2 Superior Performance Through Value-based Management

Andreas Bausch[1]

Michael Hunoldt[2]

Lars Matysiak[3]

Abstract

Value-based management provides managers with tools and techniques supporting the development and implementation of value-creating strategies. It further offers incentives which encourage managers to realize only those strategies which create value. In this chapter we present a brief overview of four important concepts of value-based management and of their popularity among the DAX-23 companies. Because of its extreme importance we then portray the EVA/MVA concept of Stern/Stewart in more detail. Moreover, we outline selected applications and techniques of value-based management with reference to strategy development, mergers & acquisitions, and performance management. We substantiate our theoretical discussion with an empirical analysis of the value creation of the DAX-23 companies. Lastly, we evaluate German utility companies' EVAs and compare them to EVAs of Austrian and Swiss utilities.

Keywords: value-based management, superior performance, EVA

[1] Prof. Dr. Andreas Bausch is Professor of International Management at the Friedrich Schiller University of Jena, and Adjunct Professor of Strategic Management and Controlling and Academic Director of the Executive MBA in European Utility Management at Jacobs University Bremen, Germany.

[2] Michael Hunoldt is Research Associate in International Management at the Friedrich Schiller University of Jena, Germany.

[3] Lars Matysiak is Research Associate in International Management at the Friedrich Schiller University of Jena, Germany.

A. Bausch and B. Schwenker (eds.), *Handbook Utility Management,*
DOI: 10.1007/978-3-540-79349-6_2,

2.1 Introduction

Within the last two decades, increasing competition on the global capital markets in general and a growing influence of institutional investors in particular have triggered the growing popularity of value-based management concepts. They have also intensified the pressure on corporations to focus on value orientation. Creating value requires investments on which returns exceed the capital cost of investment. This implies, first of all, that managers must be able to identify and implement value-creating strategies. But since property rights theory (e.g., Alchian & Demsetz, 1972) and agency theory (e.g., Jensen & Meckling, 1976) argue that managers' and shareholders' interests may differ, this ability is insufficient. Managers must, secondly, be offered incentives that are in alignment with value-creating strategies. Such incentives must align managers' interests with those of shareholders. Otherwise, managerial behavior dictated by self-interest may destroy value. Value-based management is a solution for both challenges mentioned. Not only does value-based management provide managers with metrics and analytical techniques for identifying value-creating strategies; it also aligns managers' and shareholders' interests by linking managers' compensation and promotions directly to value creation (Ryan & Trahan, 2007; Martin & Petty, 2000). Value-based management can be defined as an "approach to management that aligns a company's overall aspirations, analytical techniques and management processes to focus management decision making on the key drivers of value" (Koller, 1994). Consequently, implementing a comprehensive value-based management system helps a company to attain the goal of value maximization.

The idea of value-based management can be traced back to the end of the 19th century (e.g., Marshall, 1890). However, this concept did not become widely recognized and popular until Alfred Rappaport published his seminal book "Creating Shareholder Value" in 1986. Since then, numerous consulting firms have developed different value-based measures to enable corporations to make strategic and operational decisions in line with the goal of value creation. The most important metrics are the economic value added (EVA), which was popularized and trademarked by Stern Stewart & Co., the cash flow return on investment (CFROI), conceptualized by HOLT Planning Associates/Boston Consulting Group, and the return on invested capital (ROIC), developed by McKinsey & Co. All these measures concentrate on value creation and are mathematically linked to a series of value drivers. Another essential advantage of value-based metrics is that they capture real value creation by taking account of the risk notion, the impact of inflation, and partly opportunity costs, which is not the case for traditional accounting-based performance measures. Copeland et al. (2000) even state that value is the only performance measure that uses complete information.

The fact that creating sustainable intrinsic value ought to be a firm's ultimate goal can be illustrated by its connection to superior economic performance in the long run. In fact, creating value and attaining a competitive advantage are two sides of the same coin. In strategic management literature, superior economic performance is seen as the result of a sustained competitive advantage. Within an

industry, a superior strategy leads to a competitive advantage.[4] The consistent implementation of one of Porter's (1980) generic strategies (cost leadership, differentiation, or focus) together with a strategic group membership is thus considered to be the source of a competitive advantage. A firm that has gained a sustained competitive advantage is then able to create more economic value than rival firms, with economic value defined as the difference between the total perceived customer benefits and the full economic costs of a firm's products or services (Barney & Hesterly, 2006). In terms of the EVA concept, a competitive advantage leads to a return on capital employed (ROCE) above the industry average of the weighted average cost of capital (WACC). Consequently, focusing on value creation is equivalent to concentrating on attaining a competitive advantage, which entails superior economic performance.

2.2 Concepts of Value-based Management

2.2.1 Overview of Different Concepts

The four above-mentioned works on shareholder value and value-based management stand out from all other concepts in this stream of research because of their scientific and practical acceptance. They share the idea that increasing the fundamental company value should be the ultimate target of corporate management. Pursuing this objective is beneficial not only to shareholders, but also to all stakeholders, because without shareholders' risky investments none of the stakeholders' claims could be satisfied (Rappaport, 1986). In this section, we outline the key aspects of the four concepts, after which Table 2.1 at the end of this section offers a brief synopsis.

Concept of Rappaport

Alfred Rappaport (1986) contends that accounting-based performance measures such as net profit, return on investment (ROI), and return on equity (ROE) are inadequate measures to assess the achievement of the proclaimed goal of value creation for shareholders. Instead, Rappaport advocates the use of the shareholder value (SV) as a key performance indicator. SV is the difference between the company value and the market value of debt. Company value can be calculated as the net present value of cash flows from operations plus a residual value and the market value of tradable securities. Three main items have to be determined for this calculation: the free cash flows available to compensate debtholders and shareholders, the residual value after the planning horizon, and the cost of capital. The cost of capital is calculated as the WACC, using the aspired (market value-based) capital structure to weigh the after-tax cost of debt and the cost of equity. The lat-

[4] In contrast, traditional industrial organization research explains superior economic performance by industry effects and ignores firm behavior variables.

ter is determined in accordance with the capital asset pricing model (CAPM). In addition to SV, Rappaport (1999) introduces the shareholder value added (SVA). It is a measure for residual firm performance within one period and reflects a change in shareholder value.

Concept of Copeland/Koller/Murrin

Tom Copeland, Tim Koller, and Jack Murrin (2002) distinguish between two ways of calculating SV: the 'entity model' and the 'economic profit model'. The entity model follows the aforementioned approach of Rappaport (1986) with only minor adaptations. In the economic profit model, the sum of the currently invested capital and the present value of all future economic profits constitute company value. The authors define economic profit as the residual rent of the invested capital, i.e., the difference between ROIC and WACC. To discount future economic profits, the WACC is applied.

Concept of Lewis

Thomas G. Lewis (1995) suggests total shareholder return (TSR) on the basis of stock price changes and dividend payments as a key performance indicator. Lewis identifies three drivers that increase future free cash flows (FCF) and thus TSR: increasing returns, growth in activities whose returns exceed their cost of capital, and dividend payments whenever an investment in activities whose returns are above their cost of capital is impossible. To measure the return on an activity, Lewis propagates the CFROI, because to his mind traditional accounting-based performance measures are not sufficiently correlated with company value. The CFROI is a ratio of the cash flow a company has generated to the cash invested in the company's assets in a given period. It represents an internal rate of return. The cash value added (CVA) as a residual profit measure of an investment for a specific period depends on the difference between the investment's CFROI and its cost of capital. The latter is calculated on the basis of a broad portfolio of companies listed in the most important national economies. This implies a standardized cost of capital without firm-specific adjustments. Lewis explicitly rejects the WACC with the cost of equity according to the CAPM, as empirical substantiation for it is lacking.

Concept of Stern/Stewart

The concept of Joel M. Stern and G. Bennett Stewart builds on the EVA. Its starting point is a firm's net operating profit after taxes (NOPAT). From the NOPAT a charge for the capital employed (CE), which is used to generate the NOPAT, is subtracted to yield the EVA. The capital charge is calculated by applying the standard WACC to the CE. The EVA is a measure of residual profits from an entity perspective for one period. The analog multi-periodical measure is the market value added (MVA). It is a cumulative measure of firm performance, which illus-

trates the assessment of the NPV of all current and planned investment projects of a company.

Table 2.1: Comparison of valuation methods of value-based management concepts (following Hahn & Hintze, 2006)

	Cost of capital	Performance measure per period		Present value over life cycle
		Residual	Return	
Rappaport	WACC, cost of equity according to CAPM	SVA	Return on sales	SV
Copeland et al.	WACC, cost of equity according to CAPM	Economic profit	ROIC	Equity value
Lewis	Empirically determined average cost of capital	CVA	CFROI	Market value of equity
Stern/Stewart	WACC, cost of equity according to CAPM	EVA	ROCE	MVA

From an external point of view, MVA is the difference between the market value of a company and its book value. From an internal perspective, MVA is equal to the net present value of all future EVAs. The EVAs are discounted with the WACC. Maximizing MVA should be one a firm's top priorities, and EVA should be used to measure periodical performance (Stern et al., 1996; Stewart, 1999).

2.2.2 Overview of Performance Measures Utilized by the DAX-23 Companies

As already pointed out, the concepts of value-based management portrayed all have their origins in Anglo-American science and consulting practice. How appropriate they are for Europe in general and for Germany in particular has been a topic of discussion for quite a while. Anyway, the importance of value-based management concepts in Germany has increased sharply in recent years. Today, almost all management systems of the DAX-23 companies are directly or indirectly value-based. About 70% of the DAX-23 companies utilize the EVA as their key performance indicator (see Figure 2.1), including roughly 9% that employ a revised EVA (R-EVA). The R-EVA differs from the EVA in that it uses market values – instead of book values – to determine the cost of capital (Bacidore et al., 1997). Because of the enormous practical relevance of the Stern/Stewart concept, we offer a detailed description of the EVA and MVA and all underlying calculations in the following section.

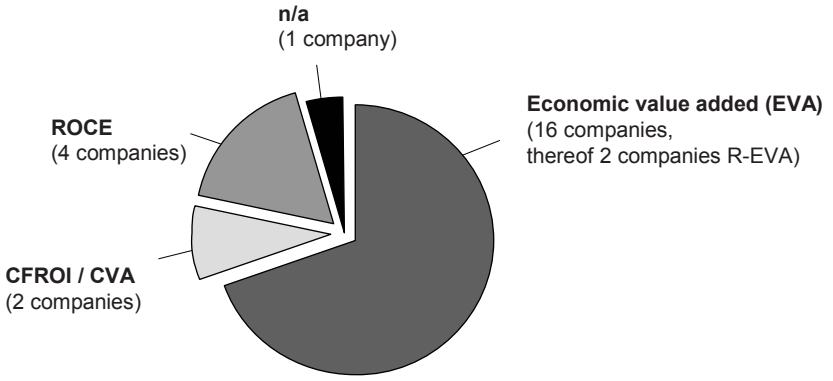

Figure 2.1: Value-based management applied by the DAX-23 companies (without banking/finance/insurance; status as of 1st quarter 2007)

2.2.3 Calculation and Interpretation of EVA and MVA

Stern et al. (1996) underline that they conceived a consistent integrated financial management system that is based on one key figure: the EVA. Some of the major advantages of their approach are its simplicity and its straightforwardness. Because of the power of this concept, it is essential to fully understand all variables that affect the EVA, all necessary steps of the EVA calculation, and all underlying assumptions. The constitutive formula for the EVA as defined in Section 2.2.1 is

$$EVA = NOPAT - WACC * CE \quad (1)$$

The NOPAT is derived by subtracting (fictitious) taxes according to the corporate tax rate from the earnings before interest and taxes (EBIT). Applying the corporate tax rate on the EBIT implicitly assumes a completely equity-financed investment. A number of adjustments are recommended to transform the accrual-based EBIT into NOPAT. Among them are the capitalization and amortization of costs associated with strategic investments such as research and development costs or marketing costs. In practice, however, very few adjustments are usually made, as they increase the complexity of the EVA approach dramatically while only marginally improving its explanatory power (Stewart, 1994).

The CE is defined as all operating capital necessary to generate the NOPAT. This is commonly the sum of the net working capital (the difference between current assets and current liabilities) and the net fixed assets (all long-term assets less accumulated depreciation).

The capital charge for the CE is calculated with the WACC, which uses the aspired market value-based equity-to-capital ratio and debt-to-capital ratio to weigh the cost of equity (CoE) and the after-tax cost of debt ($CoD_{a.t.}$).

$$WACC = \frac{Equity}{Equity + Debt} * CoE + \frac{Debt}{Equity + Debt} * CoD_{a.t.} \qquad (2)$$

Both CoE and $CoD_{a.t.}$ are the sum of a risk-free rate and company-specific risk premiums. CoE is derived from the CAPM as follows:

$$CoE = E(r_i) = r_f + \beta * [E(r_m) - r_f] \qquad (3)$$

The dependent variable $E(r_i)$ denotes the expected return on an individual security. The variable r_f is the rate of return for a risk-free investment, usually a long-term government bond rate. The beta factor, β, represents a firm's systematic risk. It is a sensitivity factor, indicating how a share's return reacts to a market or index movement. The independent variable $E(r_m)$ reflects the expected return of the market or index. Consequently, the difference $[E(r_m)\text{-}r_f]$ is the risk premium expected for an investment in the market rather than an investment in the risk-free alternative.

The after-tax cost of debt is calculated as follows, where s is the marginal tax rate:

$$CoD_{a.t.} = CoD_{b.t.} * (1 - s) \qquad (4)$$

It is important to take account of the tax shield of debt financing at this point of the calculation, because the EVA would be underestimated otherwise. This is because the NOPAT was derived with tax expenditures and on the assumption of complete equity financing. The cost of debt before taxes may either be calculated from expected interest payments according to long-term debt contracts or by adding the rate of return on a risk-free investment and a risk premium derived from credit spreads and credit ratings.

As the capital charge includes both the cost of debt and the cost of equity, it can be interpreted as the amount necessary to compensate debtholders and shareholders for the risk they bear with their investments. Furthermore, this calculation of the capital charge implicates that the EVA accounts for differences in capital structures.

Restating formula (1), which is frequently labeled the capital charge formula for the EVA, offers some additional information regarding the circumstances in which value is created. To this end, NOPAT as an absolute accounting-based performance measure from an entity perspective is divided by CE to result in the ROCE as a relative measure.

$$ROCE = \frac{NOPAT}{CE} \qquad (5)$$

Combining formula (1) and formula (5) leads to the value spread formula of the EVA.

$$EVA = (ROCE - WACC) * CE \qquad (6)$$

Obviously, the difference between ROCE and WACC determines whether value is created or not. Firms only create value by employing capital in the case of a positive difference. If ROCE equals WACC, the firm's profit is just sufficient to compensate both debtholders and shareholders for the risk they bear. No value is created beyond this compensation. Finally, a negative difference implies that the CE is not able to earn sufficient profits to pay the cost of capital.

Formula (6) illustrates the existing ways to increase EVA over an investment's life cycle:

(a) Increase the ROCE, which implies increasing the NOPAT that is generated by the current CE.
(b) Increase the amount of CE as long as the ROCE exceeds the WACC.
(c) Divest if the ROCE is lower than the WACC.
(d) Adapt financial management methods that lower the WACC (e.g., by a change of capital structure).

The EVA concept may be extended with the MVA, as defined in Section 2.2.1. With regard to the MVA, it is noteworthy that from an external perspective it is usually calculated as the difference between the market value of equity and the book value of equity, where market value of equity is the product of the number of outstanding shares and the share price. This simplification assumes that market and book value of debt do not differ. Furthermore, this calculation is only correct if efficient capital markets are assumed. The internally calculated MVA as discounted future EVAs is equal to the externally calculated MVA only if expectations on the stock market are the same as expectations within the firm. With respect to interpretation of the MVA it has to be noted that a positive MVA is a signal of overall value creation and a negative MVA is a signal of overall value destruction, through business activity. While a negative EVA of a single year may be overcompensated by other years' positive EVAs, a negative MVA gives an indication that circumstances exist in which restructuring, spin-out, or liquidation might make sense. All in all, in the long run, maximizing the MVA is the ultimate financial goal of shareholder-centered management. In accordance with the interdependence of MVA and EVA, this entails maximizing EVAs (Stewart, 1994).

2.3 Applications and Techniques of Value-based Management

2.3.1 Overview

Integrated value-based management systems influence the strategy, structure, processes, analytical techniques, and performance measures of a firm (Arnold, 1998). The most prominent areas of application include strategy development, mergers & acquisitions (M&A), and performance measurement. We explain techniques of value-based management selected from those used in these areas in this section. Depending on the area of application, the unit of investigation varies from

a company over specific business units and subsidiaries to investment projects (see Figure 2.2).

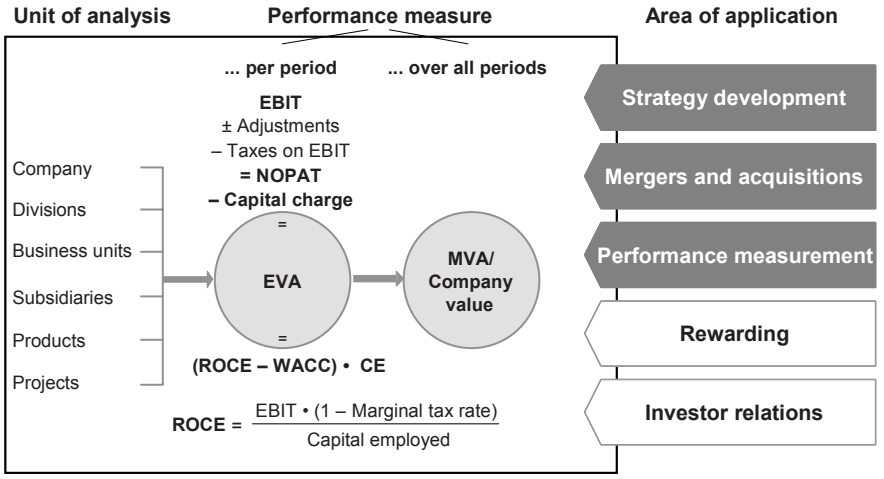

Figure 2.2: Areas of application of value-based management

2.3.2 Strategy Development

Strategy development can be regarded as one of the most important areas in which to apply value-based management tools, as strategy has a very substantial and long-lasting effect on the value-creating potential of a company (Morin & Jarrell, 2001). While value-based management cannot be understood as a creative tool that could be used to develop strategy alternatives, its metrics are extremely useful in assessment of the sustainability and desirability of potential strategies. One of its unique strengths is that it links strategy formulation to financial management while centering on value creation. Distinguishing between the two levels of corporate strategy and business unit strategy, a firm's strategy development process is aimed at either creating a parenting advantage or at gaining and sustaining a competitive advantage (Johnson et al., 2006).

On the level of corporate strategy, choosing to do business in attractive industries is crucial. Industry attractiveness greatly depends on growth potential. This implies that establishing business units in fast-growing industries or creating growth through internationalization or with new, innovative products and services is desirable. The potential for value creation that results from corporate strategic decisions must be fully tapped by consistent business unit strategies (see Figure 2.3). Their focus should be on improving the relative profit margin, e.g., by technology-based differentiation or cost optimization, which is reflected in a favorable competitive position.

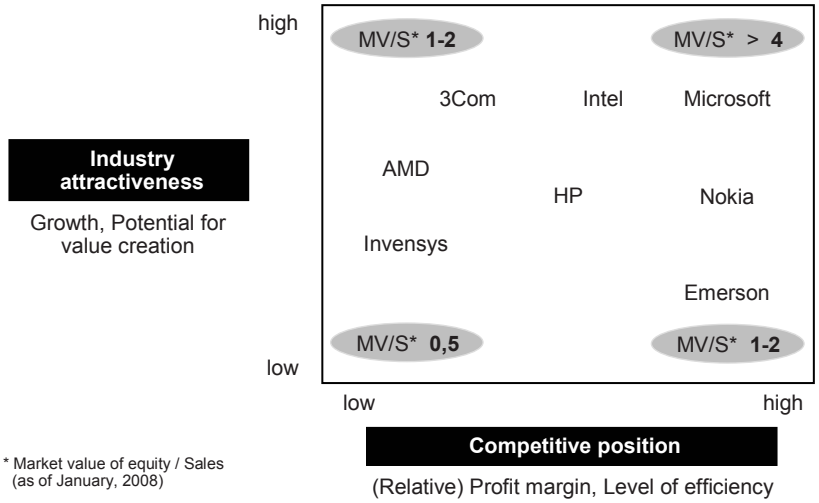

Figure 2.3: Drivers of company value

Management decisions on industries and business units in which to remain and in which to invest and on acquisitions or divestments to be made should be derived from value considerations (Malmi & Ikäheimo, 2003). Regarding corporate strategy, value-based management can be utilized as a portfolio management technique. In this case the business units of a firm are the units of investigation. Figure 2.4 links each unit's current EVA (EVA_c) as a single-period performance indicator to the net present value (NPV) of all of its estimated future free cash flows.

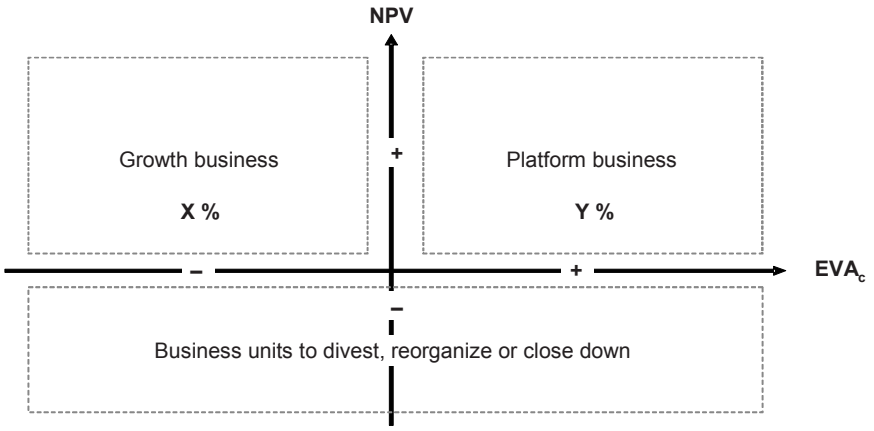

Figure 2.4: Portfolio balance

Only business units with a positive NPV create value in the long run. Therefore, business units with a negative NPV should be either divested, reorganized, or closed down – irrespective of whether or not they earn a positive EVA. Among the business units with a positive NPV there may be some with negative EVAs for the current and upcoming business years. This is acceptable, because the positive NPV indicates that any negative EVA is overcompensated by the discounted future cash flows. The desired proportion of business units with currently negative EVA, i.e., 'growth businesses', and business units with currently positive EVA, i.e., 'platform businesses', depends on corporate strategy. In this context it should be a company's goal to realize a portfolio balanced between overall value creation and current earnings. This is essential because 'platform businesses' offer the funding necessary to invest further in 'growth businesses' and thus to convert these to 'platform businesses' in the future. Based on the profitability index a company can also identify the business units with the highest value added, which should be given priority when scarce firm resources are to be allocated.

Value-based management cannot only be used for corporate strategy purposes but also to formulate and assess strategies at business unit level. To realize a sustained competitive advantage at business unit level, the consistent implementation of one of Porter's (1980) generic strategies is inevitable. A thorough analysis of a business unit's value drivers assists with keeping a consistent strategy focus and determining management priorities. To this end, first of all an overview of all value drivers of a business has to be generated. In a second step, a sensitivity analysis reveals the strength of the influence of a value driver on business unit value. This sensitivity of the value driver is then compared with the degree to which management is able to influence the value driver. Value drivers with little impact on company value may be integrated into an early warning system if management can control them. Otherwise, they have a low priority. In the case of value drivers with a strong link to company value, managers may choose risk-reducing strategies if their influence on the value driver is limited. If their influence is high, however, the value driver should be a key performance indicator with strong priority.

2.3.3 Mergers & Acquisitions

Two of the most significant value-based management techniques that are regularly employed during acquisition processes are company valuation and dilution analysis. We explain their main features in the next two sections.

2.3.3.1 Company Valuation

If company shares are traded on the stock market, multiplication of the number of shares outstanding by the current share price yields the market value of equity at any point in time. For companies without publicly traded shares, it is more comlicated to determine their equity value or, from an entity perspective, their company value. One way to approximate the company value is offered by the multiples ap-

proach. Its goal is a conclusion by analogy. First, reference companies are identified. It is imperative that they closely resemble the target company. Furthermore, the value of the reference companies has to be known. This is the case when either the reference company itself is listed or the reference company was a previous transaction target for which the purchase price was published. The first case is termed 'trading comparables' and the latter case, 'transaction comparables'. Common multiples include the sales multiple, the EBIT multiple, and the EBITDA multiple. They are the result of dividing the known value of the reference company by its sales, its EBIT, or its EBITDA, respectively. To obtain an approximation for the value of the target company, the multiple is then multiplied by the sales, the EBIT, or the EBITDA of the target company (Penman, 2007). Because of its simplistic nature, the multiples approach is employed at an early stage of the acquisition process, aimed at gaining a first assessment of a company's value.

Especially in later stages of the acquisition process, information is evident that cannot be accounted for by the multiples approach. In this case, the DCF method is often preferable (Damodaran, 2002). It usually consists of a phase of 5 years for which explicit planning of FCF is meaningful and a phase beyond this planning horizon (see Figure 2.5).

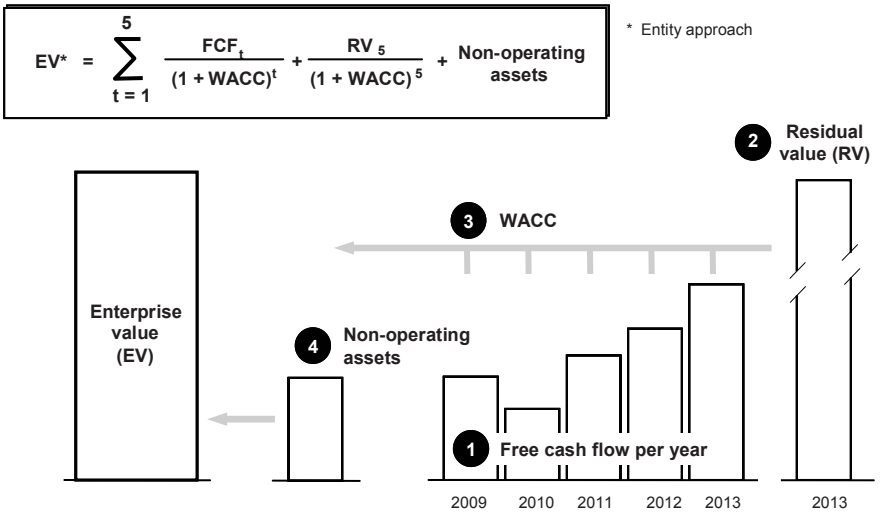

Figure 2.5: DCF approach with two phases

For the first phase, each year's FCF is estimated and discounted with the WACC. For the second phase, a residual value at the end of period five is calculated. When an exit is assumed, this residual value may be obtained via the multiples approach. With assumption of a going concern, the perpetuity model may be utilized. This means that a linear (positive, negative, or zero) growth of the last estimated FCF, possibly adjusted, is assumed in perpetuity. Company value is then reflected in the sum of the discounted FCFs of the first phase, the discounted re-

sidual value of the second phase, and the company's non-operating assets (Higgins, 2007).

2.3.3.2 Earnings Dilution

Earnings dilution describes the situation when the earnings per share (EPS) of an acquirer may be higher before a transaction than they are after it. On the one hand, a transaction entails performance effects that affect the numerator of the EPS. These may include the earnings of the target firm, synergies, transaction costs, restructuring costs, integration costs, goodwill depreciation, and financing costs. On the other hand, the number of issued shares may be changed by a transaction, which will have an impact on the denominator of the EPS. Diminished EPS in the first periods following a transaction are quite normal and not necessarily a sign of a wrong strategy. Since desired synergies of M&As may not be realized until a few years after the transaction, short-term EPS reductions should be tolerated if they are overcompensated by long-term EPS increases. Unfortunately, investors in the capital market frequently determine the fair price of a company's stock by multiplying its EPS by the price-to-earnings ratio (P/E ratio) of its industry. In this case, the earnings dilution leads directly to a stock price decline with all its negative consequences, including higher financing costs (Bausch, 2003).

2.3.4 Performance Measurement

Performance measurement is of decisive importance in a company's high-level strategic and financial control processes, which include target setting, performance monitoring, and responding to differences between expected and actual results (McTaggert et al., 1994). Performance measurement is therefore a key element when management focuses on value creation. Firm performance can be measured on different levels (see Figure 2.6). From an entity perspective, the operating performance of the company as a whole is relevant. The entity perspective reflects the management's point of view. Taking an equity perspective implies assessing corporate performance from the shareholders' viewpoint, which includes all operating and non-operating elements. Lastly, the residual perspective, which is emphasized by value-based management approaches, examines the value created after both debtholders and shareholders have received adequate compensation for their investment in the company (Bloxham, 2003). Within each of these three categories, absolute performance measures can be distinguished from relative performance measures.

Entity perspective's absolute performance can be measured by means of either EBIT or NOPAT, the only difference being that NOPAT includes tax effects. Thus, NOPAT can be understood as the earnings available to pay interest to debtholders and dividends to shareholders. In relative terms, the ROCE reflects the rent earned by the capital employed. Only if the ROCE is at least equal to the WACC, risk-adequate compensations of shareholders and debtholders are assured. Especially NOPAT and ROCE may serve to assess the performance of the man-

agement of strategic business units (SBUs) of a company, because they reflect operating business only and do not include financial income or expenses. In addition, use of the ROCE is appropriate to compare management performance between different SBUs within a firm or even between different companies, as it corrects for firm size.

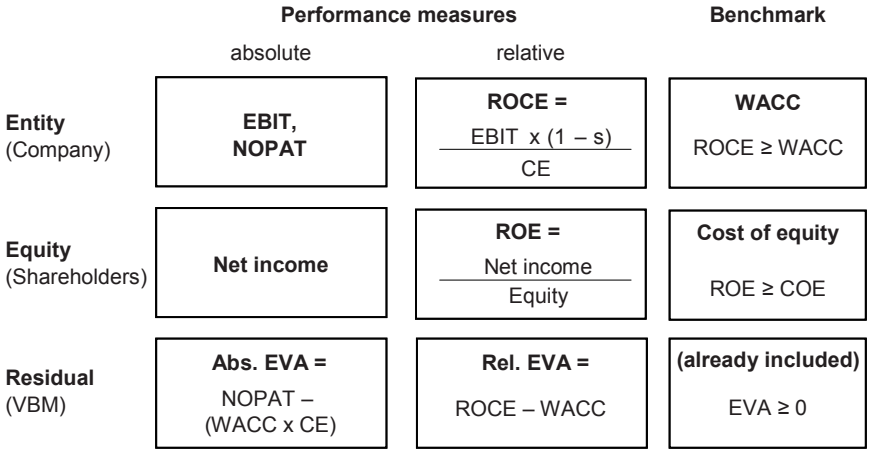

Figure 2.6: Different perspectives on performance measurement

The adequate absolute performance measure from a shareholder's point of view is net income. This includes the operating income, financial income, and taxes. Since all other claims have been settled, net income as the bottom line of the income statement reflects the amount of money that could be completely paid out to shareholders. Presumably, it does not matter to shareholders whether income has been generated via operations or via financing activities. The corresponding relative performance measure is the ROE, defined as the ratio of net income to equity. Only if the ROE at least reaches the cost of equity, the company's earnings are adequate to compensate shareholders for their risky investment (Higgins, 2001).

The absolute performance measure from a residual perspective is the EVA, while the relative one is the spread, or relative EVA. Because the risk-adequate returns for both shareholders and debtholders are already included in the calculation of the EVA, there is no benchmark that has to be met. The EVA is an excellent measure, as it points out how much value has been created (or destroyed) during a business year, all of which can be allocated to shareholders (Ehrbar, 1998). To assess managers' performance, EVA is only meaningful if managers are also accountable for financing. Comparing EVAs for different SBUs within a firm reveals where value is created and where value is destroyed. The explanatory power of EVAs is restricted, however, when there are significant age differences and differences in growth strategies. Older companies tend to have more hidden assets and thus less depreciation than younger ones. Companies relying on M&A for growth have higher goodwill and thus higher goodwill depreciation than compa-

nies relying on internal growth. Depreciation differences result in NOPAT differences, which could be misinterpreted as differences in management capabilities.

Successful performance management and measurement depends heavily on a sound understanding of the variables actually affecting the value of the business. A progressive disaggregation of performance measures and their linkages with forward-looking value drivers provide important insights into the sources of value creation (Young & O'Byrne, 2001). Therefore, the chosen performance measure, e.g., the ROCE, has to be broken down into its determinants. These can then be linked to operational value drivers that can be controlled by management (see Figure 2.7).

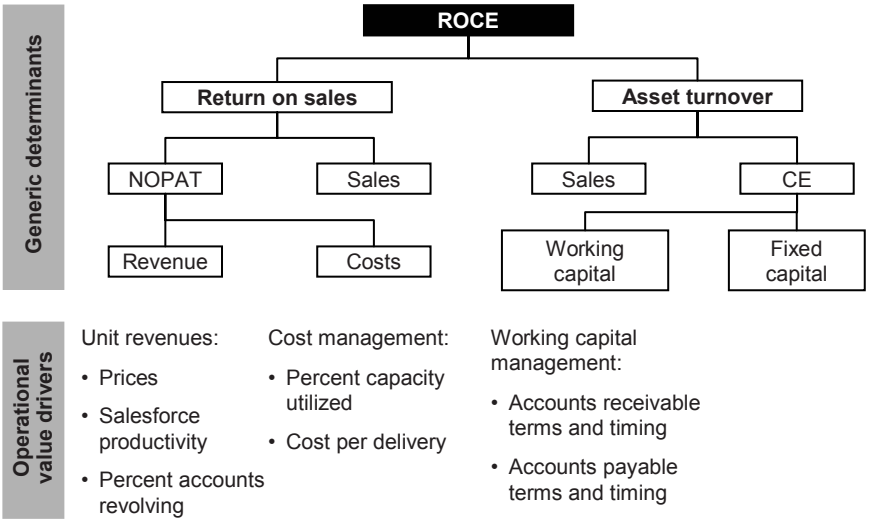

Figure 2.7: ROCE determinants and operational value drivers (following Koller, 1994)

2.4 Value Creation by Large German Firms

Having depicted the power of selected techniques of value-based management in the previous section, in this section we analyze the value creation of large German companies. To address the issue of value creation we evaluated the EVA of the DAX-listed companies[5] (not including companies from the banking and insurance sector) during 2000-2007. In total, the 23 companies destroyed a value of about € 200 billion during the period under review.[6] This sum consists of a cumulated value creation of about € 29 billion, as against € 229 billion of value destruction.

[5] Companies in the DAX as of June 1, 2007.

[6] The average WACC for all companies and all years was 6.5%.

Four companies account for two thirds of the total value created. Of the total value destroyed about three fourths is allotted to only 4 companies.

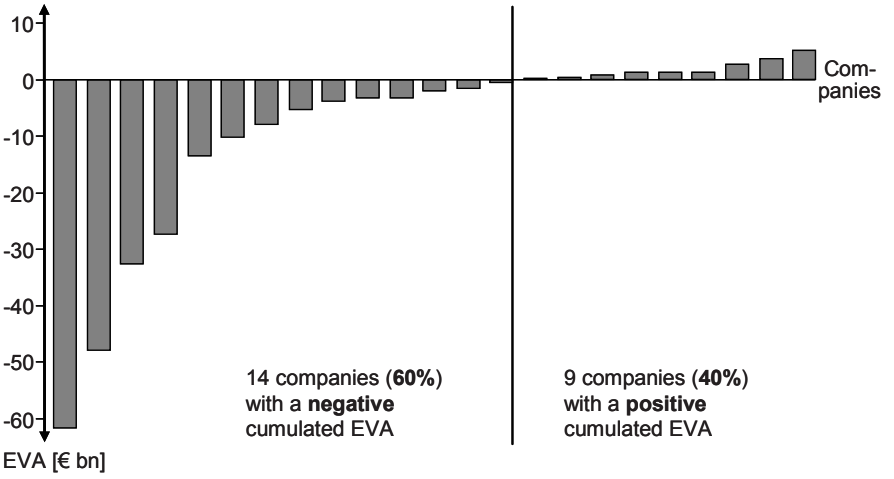

Figure 2.8: Cumulated EVA (in billions of euros) of DAX-23 companies from 2000-2007

Out of the 23 companies, only 9 exhibit a positive cumulated EVA during the 2000-2007 period (see Figure 2.8). Moreover, only 2 companies consistently created value in the period under review, whereas 7 companies show constantly negative EVAs.

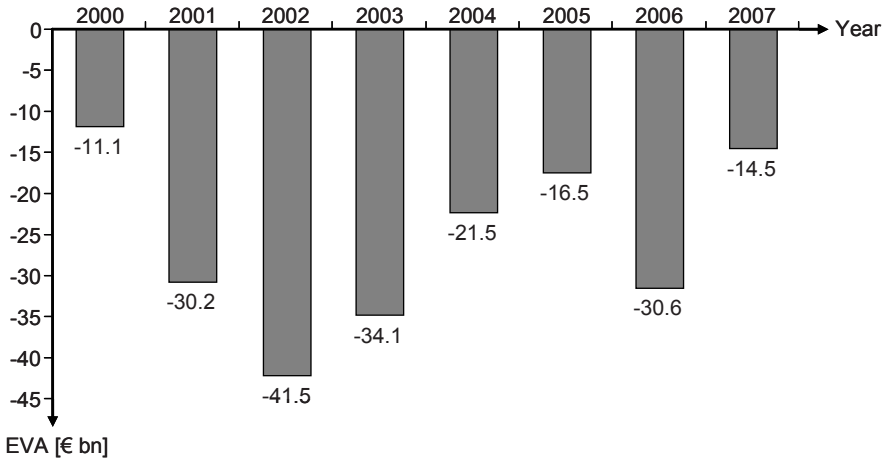

Figure 2.9: Annual EVAs (in billion of euros) of DAX-23 companies from 2000 to 2007

For each of the 8 years the DAX-23 companies' activities resulted in a negative EVA (see Figure 2.9). The year 2002 saw the highest negative value of € 42.2 billion, while the lowest negative value of € 11.8 billion was recorded in 2000.

However, two periods with different developments can be identified. During the first period (2000-2002) the sum of the EVAs of the DAX-23 companies decreased significantly from minus € 11.1 billion to minus € 41.5 billion. In 2002 only 4 out of the 23 companies had a positive EVA. The second period (2002-2007) was characterized by an opposite trend. Although the sum of the EVAs was still negative in every year, the value destruction decreased steadily (except in 2006, which was characterized by abnormal strategic investment expenses). During this second period the value destruction was reduced by nearly 66%, to minus € 14.5 billion.[7]

The drivers of value creation and destruction may be derived from an investigation of the ROCE (as described in Section 2.3.4). First of all, it is obvious from Figure 2.10 that the DAX-23 companies' average ROCE reached its minimum in 2001. The highest value destruction took place in 2002, however. This implies a rise in the WACC from 2001 to 2002 which could not be offset by the higher ROCE.

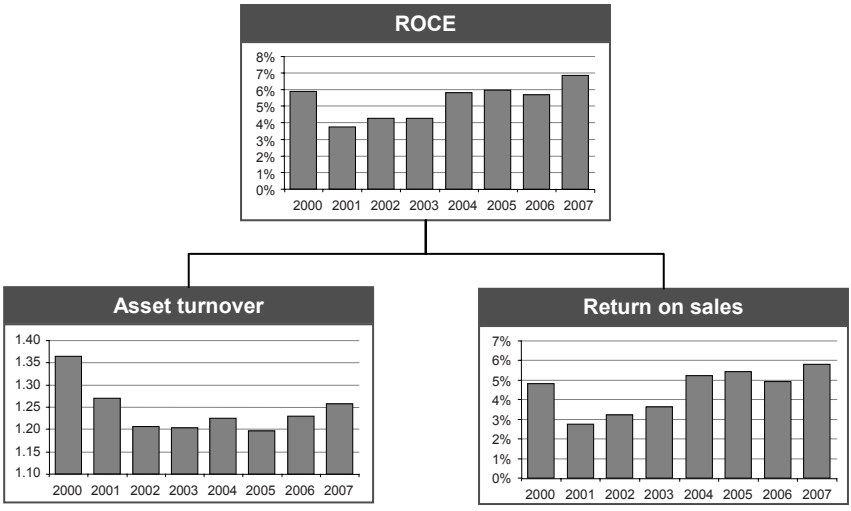

Figure 2.10: Annual average ROCE of DAX-23 companies and its drivers

For the subsequent years, the overall positive trend of the ROCE goes along with the development of the cumulated EVA. Dividing the ROCE into asset turnover and return on sales (ROS) reveals the causes of the ROCE development. As-

[7] It should be kept in mind that the DAX-23 companies' EVAs in the period investigated do not offer any information about the companies' MVA.

set turnover decreased until the year 2002. It then stagnated until it started to rise again from 2005 to 2007. ROS, on the other hand, dropped significantly from 2000 to 2001. In the years after 2001 it showed a more or less stable upward trend.

One potential explanation for our findings is that the strongly negative EVAs in the time period researched may be due to a phase of comparatively high investment activities in growth business units by the DAX-23 companies. In accordance with the explanations in Section 2.3.2, we would expect the negative EVAs to be offset by positive EVAs in the future. The positive trend starting in the year 2002 supports this view. Nonetheless, we cannot exclude the possibility that our negative findings are the result of a systematic bias in the evaluation of WACC components, especially too-high costs of equity.

2.5 Value Creation by Large and Medium-sized German Utilities

In the previous section, the inter-industry investigation of the DAX-23 companies revealed enormous value destruction for the years from 2000 to 2007. In addition, two periods with differing trends in development of the EVAs were discernible. In this section we shift our focus to 94 companies operating within the German utility industry. Three of these firms are considered large, with sales exceeding € 10 billion. The other 91 firms have annual sales ranging from € 50 million to € 10 billion and are considered medium sized. We were able to gather data for this sample for the period from 1999 to 2005.

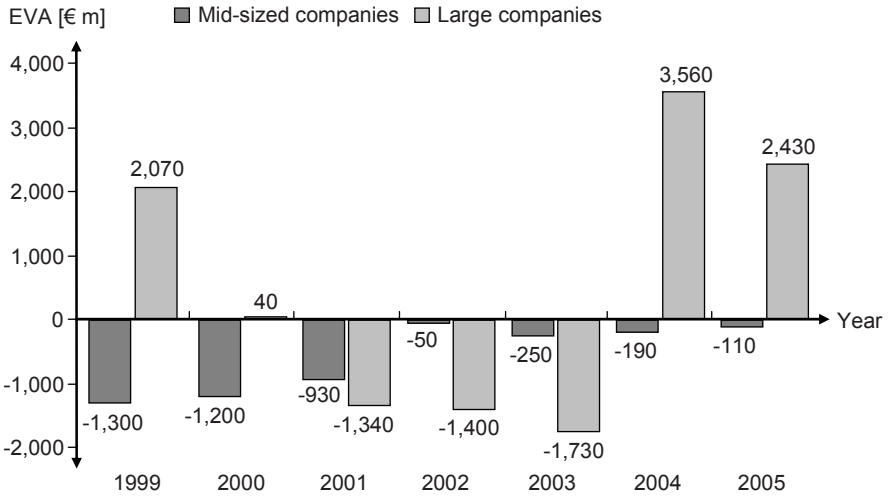

Figure 2.11: Comparison of annual value creation by large and medium-sized German utility companies

As in the case of the DAX-23 companies, the cumulated EVA over all periods and all firms was negative, with a value of minus € 394 million. This cumulated figure consists of a total value creation of € 12.9 billion and a value destruction of € 13.3 billion. The top four companies account for about 86% of the created value, while the bottom four companies account for about 59% of the value destruction. Of the 94 firms in the sample, 34 exhibit a positive cumulated EVA over the total period. Only 7 companies, however, constantly earned positive EVAs in each year. Of the 60 firms with a negative cumulated EVA, 22 destroyed value in each year of the period under investigation.

As Figure 2.11 reveals, large and medium-sized utilities differ in EVA generation. The 91 medium-sized companies in our sample continuously improved their performance. From a cumulated value destruction of € 1.3 billion in 1999 they arrived at a cumulated value destruction of only € 107 million in 2005. The large utility firms, on the other hand, started with a cumulated EVA of € 2.1 billion in 1999, which steadily declined until it reached its minimum of minus € 1.7 billion in 2003. In 2004 the cumulated value creation jumped to an apex of € 3.6 billion, followed by another decline to € 2.4 billion in 2005. It is furthermore noteworthy that the three large utility firms cumulatively created a value of € 3.6 billion, whereas the 91 medium-sized firms destroyed € 4.0 billion in value.

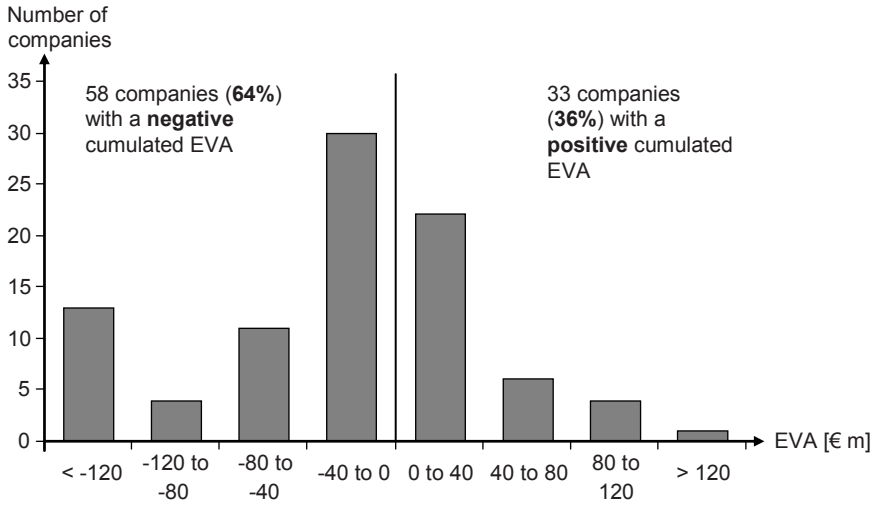

Figure 2.12: Distribution of medium-sized German utility companies by cumulative value creation from 1999 to 2005

Figure 2.12 depicts how many of the 91 medium-sized utility companies generated or destroyed how much value. All in all, the number of firms that destroyed value exceeds the number of firms that generated value. Moreover, it is obvious that the vast majority of firms are neither generating nor destroying a lot of value: 22 firms generated up to € 40 million, while 30 firms destroyed up to

€ 40 million. While there were only two firms that created more than € 120 million during the period investigated, 13 firms destroyed more than € 120 million. In this last group, the companies' value destruction ranges between € 120 million and € 569 million.

Another interesting aspect is highlighted by our comparison of the annual average EVA of 91 medium-sized German utilities with 11 Austrian and 12 Swiss medium-sized utilities (see Figure 2.13). The German utilities reveal a positive trend from 1999 to 2005. The average value destruction decreased from about € 14 million in 1999 to only about € 1 million in 2005. Austrian firms exhibit their highest value destruction in 2001 with an average of € 45 million. There is a positive trend until the year 2005, in which the lowest value destruction of only € 4 million took place. The Swiss utility companies show the strongest turnaround. From a low of € 52 million of value destruction in 1999 the continuously improved to a high of about € 20 million value creation in the years 2004 and 2005. Country specific regulatory regimes and competitive intensities account for a major part of the observed variance between German, Austrian, and Swiss utility companies' average EVAs.

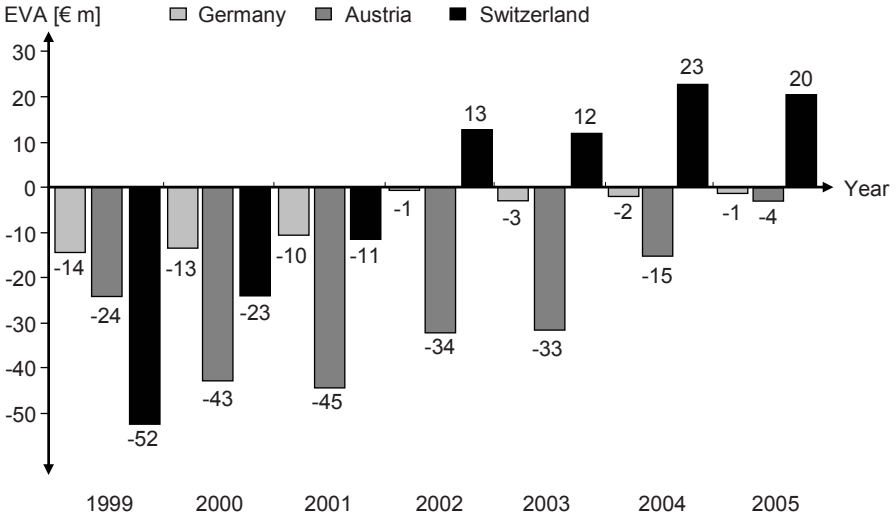

Figure 2.13: Comparison of annual average value creation by German and Austrian & Swiss medium-sized utility companies

One reason for the overall positive trend in the three countries is the improvement of the ROCE from 7.6% in 1999 to over 10% since 2002. Detailed analyses show that up to 2002 improvements in both the asset turnover and the ROS were possible. From 2003 onward the ROS decreased. The constanly high ROCE could only be sustained because of a continued increase in asset turnover. This increase in asset turnover does not have its roots in sales growth but in a decrease of the asset base. Two main reasons for this are improved asset

management and postponements of investment in replacements and expansions (Bausch et al., 2006).

Altogether, the differences in value creation between different companies, between different years, and between different countries indicate that within the utility industry there was value destruction and value creation at the same time. In any year, there were always companies with positive EVAs, regardless of the total value destruction or creation of the whole sample. This implies that, regardless of the circumstances, the opportunity to generate positive EVAs always existed in the years from 1999 to 2005. Further analysis of the data reveals that the gap between the 10 companies with the highest value creation and the 10 with the greatest value destruction has widened in recent years. Deregulation in the utility industry has increased firms' strategic options. Consequently, employing the previously described techniques of value-based management may help any utility firm to take the right actions that will allow to create value and to be among the leading firms in its industry.

References

Alchian, A. A. & Demsetz, H. 1972. Production, information costs and economic organization. The American Economic Review, 62: 777-795.

Arnold, G. 1998. Corporate financial management. London: Pitman Publishing.

Bacidore, J. M., Boquist, J. A., Milbourn, T. T. & Thakor, A. V. 1997. The search for the best financial performance measure. Financial Analysts Journal, 53: 11-20.

Barney, J. B. & Hesterly, W. S. 2006. Strategic management and competitive advantage: concepts and cases. Upper Saddle River: Pearson/Prentice Hall.

Bausch, A. 2000. Die Multiplikator-Methode – Ein betriebswirtschaftlich sinnvolles Instrument zur Unternehmenswert- und Kaufpreisfindung in Akquisitionsprozessen? Finanz Betrieb, 2: 448-459.

Bausch, A. 2003. Earnings Dilution in Unternehmensakquisitionen – Bedeutung und Gestaltungsmöglichkeiten (Parts I and II). M&A Review, 14: 260-265, 304-309.

Bausch, A., Fritz, T., Holst, A., Schiegg, T. & Schumacher, T. 2007. Value Creator III – Eine empirische Untersuchung von Energieversorgungsunternehmen in Deutschland, Österreich und der Schweiz. Bremen/Kronberg.

Bloxham, E. 2003. Economic value management – applications and techniques. Hoboken: John Wiley & Sons.

Copeland, T., Koller, T. & Murrin, J. 2002. Unternehmenswert – Methoden und Strategien für eine wertorientierte Unternehmensführung (3rd ed.). Frankfurt/New York: Campus.

Damodaran, A. 2002. Investment valuation – tools and techniques for determining the value of any asset (2nd ed.). New York: John Wiley & Sons.

Ehrbar, A. 1998. EVA – The real key to creating wealth. New York: John Wiley & Sons.

Hahn, D. & Hintze, M. 2006. Konzepte wertorientierter Unternehmensführung. In D. Hahn & B. Taylor (Eds.), Strategische Unternehmensplanung – Strategische Unternehmensführung (9th ed.): 83-114. Berlin, Heidelberg: Springer.

Higgins, R. C. 2007. Analysis for financial management (8th ed.). New York: McGraw-Hill.

Jensen, M. C. & Meckling, W. H. 1976. Theory of the firm: managerial behavior, agency costs, and ownership structure. Journal of Financial Economics, 3: 305-360.

Johnson, G., Scholes, K. & Whittington, R. 2008. Exploring corporate strategy (8th ed.). Harlow: FT Prentice Hall.

Koller, T. 1994. What is value-based management? The McKinsey Quarterly, 3: 87-101.

Lewis, T. G. 1995. Steigerung des Unternehmenswertes – Total Value Management. Landsberg/Lech: verlag moderne industrie.

Malmi, T. & Ikäheimo, S. 2003. Value based management practices – some evidence from the field. Management Accounting Research, 14: 235-254.

Marshall, A. 1890. Principles of economics: an introductory volume. London: Macmillan.

Martin, J. D. & Petty, J. W. 2000. Value based management: the corporate response to the shareholder revolution. Boston: Harvard Business School Press.

McTaggert, J. M., Kontes, P. W. & Mankins, M. C. 1994. The value imperative – managing for superior shareholder returns. New York: The Free Press.

Morin, R. A. & Jarrell, S. L. 2001. Driving shareholder value – value-building techniques for creating shareholder wealth. New York: McGraw-Hill.

Penman, S. H. 2007. Financial statement analysis and security valuation (3rd ed.). Boston: McGraw-Hill.

Porter, M. E. 1980. Competitive strategy: techniques for analyzing industries and competitors. New York: The Free Press.

Rappaport, A. 1986. Creating shareholder value – the new standard for business performance. New York: The Free Press.

Rappaport, A. 1999. Shareholder Value – Ein Handbuch für Manager und Investoren. Stuttgart: Schäffer-Poeschel.

Ryan, H. E. & Trahan, E. A. 2007. Corporate financial control mechanism and firm performance: the case of value-based management systems. Journal of Business Finance & Accounting, 34: 111-138.

Stern, J. M., Stewart, G. B. & Chew, D. H. 1996. EVA: an integrated financial management system. European Financial Management, 2: 223-245.

Stewart, G. B. 1991. The quest for value – the EVA management guide. New York: HarperBusiness.

Stewart, G. B. 1994. EVA: fact and fantasy. Journal of Applied Corporate Finance, 7: 71-84.

Young, S. D. & O'Byrne, S. F. 2001. EVA and value-based management – a practical guide to implementation. New York: McGraw-Hill.

http://www.springer.com/978-3-540-79348-9

Handbook Utility Management
Bausch, A.; Schwenker, B. (Eds.)
2009, XXXVI, 808 p., Hardcover
ISBN: 978-3-540-79348-9