea, we consider that this value originates in the economic activity of the firm, because the fulfillment of the enterprise mission and goals has its bases in the activity realization. We propose an indicator adapted to the specific conditions of the Romanian firms (and the method of constructing and analyzing it) for the managerial performances evaluation through the view of the new created economic value.

## 2. Theoretical fundamentals

**The Economic Value Added** represents the value creation base at the enterprise level. In the Anglo-Saxon countries is considered the *fundament of the shareholders' value creation*. Beginning with the year 2000 it is systematically monitored for the firms quoted on the stock exchange market.

The judgments of the economic added value as a *managerial performances evaluation indicator* (Dîmbean-Creța, 2000), and implicitly of the strategy promoted by the firm's management is possible due to:

- the main mission of management to maximize the value of the shareholders' invested capital and to satisfy the stakeholders' expectations of financial nature;
- the necessity to quantify the new created value;
- the idea which states that the net revenues are the best performance measure, after all costs of the invested capital were reduced, so both of the common equity and of the borrowed capital.

The synthetic indicators which determine the enterprise's economic results are known (operating activity results), but none of them considers the financial structure of the firm and the way in which the capital is procured (implicitly the financing cost). The proposed indicator, the **economic value added**, eliminates this inconvenient, thus being more comprehensive and adapted to the concrete economic conditions. It has the major advantage to link the operating activity results with the cost of the capital (which includes the risk assumed by the capital providers when they decided the financing of the business proposed by the enterprise), with the profit taxation policy and the value of the firm's shares. Thus, it satisfies the informational needs of more stakeholders participating at the life of the enterprise: shareholders, management, creditors, and inclusively the state.

**Economic Value Added (EVA)** is the measure of the final net economic earnings (after taxation), obtained after the remuneration of all invested capital (whatever its provenance source is) is adopted in a business which evolves after a deliberate or emergent strategy.

### 3. Method and Results

#### 3.1. The Fundamentals of the Economic Value Added Analysis

The economic value added is a good indicator both for the retrospective evaluation of performances (the economic value added for the historical period) and also for prospective evaluation of performances (the economic value added for the future period):

- from the point of view of the shareholders, it represents their wealth creation source, one that results from the activity domain of the firm, after the remuneration the state and all capital providers are remunerated;
- from the point of view of the participants at the economic life of the firm, and especially from the point of view of the management – it gives explanations for:
  - the results obtained after applying a strategy or permits the comparison of results obtained with those that were at the strategy selection basis in the past;
  - the viability of a strategy from the point of view of the economic and financial results expected in the future, so it can be a good criterion for selecting strategies;
- from the potential investors' point of view – it assures them regarding the fair price payment for the purchased shares and the maintenance of the future development potential of the enterprise according to the historical period trend; (from the creditors' point of view it provides information regarding the credit amounts repayment and remuneration capacity of the firm).

#### 3.2. The Retrospective Analysis Of EVA

##### 3.2.1. Calculus Relations

When the level of EVA based on cash-flow elements is determined, the operating cash-flow after fiscal correction (CFO<sub>n</sub>) is taken into consideration from which the cost of the capital invested is deducted (CCI), after the following formula:

$$EVA = CFO_n - CCI = (GOA_n - \Delta NWKO) - CCI \quad (1)$$

where:

$$FNE_n = CFO - Tax = (GOA - \Delta NWKO) - Tax = (GOA_n - \Delta NWKO)$$

CFO – cash-flow from the operating activity;

Tax – profit tax on the global profit of the financial exercise period;

GOA<sub>n</sub> = gross operating accumulation after taxation;

$\Delta NWKO$  – variation of the need for working capital from operating activity;

$$GOA_n = GOA - Tax = (Opbt + Dep + \Delta ovo) - Tax = (Opbt - Tax) + Dep + \Delta ovo;$$

GOA<sub>n</sub> = NOPAT + Am +  $\Delta ave$ ;

NOPAT – net operating profit after taxation;

Dep – depreciation;  
 Δovo – other variations in operating activity included in computation of GOA.

For economic significance and methodological reasons, the operating profits are corrected with the whole tax on profit of the financial exercise. This correction is made by deducting from the operating profit the quantum of the tax on profit calculated after all the activities of the firm (for Romania after the main three activities – operating, financial and extraordinary- explicated in the statement of profits and losses specific to the Romanian accounting). In this correction, the fiscally deductible revenues and nondeductible expenses inclusive are taken into consideration, to reflect with fidelity the fiscal pressing of the state on the results obtained by the enterprise.

In order to exemplify, Table 1 illustrates the retrospective computation of EVA for a firm from the domain of food industry. We were imposed to keep the name of the enterprise confidential.

### 3.2.2. Explanation of Computation Elements

*The weighted average cost of the capital invested* represents the percentage remuneration of the capital providers. (Eros, Pantea, 2001). It is very useful to analyze the weighted average cost of the capital invested to set the structure of the invested capital according to the cost of each category so that the cost of all invested financial resources is as low as possible.

The remuneration of the invested capitals is made according to their type:

- by the provenance sources:
  - common equity provided by the shareholders;
  - borrowed capital provided by the creditors;
- by the exigibility periods:
  - permanent capital, composed of the common equity and of long and medium term borrowed financial resources (bank credits, leasing, bonds);
  - short term capital, composed of short term bank credits and other categories of capitals with exigibility under one year (treasury loans).

Thus, the invested capital historical cost is represented by:

- the cost of common equity;
- the cost of loans and credits.

Because the management of the funds is global, the cost of the invested capital is presented as an average remuneration rate, obtained by the summation of all the costs of the invested capitals by categories, proportionally with the weight in total detained by each of them. Also, the use of the borrowed sources will generate expenses with the remuneration of those resources, leading to the reduction of the amount of imposable profit, generating a fiscal reduction effect.

For the computation of CFO<sub>n</sub>, from which the tax on profit for overall activities of the firm is deducted, the effect of fiscal diminution is included in the

net cash-flow from operations. In this case, the weighted average cost of capital invested is given by the following relation:

$$WACCI = \frac{C_e}{CI} \cdot k_{C_e} + \frac{C_{BLMT}}{CI} \cdot k_{C_{BLMT}} + \frac{C_{BST}}{CI} \cdot k_{C_{BST}} \quad (2)$$

where:

- C<sub>e</sub> – common equity;
- C<sub>BLMT</sub> – borrowed capital for medium and long term;
- C<sub>BST</sub> - borrowed capital for short term;
- k<sub>C<sub>e</sub></sub> – cost of common equity;
- k<sub>C<sub>BLMT</sub></sub> - cost of borrowed capital for medium and long term;
- k<sub>C<sub>BST</sub></sub> - cost of borrowed capital for short term.

The number of computation elements of the relation can be modified in function of the type of borrowing: for short, medium or long term. The firm can contract more kinds of bank credits on long term at different rates of interest. Then, the cost of these credits may vary along the contractual period of the credit in function of the evolution of the credit market and the negotiation power of the firm. The same thing can be affirmed in the case of the short-term credits, leasing or bond loans. The firm can also consolidate its financial structure by using a new emission of shares.

The common equity cost used in historical computations complies with an opportunity cost, considered at the level of the precedent historical year's return on equity. The idea which stays at the basis of this reasoning is that the maintenance of the shareholders' capital in the business will be done only in the case in which the remuneration of those is at least at the level of the preceding year. At the basis of common equity cost selection for the historical period as being the level of preceding year's financial return, there are considerations linked to the present characteristics of the capital market in Romania.

For the historical period, the cost of the borrowed capital, on each category, is determined by the payments made to remunerate them, according to the interest rates in the credit contracts.

The *cost of invested capital* in absolute measure will be obtained by multiplying the invested capitals volume by the weighted average cost of the capitals invested, by the following relation:

$$CCI = CI \cdot WACCI \quad (3)$$

The *cash-flow from the operating activity* represents the real cash surplus released from the operating activity and measures the firm's capacity to deal with the self financing needs of the investments regarding the business development, creditors, state and shareholders' remuneration (Stancu, 1996).

The *variation of the need for working capital in operating activities* represents the changes of the cash resulted from the changes in the current assets (inventories, accounts receivable, advances to suppliers, other receivables from operations) and in the current liabilities (advances from clients, debts to suppliers, other debts from operations), both related to the operating activity.

*The compounded EVA* - compounding EVA helps to bring at the valuation moment (the end of the year 2001) all the individual values of EVA for the all five years of historical analysis. The goal of compounding is to obtain a present value of the individual EVA from the past, which evaluates in the present the historical managerial performance that could have been obtained at a constant compounding rate equal to the rate of discount of the future EVA. The equality of both rates allows the comparison in the present moment of historical and future EVA.

$$EVA_{Cm} = \sum_{m=1}^5 EVA_{cm_m} \quad (4)$$

$$EVA_{cm_m} = EVA_m \times (1+k)^{1+5-m} \quad (5)$$

where:

$m$  – historical year,  $m = 1 \div 5$ ;

$EVA_{cm_m}$  – compounded economic value added from the historical year „ $m$ ”;

$EVA_{Cm}$  – cumulated compounded EVA for the historical period;

$k$  - selected compound rate;

$(1+k)^{1+5-m}$  - compound coefficient of the historical year „ $m$ ” .

### 3.3. The Prospective Analysis of EVA

For the future period, EVA can be used to evaluate both the managerial effectiveness and efficiency, and the new economic value created by the management after adopting a strategy or with the goal to appreciate the value of the firm.

#### 3.3.1. The Estimation of The Economic Value Added

To estimate the economic value added it is necessary to go through the following steps:

1. The estimation of the net cash-flow from operating activity;
2. The calculus of the capital's cost for each year of forecasting horizon;
3. The computation of EVA for each year of forecasting horizon;
4. The discounted EVA through bringing in the present of all future expected values of EVA.

- The *estimation of the cash-flow from operating activities* is made from:
  - the estimation of the activity volume given by the sales figures and the operating expenses needed to accomplish the level of planned activity, after which the gross operating profit is obtained (without depreciation and provisions);
  - the estimation of the depreciation value (Mihai, 1999), in function of: the annual depreciation of tangible and intangible long-lived assets in functioning;

- the depreciation of the newly entered fixed assets in the firm patrimony; the depreciation of the fixed assets removed from the property of the firm;
- the provisions value estimation, depending on the concrete activity managing conditions of the firm, probability assigned for the risks occurrence at which the enterprise will be exposed in the future and the putting in practice of the prudence principle by the firm's managers;
- the estimation of the need for working capital in operating activity (Buglea, Eros – Stark, 2001: 208): based on the rotation speed of the component elements or on the normal rotation to sales of current assets and liabilities necessary for the operating activity or based on the rotation of the need of working capital to sales (recommended for maturity reached businesses).
- the estimation of the tax on profit of the financial exercise.

- *The computation of the cost of capital for each year of the forecast horizon*

Generally, the real cost of a capital category is equal to the discount coefficient which provides the equalization of the loan value with the sum of the repayment rates and of the remunerations (annuities) linked with the respective category. The remunerations are: the interests for short, medium and long term loans; the royalty for the financial leasing; the coupon for bonds.

The weighted average cost of borrowed capitals is determined as an average between these real costs and the proportions of different borrowed capital categories in the overall borrowed capitals.

The common equity weighted average cost is determined similarly, as an average of the constituent elements, where the cost of the shareholders' common equity is given by the discount coefficient which provides the equalization between the discounted future dividends with the amount of the shareholders' common equity, the net profit is valued as a cost at the level of the financial return on equity, other elements being associated with an opportunity cost.

The absolute cost value of the invested capitals is obtained by applying the weighted average cost at the level of the estimated invested capitals (see relation 3):

- *The discounted economic value added determination* is supposed to bring in present the future EVA through the discounting technique, which is multiplying the calculated EVA for each forecasting horizon year by the discount coefficient according to the chosen discount rate.

$$EVAd = \sum_{i=1}^5 EVA_{d_i} \quad (6)$$

$$EVA_{d_i} = EVA_i \times \frac{1}{(1+k)^i} \quad (7)$$

where:

$i$  – forecast year,  $i = 1 \div 5$ ;

$EVA_{d_i}$  – discounted value of EVA for the forecast year „ $i$ ”;

$EVAd$  – discounted EVA of the future period;

k- selected discount rate;

$\frac{1}{(1+k)^i}$  - discount coefficient for the forecast year „i” .

Through the accumulation of  $VEAd_i$  we obtain a value that can be used in the managerial performance evaluation determined by the newly chosen strategy:

- discounted EVA - limited (relation 8);
- capitalized EVA - continuous (relation 10).

Another characteristic of this indicator is that it permits its utilization in the firm's valuation process.

*The discounted economic value added* ( $EVA_L$ ) shows that the managerial performances are determined by the present value of the EVA expected to be generated till the fifth year of forecasting, when it is supposed that the owners or managers should reconsider the way they should approach the business. In this year the residual value is settled. The reconsideration of the way in which the business is approached starts from the change or adjustment of the firm's strategy on which the effectuated computation is based, the change of the activity domain, or the partial or total liquidation of the enterprise.

Therefore, the value corresponds to a limited time horizon, after which the residual value appears. In our example, the historical and future time horizons correspond to the periods in which the old strategy was adopted and the new one is to be applied.

$$EVA_L = \sum_{i=1}^5 \frac{EVA_i}{(1+k)^i} + \frac{R_V}{(1+k)^5} = EVA_{Ad} + \frac{R_V}{(1+k)^5} \quad (8)$$

The residual value ( $V_R$ ) is obtained from the multiplication of the economic value added from the last year of forecasting period. In the case of  $EVA_L$ , the residual value represents the sum of economic added values (the value increase of common equity) at which the investor consents to renounce if he changes the strategic option or if he quits the business.

$$R_V = \frac{EVA_5}{k} \quad (9)$$

*The capitalized economic value added* ( $EVA_C$ ) shows that the managerial performances are determined by the present value of EVA capitalized with a constant capitalization rate „k”. So, this value corresponds to an unlimited time horizon and does not consider the possibility of adopting other strategic directions for the firm but the present ones.

$$EVA_C = \frac{\overline{EVA}}{k} \quad (10)$$



The average estimated economic value added ( $\overline{EVA}$ ) is a weighted average of each VEA obtained in the five years of forecast, susceptible to be generated in the future, according to the weighting coefficients ( $c_i$ ) given in a descendent way as moving in forward in the forecast horizon, to reveal that the certitude of achieving the estimated level of EVA is reduces as we advance in the forecast horizon.

$$\overline{EVA} = \frac{\sum_{i=1}^5 c_i \times EVA_i}{\sum_{i=1}^5 c_i} \quad (11)$$

The selection of discount rate can be realized after several methods but from the point of view of indicator correctness, the only relevant rate is the deflated average of the invested capital, which ensures the remuneration of all invested capitals (common equity and loans) including both the business specific risk premium assumed by the shareholders, and the financial risk premium claimed by the creditors.

In our case, the discount rate is considered to be the weighted average cost of the invested capital (deflated values), corrected with a liquidity premium.

$$k = RrCI + Prl \quad (12)$$

where:

RrCI – real return rate of the invested capital, obtained through Fisher deflation technique of the weighted average cost of the invested capital  $RrCI = (WACCI - ir) / (1 + ir)$ ;  $ir$  – annual inflation rate;

PrI – liquidity premium; it represents the supplementary remuneration claimed by the investors to compensate the renouncement to the short term liquidity and to maintain the capital in the business;

$PrI = ird - BUBID$ ;

$ird$  – interest rate for annual deposits;

$BUBID$  = interest for bank deposits/deposits attracted with maturity under 1 month.

Due to the equality between the compound and discount rates (Table 2), the managerial performances obtained by managing the business according to the past strategy become comparable with the future ones, resulting from adopting a new strategy, validating or not the adoption of the new strategic option.

### 3.3.2. The EVA, the Market Added Value and the Value of the Firm

Because of the dependence of the market value on the investor's expectations for future performances, we consider that the market value is strongly related to the business capacity to generate value in the future (Table 3).

The market value of an enterprise (MV) results from both the common equity (MVCe) and the total debts (MVDt) market value:

$$MV = MVCe + MVDt \quad (13)$$

In the calculus of the previous relation, the common equity is valued at the market value and the debts are considered at nominal value. On the other hand, the book value of a firm is given by the net assets (NA), which in normal conditions is equal with the book value of the common equity. The invested capitals value is given by the book value of the common equity and of the total debts (Dt).

Assuming that  $NA = Ce$  and  $CI = Ce + Dt$ , we can define the market value added as being the difference between the market value of the whole enterprise and the book value of the invested capital:

$$MVA = MV - CI \quad (14)$$

But if  $MVA = (MVCe + MVDt) - (Ce + Dt)$ , and if the market value of the debt is priced at nominal value, then:

$$MVA = MVCe - Ce \quad (15)$$

**The Market Value Added** is the surplus of the market value created due to the shareholders' trust that exceeded the common equity book value.

Thus, the market value added is strongly linked to the economic value added. The market added value is the sum of all discounted economic added values:

$$MVA = \sum_{i=1}^5 \frac{EVA_i}{(1+k)^i} + \frac{R_V}{(1+k)^5} = EVA_L \quad (16)$$

Therefore, the market value of the common equity becomes:

$$MVCe = Ce + MVA = Ce + EVA_L \quad (17)$$

The economic value added is the best measure of performance because it reveals the value lost or added to the initially invested capital in the business.

## 4. Discussions

### 4.1. Appreciations Regarding the Retrospective Analysis

1. The economic value added depends on a series of economic and financial factors, such as:

– the operating activity efficiency, which is measured through operating results indicators by the nature of the operating profit; generally, the more efficient the operating activity is, the higher the EVA is;

- the asset depreciation policy adopted by the management and the attitude towards the risk through the provision policy (principle of prudence);
- the economic value added also depends on the financing need of the operating activity, thus on the way in which the current (cyclical) assets and liabilities are managed;
- the financial structure of the firm and the invested capital procurement modality through the weighted average cost of capital; if the best combination of capitals is chosen (at the lowest weighted average cost) a higher EVA will be generated;
- the capital utilization efficiency in the operating process, so implicitly of the borrowed ones, through the manifestation of financial leverage of the debt.

2. The economic value added also takes into consideration the impact of the fiscal pressing upon the results of the firm, considering that the value resides in the net profits coming from the base processes of the firm (after correction with the taxation on profit of the financial exercise) which overcome the value of the cost of the invested capitals.

3. The economic value added as a result of the complex process of production and commercialization, will also depend on numerous „intangible” factors affecting the success of the enterprise (key success factors): firm and staff’s specific competences; the way in which the working and production processes are organized; a good reputation; the quality of the firm products and services; the innovation power of the firm, etc.

4. The economic value added is the premise to satisfy the expectations of the stakeholders.

#### **4.2. Appreciations Regarding the Prospective Analysis**

The significance of the  $EVA_L$  for an investor is that of a value surplus generated by the firm in which s/he invested, surplus which results from the value created by the operating activity exceeding the total cost of the invested capital. In fact it represents the market value surplus, resulted from the trust conferred by the shareholders.

The managerial performances can be evaluated according to the proposed strategies that lead to a positive  $EVA_L$ . As a rule of decision, the  $EVA_L$  determines the following options:

- the strategy acceptance, when  $EVA_L \geq 0$ ;
- the strategy rejection, when  $EVA_L < 0$ .

In the case of strategy selection decisions, the one with the maximum  $EVA_L$  will be preferred. According to these criteria, a strategy is considered more effective if it generates a higher value of  $EVA_L$ , so, implicitly the managerial team performance commensuration is ensured through the view of strategies.

The  $EVA_L$  maximization will depend on:

- the operational activity improvement through the operating cash-flow maximization:

- the activity volume increase, keeping and entering new market places;
- the operating expenses rationalization and elimination when they are economically inefficient;
- adequate profit margins chosen according to the firm's position inside its sector of activity;
- an optimal depreciation system adoption, which takes into account the necessity of a higher and higher degree of the assets renewal, but without neglecting the level of taxable profits.
- the optimal dimensioning of the need of working capital of operating activity through an efficient management of the operating current assets and liabilities correlated with the amount of activity (the inventory and commercial credit management, the degree of production capacities use, the capability to retain as long as possible the attracted resources);
- the financing activity improvement and the just selection of the discount rate through an as low as possible weighted average cost of capital.

## **5. Conclusions**

1. The historical period performances analysis:
  - According to Graph 1, we can observe that the financial performances are decreasing, the followed strategy giving signs of the new created value destruction; especially at the level of the last historical year (2001), we can observe the decrease of the CFOn simultaneous with the increase of the invested capital cost, the effect of this being a severe decrease of EVA;
  - comparing the dynamics of CFOn, which characterizes the effectiveness of the operating activity with the one of EVA, which characterizes the value creation (with intrinsic strategic valence), the decision to reevaluate the followed strategy using the CFOn would be imposed only in the year 2001, when after EVA already from the year 1999, signaling much earlier the depreciation of the firm's performances; the manner in which the EVA is defined as indicator makes it superior to CFOn; in consequence EVA should be the decision criterion;
  - the net cash-flow from the operating activity after a permanent increase in the period 1997 – 2000, decreases in 2001; the causes of this evolution are given by:
    - the operating activity efficiency decrease marked by the diminution of the operating profit level which is a component of the gross accumulation from the operating activity (being given the linear depreciation system);
    - the inadequate cyclical assets and liabilities management concretized in an increase of the NWKO;
    - the cost of the invested capital had permanently increased, on account of:
      - the increase in cost of the common equity given by the shareholders' bigger and bigger pretensions; the level of their claims was maintained in 2001, but the diminution of the efficiency did not allow to satisfy them at the level of their expectations (even if the EVA was positive);

- the level of the weighted average cost of the borrowed capital oscillated in the historical period, but in the critical year 2001, it witnessed a jump in comparison with 2000, in the conditions in which the amount of the borrowed sources needed to deploy the activity was significantly increasing;

2. The decision regarding the maintenance or replacement of the strategic option from the historical period:

- according to the unfavorable dynamics of the historical period indicators (CFO<sub>n</sub>, financial structure), the firm's management proposes a new strategy adoption;

- the shareholders validate the necessity of a new strategic option adoption especially because since 1999 the EVA has been on a descending slope, which corresponds to the erosion of the increase in value achieved in year 1998;

3. The newly proposed strategy and implicitly the future performances financial evaluation:

- according to Graph 1, it can be observed that the estimated financial performances will increase, the proposed strategy being value creator;

- for the whole future analysis period it can be observed that the increase in CFO<sub>n</sub> is superior to the increase of CI, the growing gap representing higher and higher levels of the EVA;

- even if in 2002, the EVA is minimal for all 10 years of analysis, this thing does not mean inefficiency, because the financial exercise 2002 corresponds to the year of the new strategic direction launch; the adoption of the new strategic orientation involves massive investments financed mostly by borrowed resources (the financial results of 2001 could not sustain integrally the new strategic orientation);

- the effects of the investments realized in 2002 can be sensed only starting with the next year; the situation evidences the particularities of the EVA level for activities that are in the launch and maturity stage;

- the estimated net cash-flow from operations will present a permanent increase in the forecast period; at the basis of this evolution it is the continuous increase of the operating activity efficiency at the same time with going through the development stage;

- the cost of the capital invested will permanently increase only on account of the increase in the cost of the common equity; this situation can be explained as follows:

- in absolute measures the level of the borrowed capital cost will reduce as a consequence of the weighted average cost application (which will remain at the same value according to the expected interest rate to be obtained through negotiations with the financing institutions) at the sum remained to be repaid diminished year after year;

- through the increase of the common equity cost, given by the increase of the shareholders' expectations justified through the activity dynamics and the decreasing pressure of the financial leverage at which the growth of the claimed remuneration needed to postpone the satisfaction level of expectations in 2002 is added;

4. The comparative analysis of performances for both periods

- the historical period reveals the end of the maturity and the beginning of the decline stage, whereas the future period reveals the launch and development stage initiated by the new strategic orientation;
- comparing the historical period compounded EVA with the future period discounted EVA, we can deduce that the new strategy is better, ensuring a higher accumulated EVA, so implicitly the performances in terms of estimated future values are better than the historical ones (see table no.4 –the EVA comparison in absolute measures);
- the use of the capitalization method is very restrictive taking into consideration the present characteristics of the firm's external environment (dynamism, complexity, incertitude) being most unlikely that maintaining a strategy for a longer period will lead to constant performances that have the value nature, sufficient to satisfy appropriately the stakeholders' expectations;
- from the perspective of CFO's capacity to create EVA (the EVA creation rate), in terms of relative efficiency the past performances are better than the ones estimated when the new strategy is applied (see table no.4);
- the last two conclusions evidences a classical conflict similar with the differences generated by the internal rate of return (IRR) and the net present value (NPV) in the investment projects selection. It does not matter if a project has a higher IRR since its NPV is lower than the one of another project that will be preferred because it has a higher NPV (ensures a higher value growth).

Based on the preceding conclusions we conclude that the economic value added is the most complete indicator for the retrospective managerial performance evaluation. The performances of the management can be evaluated in function of the chosen strategies. For the strategies evaluation we recommend the use of the limited economic value added.

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## APPENDIX

**Table 1:** EVA computation for the historical period

0	Specification	MU*	1997	1998	1999	2000	2001	Symbol
1	2	3	4	5	6	7	8	
1	Net cash-flow from operations	Rol (mil)	76.336	81.761	85.649	94.475	84.676	CFOn
2	- gross operating accumulation	Rol (mil)	97.967	61.756	140.733	146.277	114.970	GOA
3	- tax on profit	Rol (mil)	26.946	20.822	33.089	31.340	27.034	Tax
4	- variation of the NWKO	Rol (mil)	-5.315	-40.827	21.995	20.463	3.259	$\Delta$ NWKO
5	Cost of capital invested	Rol (mil)	29.792	31.833	42.858	53.727	56.597	CCI
6	- cost of common equity	Rol (mil)	26.745	26.471	35.595	46.166	41.347	CCe
7	- common equity	Rol (mil)	220.591	119.838	125.752	114.978	102.032	Ce
8	- cost of comon equity	%	12%	22%	28%	40%	41%	kCe
9	- cost of borrowed capital	Rol (mil)	3.047	5.361	7.263	7.561	15.250	CCb
10	- borrowed capital	Rol (mil)	8.924	16.173	18.048	22.010	41.911	Cb
11	- cost of borrowed capital	%	34%	33%	40%	34%	36%	kCb
12	<b>Economic value added</b>	Rol (mil)	<b>46.544</b>	<b>49.928</b>	<b>42.791</b>	<b>40.747</b>	<b>28.080</b>	<b>EVA</b>
13	Compound rate	%	17%	17%	17%	17%	17%	k
14	Compound coefficient	-	2,198	1,877	1,604	1,370	1,171	$(1+k)^{1+5-m}$
15	<b>Compounded EVA</b>	Rol (mil)	<b>102.283</b>	<b>93.734</b>	<b>68.630</b>	<b>55.831</b>	<b>32.868</b>	<b>EVAcm</b>
16	<b>Cumulated compounded EVA</b>	Rol (mil)					<b>353.346</b>	<b>EVAcm</b>

\*) Values expressed in real comparable values in the purchase power of the year 2001

**Table 2:** Discount rate computation

	Specification	M.U.	Level	Symbol
0	1	2	3	4
1	Weighted average cost of capital invested in year 2001	%	39,32%	WACCI <sub>2001</sub>
2	Estimated inflation rate for year 2002	%	22,00%	Ir
3	Real rate of return on invested capital	%	14,20%	RrCI
4	Liquidity premium	%	3,12%	Prl
5	- interest rate for annual deposits	%	32,50%	ird
6	- interest rate for deposits with maturity under 1 month	%	29,38%	BUBID
<b>7</b>	<b>Discount rate</b>	<b>%</b>	<b>17,32%</b>	<b>k</b>



**Table 3:** Computing EVA for the future period

	Specification	MU*	2002	2003	2004	2005	2006	Symbol
0	1	2	3	4	5	6	7	8
1	Net cash-flow from operations	rol(mil)	93.398	132.045	141.683	173.980	189.968	CFOn
2	- gross operating accumulation	rol(mil)	131.532	155.501	179.471	203.441	227.410	GOA
3	- tax on profit	rol(mil)	22.728	26.870	31.012	35.154	39.296	Tax
4	- variation of the NWKO	rol(mil)	15.406	-3.414	6.776	-5.693	-1.854	$\Delta$ NWKO
5	Cost of capital invested	rol(mil)	74.865	82.912	88.206	92.654	101.505	CCI
6	- cost of common equity	rol(mil)	36.306	56.272	67.594	78.070	91.251	CCe
7	- common equity	rol(mil)	135.187	152.085	168.984	185.882	202.781	Ce
8	- cost of common equity	%	27%	37%	40%	42%	45%	kCe
9	- cost of borrowed capital	rol(mil)	38.559	26.641	20.612	14.583	10.254	CCb
10	- borrowed capital	rol(mil)	110.170	76.117	58.892	41.667	29.297	Cb
11	- cost of borrowed capital	%	35%	35%	35%	35%	35%	kCb
<b>12</b>	<b>Economic value added</b>	rol(mil)	<b>18.532</b>	<b>49.133</b>	<b>53.477</b>	<b>81.326</b>	<b>88.463</b>	<b>EVA</b>
13	Discount rate	%	17%	17%	17%	17%	17%	k
14	Discount coefficient	-	0,854	0,730	0,624	0,533	0,455	$1/(1+k)^i$
<b>15</b>	<b>Discounted EVA</b>	rol(mil)	<b>15.832</b>	<b>35.859</b>	<b>33.343</b>	<b>43.319</b>	<b>40.255</b>	<b>EVAdi</b>
16	Residual value	rol(mil)					236.041	R <sub>v</sub>
<b>17</b>	<b>Accumulated discounted EVA</b>	rol(mil)					<b>404.649</b>	<b>EVA<sub>L</sub></b>
18	Average estimated EVA	rol(mil)	46.716	$\overline{\text{EVA}}$				
<b>19</b>	<b>Capitalized EVA</b>	rol(mil)					<b>273.923</b>	<b>EVA<sub>c</sub></b>
<b>20</b>	<b>Market value of common equity</b>	rol(mil)					<b>506.681</b>	<b>MVCe</b>

\*) Estimated values in constant prices of year 2001

**Table 4:** The EVA comparison for the historical and future period

0	Specification	MU	Period / Level					Symbol
			3	4	5	6	7	
1	Comparing the EVA in absolute measures	%	115%					$EVA_L / EVA_{Cm}$
2			78%					$EVA_C / EVA_{Cm}$
3	Comparing EVA in relative measures							
4	Forecast period		2002	2003	2004	2005	2006	
5	Future EVA creation rate	%	20%	37%	38%	47%	47%	$FEVA_{CR}$
6	Historical period		1997	1998	1999	2000	2001	
7	Historical EVA creation rate	%	61%	61%	50%	43%	33%	$HEVA_{CR}$

**Figure 1:** The economic value added