CREATING VALUE FOR SHAREHOLDERS BY THE USE OF CASH-FLOWS

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This paper addresses a topic of great contemporaneity and of particular importance, namely the extent to which the creation of value is achieved at micro level through the cash flow. Thus, after a brief introduction, there are given short feedbacks on two basic concepts that are used in the management oriented at creating value, namely: economic value added and market value added. Naturally, in close accordance with the present's work title, a large space is dedicated to value added in the form of cash flow. It enjoys both a broad theoretical description and a practical suggestive example.

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1. Introduction

The investment of capital in assets determines the size of the undertaking, the profits of its operational risk and the liquidity of its business. Getting the best combination of financing determines future cash flows, the financial risk, and has an impact on the value of the enterprise. Also, an optimal allocation of the net profit creates the prerequisites for further development and the structuring a stable shareholding. The basic idea is to acquire assets, to invest when cash flows are expected to exceed the investment, and finance with those instruments that are best, and therefore achieve an optimal distribution of net profit for self and for dividends.

For a long time, the company's management major objective was to maximize profits. It has been proved that such a goal presents a number of limitations, including: the orientation to the horizon near the expense of strategic objectives on medium and long-term; the possible deterioration of relations with customers, suppliers, employees, associates; the low connection with incomes and payments, etc. Gradually, because of these limits, such an objective has been replaced by another, more inclusive and that better meets the current requirements. Therefore, the major objective of the firm must be to create value for its shareholders, or, in other words, to maximize its value.

In order to create value, the businesses must have sufficient results to cover its operating costs and pay the invested capital properly. Performance and value represent an ideal duo for a modern and efficient company's management. "To measure performance one must assess the value and to know the value is to " translate" "performance"[39].

Indicators reflecting the creation of value were created in the'80-'90 and they are of interest for both company shareholders and management. They were created to remove the deficiencies presented by indicators based on financial accounting data, such as the omission of the capital cost and the excessive use of rates in the economic and financial analysis. With these, there are made links between economic and financial performance achieved by the firm as measured by traditional indicators, and the company's value, as a means of measuring managerial performance.

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[39] Albu C., Albu N., Tools for Management Performance, Economic Publishing House, Bucharest, 2004, pg. 96.

It is believed that, to create value, a company must earn enough to cover its operating costs and to ensure appropriate remuneration of the capital invested. To attract the interest of investors, equity pay must be at attractive rates, higher than an investment in assets with no risk.

Management oriented at value creation includes three basic concepts: economic value added, market value added and value added under the form of cash flow.

2. Brief feedback on the economic value added and market value added

Economic Value Added (EVA) was designed at end of the'80 by U.S. economist Bennett Stewart.

This indicator reflects the surplus of value obtained by shareholders from the profit of the related operating result, after covering the costs of invested capital and profit tax, and it is set as the difference between the result of the operation after deducting related tax and cost of capital invested.

Economic value added is based on the fact that, in order to create value, investments should be made that have an economic rate of return above the rate of cost of capital invested, alleged by the suppliers of funds. If positive, the economic value added creates value, and if negative, it expresses a loss of value for shareholders. If economic value added is equal to zero, this result is a satisfactory achievement because the shareholders have obtained a return that compensates for the risk they have assumed.

The goal of using economic value added is to reflect what happened to the wealth of shareholders. According to it, if the economic rentability is superior to the cost of the capital invested, the firm's value increases and vice versa.

To evaluate the wealth created for shareholders, in the case of companies listed on the market, Bennett Stewart set another indicator, **market value added.**

Market value added (MVA) expresses the richness of the company for its shareholders over the net book value of company assets. It is the difference between the market value of capital or exchange value of shares and book value of equity. The market value of equity is given by the stock exchange capitalization of the company, if it is listed on stock exchanges. If the company is not quoted on a regulated market, it is necessary to assess it by specific methods of evaluation.

Value-added market shows how much value was added or lost from the investment of shareholders[40]. Firms with a profitable activity create market value added and thus increase the amount of capital invested by shareholders, while unprofitable firms loose a part of the capital originally invested.

The market value added level depends on the profitability of invested capital. Thus, if the economic rate of return is greater than the cost of capital, the market value of company shares will rise above the initial investment, and this will have a positive value added. The same reasoning applies to the economic value added, so that a positive economic value added means a positive market value added.

The relationship between economic value added and market value added is that the size of the market value added is equal to the update value of all future economic value added.

It follows that by increasing the economic value added, a firm can increase its market value added or, in other words, increase the difference between the market value of the company and the amount of capital invested in it.

3. Theoretical aspects of the value added in the form of cash flow

Value added in the form of cash flow (VACF) was created by Swedish economists Erik Ottosson and Fredrik Weissenrieder, at the mid-'90.

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40 Dincă M., The System of Indicators of Economic and Financial Results of the Company, Scrisul Românesc Publishing House, Craiova, 2001, pag. 158

Although the focus is on non-financial indicators, the two authors did not renounce to measure the company's activity from a financial perspective.

Value added in the form of cash flow is the net present value, which considers that the increase of the value of a firm can only come through the adoption of optimal investment decisions.

To determine this indicator, investments are classified into two categories: strategic investments and non-strategic investments.

Strategic investments are investments made from zero, made initially; while *non-strategic investments* are made subsequently, to maintain the value generated by strategic investments. Non-strategic investments will be treated as costs, as they are made in order to preserve the value of strategic investments.

The determination of the value added in the form of cash flow requires the calculation of the *operating cash flow* and *operating cash flow requirements*.

Requirements of operating cash flow is the level of cash flow, which, updated with an appropriate cost of capital, will lead to obtaining a net present value equal to zero.

Requirements of operating cash flow is a real annuity, adjusted according to the actual annual inflation, which should be covered by operating cash flow (CFE), which represents the cash flow before making strategic investments, but after the non-strategic investments, to ensure that strategic investment can create value.

A strategic investment creates value if operating cash flow exceeds the operating cash flow needs during the operation of investment:

VACF = CFE – NCFE.

The calculation of value added in the form of cash flow is as follows:

Income from the sale of products and goods
-Monetary operating expenses (expenses paid)
= Gross operating surplus (EBE)
- The variation of necessary working capital of exploitation
- Non-strategic investment
= Operating cash flow (CFE)
- Operating cash-flow needs (NCFE)
= Value added in the form of cash flow (VACF)

Operating costs do not include depreciation and other non-monetary costs, as these are not payable expenses.

Gross operating surplus reflects a potential result obtained by the business, as not all sales revenues are actually collected and not all the costs incurred are paid. For this reason, it is necessary to correct the EBE, in order to emphasize the **operating cash flow** from the acquired operations involved in the conduct of the made investment.

In this sense, from the revenue of the sale of products and goods it must be deducted the variation of inventory and accounts receivable ($\Delta St + \Delta Cr$), and from costs it should be deducted variation of operating unpaid debts ($\Delta Dets$), related to unpaid salaries of staff in the accounts, to on credit acquisitions of raw materials from suppliers, unpaid due taxes to state. The difference between the previous items is called the variation of necessary working capital ($\Delta NFRE$):

$\Delta NFRE = \Delta(St + Cr) - \Delta Dets$,
In which:
St = inventory' value;
Cr = accounts receivable' value (with the sales receipt at a later date);
Dets = short term operating debt;

ΔNFRE = (St1 + Cr1 - St0-Cr0) - (Dets1 - Dets0);

In which:

St1 = inventory' value at the end of the year;

St0 = inventory' value in the beginning of the year;

Cr1 = accounts receivable' value at the end of the year;

Cr0 = accounts receivable' value in the beginning of the year;

Dets1 = short term operating liabilities at the end of the year;

Dets0 = short-term operating liabilities in the beginning of the year.

A positive value of the ΔNFRE signifies that the company has immobilized in inventory and accounts receivable greater cash amount than was able to draw from suppliers, staff, state, which negatively affect the size of CFE. A negative ΔNFRE shows a lower value of fixed assets of company funds attracted from used sources, which is favorably evaluated, as having a positive influence on the size of CFE.

In order to obtain the total size of the operating cash flow, from of the value of EBE must be discounted the non-strategic investments made by the company (Ins), represented only in payments account.

The value added in the form of cash flow is determined as the difference between the operating cash flow and operating cash flow requirements. It is, therefore, a surplus of value from shareholders' point of view.

The operating cash flow needs represent the necessary cash flow in order to financially satisfy investors in the company's strategic investments.

Under this model, the investment's net present value (VAN_{Inv}) is equal to the difference between the current value of the operating cash flow generated from investment for the entire period of operation (VA_{CFE}) and the strategic investment made (I). Given that the latter is the updated value of the required operating cash flow during the operation of the investment (VA_{NCFE}), we obtain:

$$VAN_{Inv} = VA_{CFE} - I = VA_{CFE} - VA_{NCFE} = \sum_{k=1}^{n}\frac{CFE_k}{(1+r)^k} - \sum_{k=1}^{n}\frac{NCFE_k}{(1+r)^k} =$$

$$= \frac{CFE_1 - NCFE_1}{1+r} + \frac{CFE_2 - NCFE_2}{(1+r)^2} + ... + \frac{CFE_n - NCFE_n}{(1+r)^n} = \frac{VACF_1}{1+r} + \frac{VACF_2}{(1+r)^2} + ... + \frac{VACF_n}{(1+r)^n} = VA_{VACF}$$

Where:

r = discounted rate (usually the weighted average cost of capital),

n = number of years of operation of investment.

The calculus for operating cash flow needs the processing of the following *steps*:

1. The identification of required payments for each strategic investment.

2. The estimation of the economic life of each investment strategy.

3. Calculating the nominal cash flow you must produce for every strategic investment in each period (year / quarter / month), to achieve a net present value equal to zero, according to a calculation adjusted for inflation. The need for operating cash flow is assumed to be the same in real terms each year, which means that the size of the cash flow of the unadjusted calculation for inflation modifies only with the outcome of past inflation, if VACF analysis is done based on past data and based on estimated future inflation for the remaining NCFE.

Thus, under conditions of zero inflation, the forecast of operating cash flow is the same every year:

$NCFE_1 = NCFE_2 = ... = NCFE_n$.

Considering an annual rate of inflation constant in time (i) the requirements of operating cash flow in year k is determined as follows:

$NCFE_k = NCFE_{k-1} \cdot (1 + i) = NCFE_1 \cdot (1 + i)^{k-1}$

If the rate of inflation recorded large fluctuations in time, previous formula can not be applied, requiring the use of the inflation rate each year for the analyzed period.

If analysis VACF is done only for the future (strategic investment will be made now or in future years), the NCFE of the first year for an investment with a lifetime of n years can be calculated as follows (assuming a future inflation and constant):

$$I = \frac{NCFE_1}{1+r} + \frac{NCFE_1(1+i)}{(1+r)^2} + ... + \frac{NCFE_1(1+i)^{n-1}}{(1+r)^n} = \frac{NCFE_1}{1+r}\left[1 + \left(\frac{1+i}{1+r}\right) + \left(\frac{1+i}{1+r}\right)^2 + ... + \left(\frac{1+i}{1+r}\right)^{n-1}\right]$$

In the right parenthesis we have a geometric progression term 1, ratio $\frac{1+i}{1+r}$ and last term

$\left(\frac{1+i}{1+r}\right)^{n-1}$. Therefore: $I = \frac{NCFE_1}{1+r} \cdot \frac{1 - \frac{(1+i)^n}{(1+r)^n}}{1 - \frac{1+i}{1+r}} = \frac{NCFE_1}{r-i}\left[1 - \frac{(1+i)^n}{(1+r)^n}\right]$

Where that needs operating cash flow of year 1 will cause such:

$$NCFE_1 = \frac{I}{\frac{1}{r-i} - \frac{(1+i)^n}{(r-i)\cdot(1+r)^n}}$$

A special information presents **the index of value added in the form of cash flow**, calculated by the reporting date of CFE to the investment made and the strategic value of NCFE updated as follows:

$$\text{Index VACF} = \frac{VA_{CFE}}{I} = \frac{VA_{CFE}}{VA_{NCFE}}$$

An index value of VACF greater than 1 shows that strategic investments produce an operating cash flow sufficient to cover the demand for operating cash flow and to achieve a surplus that will lead to increasing real wealth held by shareholders as owners of the company.

4. Practical way of determining the value added in the form of cash flow

To demonstrate how computing VACF, we consider that a company makes in year 0 an investment of 500 thousand lei, whose economic life expectancy is 7 years. The investment comes into operation from January 1 next year and year 1. The average rate of the cost of the capital invested (r) is 15% each year, and inflation (i) is assumed to be constant during operation of the investment, 5% per year. Operating cash flow needs have the same record in real terms each year; in nominal value, it is different, being affected by inflation. Sales, costs, the variation of necessary working capital (ΔNFRE) and non-strategic investments (INS) that the company estimates that it will achieve in each of the 7 years are presented in Table 1. Based on these data, it can be calculated the CFE, NCFE and VACF.

Table 1 – thousand lei-

Year	0	1	2	3	4	5	6	7	Total
1. Revenues from sales of products and goods		1100	1250	1400	1600	1700	1850	2000	
2. Payable expenses		900	1000	1050	1200	1300	1400	1500	
3. EBE [(1)- (2)]		200	250	350	400	400	450	500	
4. ΔNFRE		0	50	100	150	150	150	200	
5. Ins		10	10	15	20	25	30	40	

Year	0	1	2	3	4	5	6	7	Total
6. CFE [(3)- (4)- (5)]		190	190	235	230	225	270	260	
7. I	500								
8. r	15%								
9. i	5%								
10. NCFE		106,15	111,46	117,03	122,89	129,03	135,48	142,25	
11. VACF [(6)- (10)]		83,85	78,54	117,97	107,11	95,97	134,52	117,75	
12. VA$_{CFE}$		165,22	143,67	154,52	131,50	111,86	116,73	97,74	**921,24**
13. VA$_{NCFE}$		92,31	84,28	76,95	70,26	64,15	58,57	53,48	**500,00**
14. VA$_{VACF}$		72,91	59,39	77,56	61,24	47,71	58,16	44,26	**421,24**
15. Index VACF [(13) / 7)]									184,25%

Size VACF shows the period during which the strategic investment is able to create value and to produce more or less CFE towards the cost of investors' capital (NCFE).

NCFE level of first year (NCFE$_1$) and subsequent years shall be determined as follows:

$$NCFE_1 = \frac{500}{\dfrac{1}{0,15-0,05} - \dfrac{(1+0,05)^7}{(0,15-0,05)x(1+0,15)^7}} = 106,15 \text{ mii lei}$$

NCFE$_2$ = NCFE$_1$ x (1+ 0.05) = 111.46 million NCFE$_1$ ... NCFE$_7$ = x (1+ 0.05)^6 = 142.25 million
The net present value at the time of investment (December 31 year 0) of the necessary operating cash flow, of the operating cash flow of the and of the value added in the form of cash flow is calculated as follows:

$$VA_{NCFE1} = \frac{NCFE_1}{1+0,15} = 92,31 \text{thousand} \qquad \ldots \qquad VA_{NCFE7} = \frac{NCFE_7}{(1+0,15)^7} = 53,48 \text{ thousand}$$

$$VA_{CFE1} = \frac{CFE_1}{1+0,15} = 165,22 \text{ thousand} \ldots \qquad VA_{CFE7} = \frac{CFE_7}{(1+0,15)^7} = 97,74 \text{ thousand}$$

$$VA_{VACF1} = \frac{VACF_1}{1+0,15} = 72,91 \text{thousand} \quad \ldots \quad VA_{VACF7} = \frac{VACF_7}{(1+0,15)^7} = 44,26 \text{ thousand}$$

Based on these data, the index can be calculated VACF:

$$I_{VACF} = \frac{VA_{CFE}}{I} = \frac{921,24}{500} = 184,25\%$$

5. Conclusions
It is found in the previous table, that in all seven years of operation, the value created by the investment is made positive. In sizes up to date, there is a similar situation, a positive VAN$_{VACF}$ each year, and fluctuate from one year to another. Net present value VACF is 421.24 thousand lei, representing the growth of the investment value that it created for shareholders over the remuneration that they and the creditors require. In update terms, the rentability of the strategic investment is 84.25%, meaning the increase pf the firm's value in the seven years on the investment made.

In the chart below there are listed the developments related CFE, NCFE and VACF in nominal value for the example by up.
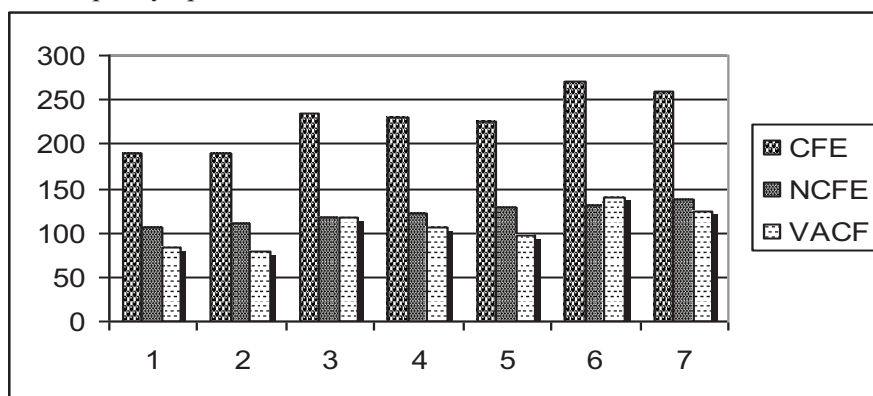

Fig. 1. The evolution of CFE, NCFE, VACF

It is noted in the chart above, the CFE fluctuating trend, but with an upward trend, with a maximum reached in 6 of 270 thousand lei. In order to maintain the productive capacity of the investment, the firm must carry out non-strategic investments each year, that are reflected positively in company's sales growth, covering the additional expenses incurred. The following graph reflects the evolution NCFE, CFE VACF , updated in year 0 and reflected in currency units of the time of the investment.
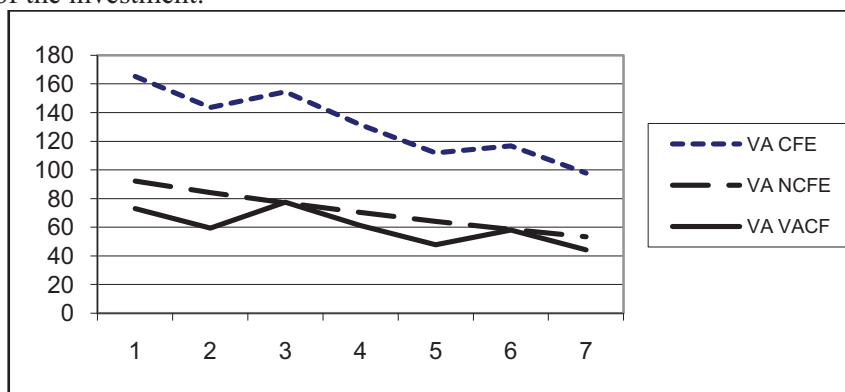

Fig. 2. The evolution of VA_{CFE} , VA_{NCFE}, VA_{VACF}

The evolution of these indicators played a decreasing trend of the updated values CFE, NCFE and VACF during investment.

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