

Economic Value Added (EVA)
A comprehensive Financial Management System

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im Fach Risiko Management

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Table of Contents

Table of Graphs and Figures.....	III
List of abbreviations	III
1. Introduction.....	1
1.1 Why we look at Economic Value.....	1
1.2 Methodic approach of this analysis.....	1
2. Market Value Added (MVA).....	2
2.1 MVA as the right measure of shareholder value.....	2
2.2 From MVA to EVA	2
3. Economic Value Added.....	4
3.1 Calculating EVA and its components.....	4
3.2 Measuring Cost of Capital using WACC.....	6
3.3 EVA vs. Traditional Metrics.....	7
3.3.1 EVA and NPV.....	7
3.3.2 EVA and EPS	8
3.3.3 EVA and Rates of Return.....	9
4. EVA in Corporate Governance.....	9
4.1 Multi-purpose Management Tool on all Levels.....	9
4.2 The EVA Value Drivers	11
4.3 Turning Managers into Owners via EVA	12
5. Conclusion.....	13
6. Bibliography.....	14

Table of Graphs and Figures

Figure 1 – Composition of Market Value of Equity.....	Page 5
Figure 2 – Using EVA in Corporate Governance.....	Page 10

List of Abbreviations

c	Cost of Capital (relative in %)
CAPM	Capital Asset Pricing Model
CoC	Cost of Capital (absolute)
EBIT	Earnings Before Interest and Taxes
EPS	Earnings per Share
EVA	Economic Value Added
MVA	Market Value Added
NOPAT	Net Operating Profit After Taxes
NPV	Net Present Value
R&D	Research and Development
ROIC	Return on Invested Capital
RONA	Return on Net Assets
RoR	Rate of Return
WACC	Weighted Average Cost of Capital

1. Introduction

1.1 Why we look at Economic Value Added

In the last few years and accelerated by the equity boom of the late nineties, a demand has gained ground in Europe. The demand that publicly listed companies have to pursue one main goal: the creation of value for their shareholders.

Martin Romm, an analyst at First Boston is credited with having coined the expression in 1983 but it wasn't before 1994 that it began spreading in the investment community with force. Although the expression "shareholder-value" seems to have found its way into the popular vocabulary, many different interpretations of its meaning exist throughout the public discussion and the press. And even though chairmen of big corporations have taken up the talk of aiming at an increase of shareholder value,¹ they have not made exactly clear how they will attempt to attain this goal or how success on this path shall be measured.

The objective of this paper will be to explore two measures developed and promoted by the consultancy Stern Stewart & Co. which promise to solve these problems and to increase transparency for investors and managers alike: MVA (Market Value Added) and EVA (Economic Value Added). Originating in the United States, EVA has been adopted by leading companies such as Coca-Cola, Eli Lilly, Quaker Oats, AT&T and others, but also by investment banks like Credit Suisse First Boston or Goldman Sachs have supplemented traditional valuation methods with EVA.² But also such a big European conglomerate like Siemens has put EVA to use in turning the company around in the years since the concept was introduced there in 1998.³

We will attempt to find out what the features are which make MVA and EVA so intriguing to the corporate world.

1.2 Methodical approach of this analysis

At first it is to be discussed, what role MVA plays as a representation of shareholder value which will then be followed by a more extensive examination of EVA and its components as the in-company equivalent to MVA. In this context we will also take a look at the differences and common traits of EVA and traditional financial performance measures. We will then turn to the various uses of EVA which its promoters suggest this measure can take in corporate governance, with a special look at what drives value in the EVA concept and finally at the way it is used for compensation and incentives.

2. Market Value Added (MVA)

¹ see García Alonso, A., "Qué es y cómo se utiliza el 'EVA'?", p. 22

² see Lowenstein, R. "Allocation Theory EVA:...", WSJ Interactive Edition

³ see Weber, M-W.; Koch, M., "Berücksichtigung von Risikoaspekten...", p. 1350

2.1. MVA as the right measure of shareholder value

The discussion about shareholder value has focused on the market value of a company as expressed by its share price. But Stern Stewart object that merely maximizing market value is not a suitable goal to directly reflect the creation of shareholder value as it does not put into perspective the money that investors have brought up.

In order to make up for this, they suggest a new measure, Market Value Added (MVA) that clearly offers this perspective: it is the difference between current market value of all capital and the amount of capital supplied by shareholders and creditors over the time of existence of the company. Only if the former exceeds the latter have the company's managers really created value for the owners.⁴

Assuming that market and book value of debt are equal, the equation for computing MVA can be written as follows:

$$\textit{Market Value Added} = \textit{Market Value of Equity} - \textit{Book Value of Equity}$$

The book value of equity, which is to indicate the entire capital devoted to the company by its owners includes equity equivalents, in particular reserves, retained earnings and provisions. In this sense, equity can be derived by subtracting all interest bearing and non-interest bearing debt from total assets on the balance sheet.⁵ The market value of equity is based on the stock market's current valuation, and can be detected by multiplying the number of shares outstanding by the current share price. From the perspective of shareholders, a positive MVA symbolizes the creation of value whereas a negative MVA can be interpreted as destruction of value.⁶ It is thus by maximizing this spread of market valuation over the book value of equity described by MVA that a company's managers maximize the wealth of shareholders.⁷

What now are the sources of this spread and how can the objective to maximize it be translated into tangible measures for corporate governance?

2.2. From MVA to EVA

Market Value Added can be identified as reflecting two directions of influences, one past and one lying in the future.

Only if the company has in its history so far been successful at achieving rates of return that exceeded its cost of capital has it created value on top of the equity that investors have supplied. As long as these excess returns have not been disbursed to shareholders

⁴ see Stern, J. in "EVA Roundtable..." in Chew, D.H. jr., "The New Corporate Finance", p. 166f

⁵ see Mäkeläinen, E., "Economic Value Added", chapter 2.1.2

⁶ see Heidorn, T., Klein, H-D., Siebrecht, F., "Economic Value Added...", p. 6

⁷ see Brigham, E.F., Gapenski, L.C., Ehrhardt, M.C., "Financial Management...", p. 47

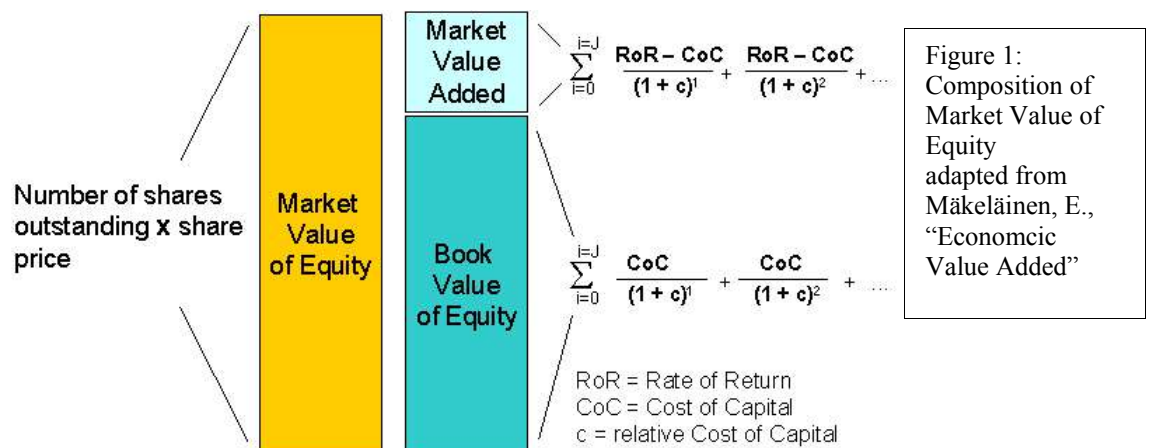
they should show up in the market value of the company and drive it above the book value of equity.

However, as MVA is derived from a company’s market value and thus is inherently a stock market quantity, it reflects primarily the expectations of investors about the company’s future potential and ability to attain returns higher than the cost of capital.

Taking this discounted return point of view, we can understand the components that make up a firm’s market value of equity as follows:

- 1) The book value of equity will equal the sum of all future periodic costs of capital discounted to the current date. As the discount rate is the cost of capital, this equation will exactly yield the amount of equity on which the required return is to be earned.
- 2) Assuming efficient capital markets, the Market Value Added should equal the sum of all expected future periodic returns in excess of the cost of capital discounted to today. It is thus the present value of all future extra earnings for investors.⁸

This fact can be visualized as done in the following graphic:



The above made distinction has in effect decomposed the traditional Discounted Cash Flow method for company valuation into the cost of capital and any excess earnings, with the latter yielding Market Value Added. The expression [(Rate of Return) – (Cost of Capital)] is the content of the Economic Value Added measure developed by Stern Stewart & Co. and is what the rest of this paper will be about. Accordingly we can rewrite the MVA formula as the discounted stream of all future EVAs:

$$MVA = \sum \frac{EVA_1}{(1 + c)^1} + \frac{EVA_2}{(1 + c)^2} + \frac{EVA_3}{(1 + c)^3} + \dots + \frac{EVA_J}{(1 + c)^J}$$

The correlation of EVA and MVA that was depicted here on a theoretical side has also been found to be higher empirically than the one of other measures such as EPS, ROE or

⁸ see Mäkeläinen, E., “Economic Value Added”, chapter 2.1.2

RONA to MVA.⁹ For companies having a negative EVA, the correlation could not be observed as strongly. This can be attributed to the fact that investors might speculate on a recovery of business in the future and regard the liquidation value of assets as a floor for losses in case of the company's bankruptcy.¹⁰ The positive correlation seems to hold best when EVA relative to invested capital is significant (>2,5%) and in some industries such as technology better than others.¹¹

In any case, since MVA as a stock market figure incorporates investors' expectations, as Professor Damodaran comments, the link exists between MVA and *expected* future EVAs. As such, even an increase in EVA might lead to a lower share price if that increase is less than expected.¹²

3. Economic Value Added (EVA)

As said before, maximizing MVA is the key objective of value-guided management. However as a stock market measure subject to volatility and changing investor sentiments on a daily basis it does not offer managers a stable basis for evaluating investments or communicating corporate goals. Additionally, MVAs cannot be determined for particular business units or not publicly traded companies.

For the purpose of internal, operative management Economic Value Added (EVA) builds the bridge to the externally derived MVA.¹³

3.1 Calculating EVA and its components

In effect, we have in EVA a more practicable yardstick that can be obtained from internal company data and as defined in its simplest form states whether the operating profit is sufficient compared to the total costs of capital employed, just as outlined above:

$$EVA_{\text{capital charge formula}} = NOPAT - \text{Invested Capital} \times WACC$$

$$EVA_{\text{value spread formula}} = (ROIC - WACC) \times \text{Invested Capital}^{14}$$

Both equations convey the crucial message that only the value created in addition to the necessary costs of capital invested is of relevance to adding to shareholder value, with EVA being this residual income left after deducting opportunity costs from operating earnings.¹⁵ The second formula focuses on the relative numbers Return on Invested Capital (ROIC) and Weighted Average Cost of Capital (WACC) and as a consequence

⁹ Stern, J. in: "EVA Roundtable..." in Chew, D.H. jr., "The New Corporate Finance", p. 167

¹⁰ see Heidorn, T., Klein, H-D., Siebrecht, F., "Economic Value Added...", p. 13

¹¹ see Heidorn, T., Klein, H-D., Siebrecht, F., "Economic Value Added...", p. 12ff

¹² Damodaran, A., "Economic Value Added (EVA)", chapter "EVA and Market Value Added"

¹³ see Weber, M-W.; Koch, M., "Berücksichtigung von Risikoaspekten...", p. 1342

¹⁴ see Heidorn, T., Klein, H-D., Siebrecht, F., "Economic Value Added...", p. 4

¹⁵ see Weber, M-W.; Koch, M., "Berücksichtigung von Risikoaspekten...", p. 1343

shows within the parenthesis immediately whether excess returns have been earned. This value spread in effect measures the quality of the company's operative business.¹⁶

We will take a look at the components of the EVA equations.

NOPAT (Net Operating Profits after Taxes) is “the amount of profit a company would generate if it had no debt and held no financial assets [and] is defined as follows:

$$NOPAT = EBIT (1 - Tax Rate)^{17}$$

Starting with EBIT underlines the effort to have measures not yet distorted by the effects of diverging financing structures as the foundation for the consecutive calculations. However, as accounting data are biased towards the perspective of a lender, adjustments need to be made to reflect the going concern perspective of the investor.¹⁸ “To the extent that (...) [the company] has operating expenses designed to create future growth rather than support current operations the returns on capital are understated”.¹⁹ In particular we can understand these to be expenses like R&D, staff training and advertising as they aim at generating and increasing future earnings. Since these are then investments instead of operating expenses, they need to be added back to EBIT. In total, Stern Stewart & Co. have identified more than 120 adjustments to accounting data but the company should focus on just implementing a few having the biggest impact, which can be influenced by managers and easily tracked or derived.²⁰

Invested Capital is both debts owed to creditors and the equity of shareholders bound in the company's operations. In order to use the appropriate figure for operations management, the balance sheet assets are adjusted to include debt equivalents such as the present value of operate leasing payments and rents as well as equity equivalents like LIFO reserves, operating expenses bearing investment character (see above) or accumulated amortization on Goodwill.²¹ A more detailed list of necessary adjustments is developed in Stewarts book “The Quest for Value”.²²

Brigham/Gapenski/Ehrhardt emphasize that as EVA is aimed at judging managerial performance, its measures should be constrained to variables under the control of managers. As such they suggest that the invested capital used in measuring EVA be *operating capital* made up of *net operating working capital* and *net fixed assets*. This would also be in line with using the operating measure EBIT to calculate the rate of return.²³

¹⁶ see Heidorn, T., Klein, H-D., Siebrecht, F., “Economic Value Added...”, p. 5

¹⁷ Brigham, E.F., Gapenski, L.C., Ehrhardt, M.C., “Financial Management...”, p. 44f

¹⁸ see Stewart III, G.B., “Market Myths”, p. 55

¹⁹ Damodaran, A., “Applied Corporate Finance...”, p. 155

²⁰ see Stern, J., Stewart III, G.B., Chew, D.H. jr., “The EVA Financial...”, p. 148f

²¹ see Heidorn, T., Klein, H-D., Siebrecht, F., “Economic Value Added...”, p. 7

²² for more details see Stewart III, G.B., “The Quest for Value. The EVA™ Management Guide”, Harper Business, New York 1991

²³ see Brigham, E.F., Gapenski, L.C., Ehrhardt, M.C., “Financial Management...”, p. 42-44 and p. 47

ROIC is merely the way of expressing NOPAT relative to the Invested Capital but as a percentage number is more common to the manager's eye and provides a message about performance at a glance.²⁴ Yet, ROIC might not give a precise rate of economic return as the basis for its computation, the capital invested might be distorted by accounting methods such as depreciation.²⁵ Stewart suggests using return on average net assets to take into consideration the changes in net assets during each period and hence reach a better estimate of capital employed. Then however, it is important not to include returns earned during the year in the capital derived from the end-of-period balance sheet.²⁶ As WACC is the measure for a company's cost of capital we will have a more detailed look at it.

3.2. Measuring Cost of Capital using WACC

The weighted average cost of capital (WACC) is the opportunity cost of all capital employed in a firm of business unit. It reflects both the cost of debt and the cost of equity with their respective weights in composing a company's total assets.

The cost of debt can either be calculated by using the risk free rate of return R_f plus a specific risk-premium derived from the firm's rating (e.g. AAA could be a premium of 40-60 basis points, B a premium of about 400 basis points)²⁷ or by directly selecting long-term bonds of companies having a similar risk-profile. The average yield of these bonds should be the pre-tax cost of debt k_d .²⁸

In Brigham/Gapenski/Ehrhardt's description, cost of debt can also be attained by taking the cost of marginal debt k_d , i.e. the interest rate to be paid for issuing new bonds bearing the typical features of the company's preferred debt instruments. This then still needs to be adjusted for the effect of tax deduction of interest payments by multiplying the interest rate by $(1 - T)$, T being the company's tax rate²⁹

Equity can be made up of preferred and common stock. The cost of preferred stock k_{ps} is found as the preferred dividend promised to holders of these stocks divided by the price the firm effectively receives from issuing the shares after deducting the costs of issuing them. Common stock does not have a promised fixed payment but offers the right to a company's earnings. As these are volatile, stockholders will demand a required rate of return to accept the risks involved. This required rate, which is in effect the cost of common equity k_s , is calculated using the Capital Asset Pricing Model (CAPM). It defines

²⁴ see Heidorn, T., Klein, H-D., Siebrecht, F., "Economic Value Added...", p. 5

²⁵ For a more in depth discussion of this topic see chapter 2.2.1 of Mäkeläinen, E., "Economic Value Added as a management tool" at <http://www.evanomics.com/evastudy/evastudy.shtml>

²⁶ see Mäkeläinen, E., "Economic Value Added", chapter 3.1.1

²⁷ see Weber, M-W.; Koch, M., "Berücksichtigung von Risikoaspekten...", p. 1339

²⁸ see Stewart III, G.B., "The Quest for Value...", p. 743

²⁹ see Brigham, E.F., Gapenski, L.C., Ehrhardt, M.C., "Financial Management...", p. 376f

the cost of common stock to be the risk free rate of return R_f plus a risk premium for the specific risk of the company, which is obtained by multiplying the risk, spread of the overall market ($R_m - R_f$) indicating the general risk of investing in shares by the stock's β . A company's β is the historic volatility of its returns in relation to the volatility of the market returns.³⁰

In conclusion, the cost of capital as weighted average of all component costs, i.e. debt, preferred stocks and common stocks can be calculated as follows:

$$\text{WACC} = w_d k_d (1-T) + w_{ps} k_{ps} + w_{ce} k_s$$

W_d , w_{ps} and w_{ce} are the relations of debt, preferred, and common equity to total assets. As EVA will be used mainly in evaluating future investment opportunities and assessing management performance, WACC should reflect the company's target financial structure and its respective weights rather than following their actual changes.³¹

Joseph Willet, CFO of Merrill Lynch brings up the point that for financial institutions which have high leverage (after all taking deposits is one of their businesses), WACC as calculated above would be too low due to the dominant after-tax cost of debt financing. He therefore suggests using as EVA the after tax, after interest operating returns (equaling the after tax RoE) and the cost of equity used in the business. This being calculated by CAPM will also include the risk incurred by the company or business unit.³²

3.3. EVA vs. Traditional Performance Measures

3.3.1 EVA and NPV

In establishing the link between MVA and EVA we have used discounting future cash flows, a method that is also applied in the concept of Net Present Value (NPV). And Joel Stern remarks "both methods [- EVA and NPV -] properly applied give you the same answer over an extended period of time."³³ Assuming that as defined above, ROIC equals $[\text{EBIT} (1-T)] / \text{Invested Capital}$ with EBIT being cleansed of capital charges such as leases and operating expenses such as R&D it can be shown that NPV and EVA are one and the same thing. This compels Damodaran to judge that EVA is closest in both theory and construct to the NPV as to capital budgeting and an equivalent to a DCF valuation of a firm.³⁴ Professors Shrieves and Wachowicz of the University of Tennessee reach the same conclusion: though being essentially an economic profit rather than a cash flow measure, EVA is conceptually the identical approach to valuation and deci-

³⁰ see Brigham, E.F., Gapenski, L.C., Ehrhardt, M.C., "Financial Management...", p. 378f

³¹ see Brigham, E.F., Gapenski, L.C., Ehrhardt, M.C., "Financial Management...", p. 383

³² see Willet, J. in: "EVA Roundtable..." in Chew, D.H. jr., "The New Corporate Finance", p. 174

³³ Stern, J. in: "EVA Roundtable..." in Chew, D.H. jr., "The New Corporate Finance", p. 167

³⁴ Damodaran, A., "Economic Value Added (EVA)", chapter "Things to note about EVA"

sion-making as stated in free cash flow or net present value.³⁵ In spite of this similarity, Stern/Stewart claim that EVA extends beyond that as the multi-year tool NPV is broken down into annual (or even) monthly instalments to be appropriate for corporate governance.³⁶

3.3.2 EVA and EPS

This field is also where EVA claims to surpass performance measures commonly used in companies. Not only that, they also claim “the first thing any company should do in its pursuit of higher MVA is to abandon the cult of earnings per share.”³⁷ Even though it seems to be a measure aimed at the stock market, it does treat neither of the two things investors care about: the cash generated by the company and the risk incurred by its operations. Rather it relies on the accounting measure of earnings, which can easily be influenced and distorted by many decisions not in the interest of investors. Choosing higher tax deduction opportunities will reduce earnings while actually profiting investors by saving taxes for the company.³⁸ Simply pouring more equity into operations as long as the return earned is merely positive can raise EPS; a way of promoting the destruction of value that should make EPS entirely unacceptable to shareholders as a performance measure.³⁹ Another major downside of EPS is that it does not make the cost of capital evident, a negative feature it shares with traditional Return measures like ROA, ROI, etc. Without an explicit cost of capital it is more likely that the company will destroy value by taking up also unprofitable investments. This demand is rather old in financial theory but as shown not integrated in most other methods.⁴⁰

3.3.3 EVA and Rates of Return

Rates of Return are already an improvement over earnings as they encourage the efficient use of assets but still do not go far enough. In contrast to all mere return measures such as ROE and RONA (Return on Net Assets), EVA makes sure that only investments with returns higher than the cost of capital are encouraged but also *all* of these are encouraged when they have a positive EVA ($ROC > WACC$). This is of particular relevance to highly profitable companies or business units who now face a selection of lower return but still profitable investments. Although taking them on would add value to shareholders, they would spoil the existing return and therefore are discouraged.

³⁵ see Shrieves, R.E.; Wachowicz, J.M., “Free Cash Flow...”, p. 14

see this paper also for a detailed calculation of the three measures and discussion of their relation

³⁶ Stern, J. in: “EVA Roundtable...” in Chew, D.H. jr., “The New Corporate Finance”, p. 165

³⁷ Ehrbar, A., “EVA: The real key...”, p. 67

³⁸ see Ehrbar, A., “EVA: The real key...”, p. 67f and p. 69f

³⁹ see Mäkeläinen, E., “Economic Value Added”, chapter 2.3.5

⁴⁰ see Keen, P., “Economic Value Added (EVA)”

Maximizing returns can hence not be a reasonable target for managing companies and business units by objectives.⁴¹

Mäkeläinen compares the relation between EVA and rates of return to NPV and IRR: both EVA and NPV are absolute numbers taking not only profitability but also volume into consideration, ROI and IRR should only give additional information not be a goal in their own respect.⁴²

Since Stern Stewart & Co. originally set out to define a new measure facilitating corporate governance with direct relation to shareholder value. In this respect, the most important claimed difference to other measures is EVA's operational nature that we will examine in the following chapter.

4. EVA in Corporate Governance

4.1 Multi-purpose Management Tool on all Levels

“EVA combines operating efficiency and balance sheet management into one measure that can be understood by operating people.”⁴³ As mentioned above, its periodic nature qualifies EVA for year-to-year performance measure. EVA being in absolute dollar-numbers and specifically stating the return required on all investments makes it an easy to understand concept that can be applied at all levels down to the shop floor. Several senior executives of US companies report about successfully introducing it on all hierarchy layers resulting in impressive increases in the ‘business literacy’ of their staff. Operating profit is a common and well-known metric, so the main issue is conveying the message that all capital has a cost. It is only once this is understood that the full potential of the staff's creativity is put to use for creating value. EVA achieves just that.⁴⁴

Its simplicity makes it possible to implement EVA both for the entire company as well as for single business units. The cost of capital can be adapted for a business unit to reflect a higher or lower risk-profile than at the average company level.

Stern Stewart & Co. declare, EVA will assist firms in decentralizing their business units, getting decision-making closer to the customer by establishing a uniform and easy-to-understand tool. EVA is supposed to ensure empowered managers act in the best interest of shareholders and will be compensated correspondingly while retaining sufficient leeway for making decisions in respect to their relevant environment.⁴⁵

Once implemented throughout the company, EVA will cover all relevant aspects of corporate governance. The following figure visualizes the crucial steps:

⁴¹ see Stern, J. in: “EVA Roundtable...” in Chew, D.H. jr., “The New Corporate Finance”, p. 167

⁴² see Mäkeläinen, E., “Economic Value Added”, chapter 2.3.5

⁴³ see Stern, J., Stewart III, G.B., Chew, D.H. jr., “The EVA Financial...”, p. 148

⁴⁴ see Ehrbar, A., “EVA: The real key...”, p. 130f

⁴⁵ see Stern, J., Stewart III, G.B., Chew, D.H. jr., “The EVA Financial...”, p. 140

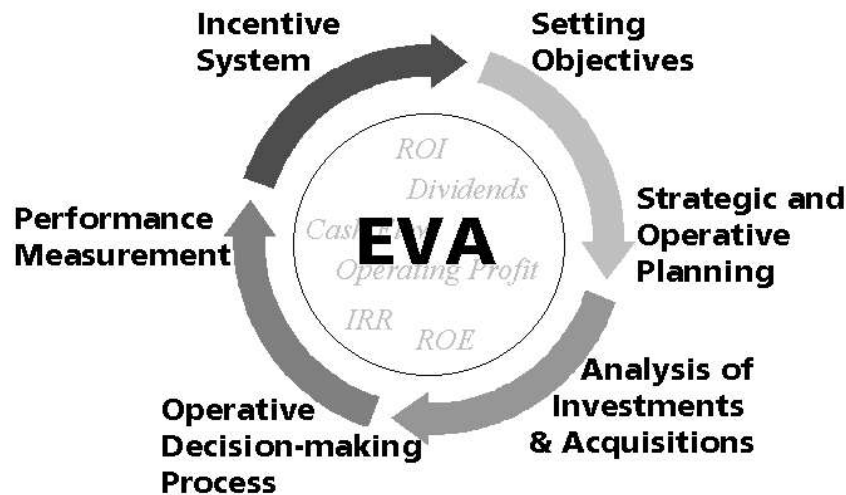


Figure 2:
The EVA Management
and Compensation
System
see
Weber, M-W.; Koch,
M., “Berücksichtigung
von
Risikoaspekten...”, p.
1344

Using a single all-purpose yardstick, EVA integrates all activities within the company. As they are tied to the EVA-adapted compensation, all strategic and operative decisions are evaluated by their contribution to increasing shareholder value.⁴⁶ In this sense, SPX Corporation, a U.S. manufacturing holding clearly states that EVA is their corporate governance tool of choice:

“EVA aligns Performance Measurement, Decision Support, Compensation, and Communications. (...) [It] is the foundation of everything we do at SPX. (...) EVA is the one financial measure that links shareholders with employees, encouraging employees to think and act like owners and focus on a common goal – adding value. But EVA is more than a financial formula. It is a common language, a mind-set, and the way we do business.”⁴⁷

Objectives should be derived from MVA that embodies the expectations of investors about the company’s future earnings. Via this proxy it can be ensured that the subsequently operationalized EVAs are in line with market expectations. Any shortfall behind these objectives is bound to result in a decrease of MVA, as expectations could not be met.⁴⁸ In strategic planning, MVA can facilitate allocation of capital as it sheds light on fields of business that are mature and should no longer receive but rather transfer back capital. If all companies in a field of business have negative MVAs, this can be interpreted as an assessment by the market that they will not be able to earn the required returns in the future. In contrast to this positive and increasing MVAs over an entire industry of field of business might signal investment opportunities to diversify to.⁴⁹

While the two steps of investment & acquisition analysis and performance measurement derive rather directly from EVA as outlined above (i.e. punch in the numbers and evalu-

⁴⁶ see Weber, M-W.; Koch, M., “Berücksichtigung von Risikoaspekten...”, p. 1343

⁴⁷ SPX Corp. (ed.), “Value Improvement Process...”, Internet page

⁴⁸ see Weber, M-W.; Koch, M., “Berücksichtigung von Risikoaspekten...”, p. 1349

⁴⁹ see Mäkeläinen, E., “Economic Value Added”, chapter 2.3.4

ate the result), we shall have a closer look at the *EVA Value Drivers* that crucially support the planning and decision-making processes.

4.2 The EVA Value Drivers

Departing from what we have learned about the variables represented in EVA, we arrive at four basic approaches for management to direct EVA towards value-creation:

- Operate: Increase returns earned on assets already tied up in the business unit. More efficient usage of resources and eliminating redundant work could be a way to achieve this.
- Build: Increase the volume of EVA from a business unit by investing additional capital and aggressively extending the business as long as returns earned exceed the cost of capital. (Additional capital might drive up the cost of capital as well.)
- Harvest: Decrease the exposure to mature business units that earn returns below the cost of capital: stop investing and find ways to release capital from these activities, e.g. by way of drawing out all earnings and selling assets.⁵⁰
- Structure the company's financing components in a way that minimizes cost of capital, e.g. by leveraging more – a decision only in the hands of top management and the finance department.⁵¹

Brigham/Gapenski/Ehrhardt add that working capital is also an important lever for driving EVA. Reducing working capital, i.e. inventories, cash holdings or receivables, will reduce the capital and in effect its required cost and in addition to that free up cash. This cash can successively be used to pay off debt or repurchase shares and thus further reduce capital. All of this will lead to an increase in EVA. As working capital is under control of operating people, EVA can do a great job of revealing value potential there.⁵² Any decision taken on one of these value drivers is likely to affect both cost of capital and operating income and to consequently counterbalance itself to some extent. An example is when The Coca-Cola Company shifted from re-usable steel cans to throwaway cardboard containers for shipping syrup to bottlers. This increased operating expenses but that effect was outweighed by the reduction of cost of capital.⁵³

We now turn to what EVA promoters regard as central: incentives and compensation.

4.3 Turning Managers into Owners via EVA

⁵⁰ see Stern, J., Stewart III, G.B., Chew, D.H. jr., "The EVA Financial...", p. 148

⁵¹ see Ehrbar, A., "EVA: The real key...", p. 135

⁵² see Brigham, E.F., Gapenski, L.C., Ehrhardt, M.C., "Financial Management...", p. 795

⁵³ see Ehrbar, A., "EVA: The real key...", p. 140

One of the central problems arising when investing money in a company not run by oneself is the *principal/agent-problem*. In the case of publicly owned companies, the firms' managers own (if at all) only a relatively small share of the company. This makes it rather likely that managers will pursue individual goals conflicting with shareholder value maximization like extending the company in order to extend their own power. One traditional response has been to create efficient incentives by tying managers' compensation to the development of the company's share price.⁵⁴ Stern Stewart & Co. recommend institutionalizing this remuneration method on the basis of EVA and thus aligning the interests of shareholders and managers.

As this system is to reduce agency-problems, there are four main demands to a compensation system:

- 1) a significant amount of variable parts of compensation,
- 2) direct linkage between the flexible part of compensation and share price,
- 3) no upward or downward limitations to bonus,
- 4) motivation to sustainable value creation by disbursing the bonus over time.⁵⁵

1) is to ensure that the motivation to create value is higher than for conflicting interests; 2) wants to turn employees into owners; 3) is supposed to make managers *fully* participate in all consequences of their actions, 4) is a precaution that managers do not maximize short-term profits with adverse effects in the long term.

In its applied form, "incentive compensation is the anchor of the EVA financial management system" and should result in "(1) a cash bonus plan that stimulates ownership, and (2) a leveraged stock option (LSO) plan that makes ownership real."⁵⁶

Mäkeläinen remarks that these incentive bonus plans are rather self-paying as they should motivate managers to add extra returns that exceed the cost of their compensation. The target measure for compensation is suggested to be set as the increase in EVA since it better reflects performance, shows trends, allows rewarding turnarounds when EVA is still negative and are more closely tied to share prices than absolute values.⁵⁷

The big expectation in EVA is that its inherently shareholder-oriented message will be the right basis for effectively reducing agency-problems by establishing a corresponding incentive and compensation system. It is to create managers with the mindset of owners. Having considered the uses of EVA in Corporate Governance, we can understand what Stern Stewart & Co. mean in their promise that "when fully implemented, it [EVA] is the centerpiece of an *integrated financial management system* that encompasses the full range of corporate financial decision-making – everything from capital budgeting, ac-

⁵⁴ see Brigham, E.F., Gapenski, L.C., Ehrhardt, M.C., "Financial Management...", p. 21f

⁵⁵ see Weber, M-W.; Koch, M., "Berücksichtigung von Risikoaspekten...", p. 1347

⁵⁶ Stern, J., Stewart III, G.B., Chew, D.H. jr., "The EVA Financial...", p. 151 more details p. 151-153

⁵⁷ see Mäkeläinen, E., "Economic Value Added", chapter 3.2.1

quisition pricing, and the setting of corporate goals to shareholder communication and management incentive compensation.”⁵⁸

5. Conclusion

In conclusion, Stern Stewart & Co. assert that “*EVA is the only reliable and unambiguous continuous-improvement metric*. In fact, a big part of the case for EVA is the case against all other financial measures.”⁵⁹

However critics state not only that EVA is no new concept but has been around for a while known as residual income but also that still some problems remain. Just as with DCF getting a precise estimate of cost of capital and estimating future EVAs is not resolved.⁶⁰ Adjustments to accounting data involve a lot of subjective decisions that might by themselves introduce rather than reduce distortions and render comparisons between companies more difficult.⁶¹ Also for young companies with high initial investments and a long payoff phase, more direct measures seem more suitable than a figure focused on earnings.

So although EVA is no one-fits-all magic measure, we might wrap it up with the claim that “by increasing accountability, strengthening incentives, facilitating decentralized decision-making, establishing a common language and fostering a culture that prizes building value above all else, it significantly improves the chances of winning.”⁶²

⁵⁸ Stern, J., Stewart III, G.B., Chew, D.H. jr., “The EVA Financial...”, p. 141

⁵⁹ Ehrbar, A., “EVA: The real key...”, p. 129f

⁶⁰ see. Ravid, S. A., in: “EVA Roundtable...” in Chew, D.H. jr., “The New Corporate Finance”, p. 181

⁶¹ see Zimmermann, J., in: “EVA Roundtable...” in Chew, D.H. jr., “The New Corporate Finance”, p. 188

⁶² Stern, J., Stewart III, G.B., Chew, D.H. jr., “The EVA Financial...”, p. 141

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