Measuring corporate sustainability, maximizing shareholder value

Although sustainability issues are omnipresent, a company's contribution to sustainability is still hard to measure. This article reconciles the concepts of corporate sustainability and the shareholder value management. The model of Sustainable Value Added is introduced, balancing the synergies and challenges of integration.

With sustainability issues high on the agenda for business, it is no surprise to find that more than 80% of Fortune 500 companies have sustainability issues on their websites. Yet, even though 90% of major US corporations demonstrate a commitment to sustainability issues, only 35% are able to prove they stick to their principles (Parisi & Maraghini, 2010, p. 131). There is a definite gap when it comes to performance measurement and sustainability. This article attempts to bridge that gap by considering the principles of corporate sustainability. We also ask if it is possible to integrate corporate sustainability and shareholder value management, i.e., the maximization of shareholder value.
Measuring corporate sustainability

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“The objective of a sustainable measure is to assess the contribution of an entity (e.g., a company) to sustainability comprising all three dimensions: environmental, social and economic” (Figge & Hahn, 2004a, p. 176).

One of the most common methods for measuring corporate sustainability is called the triple bottom line approach. It incorporates the three dimensions referred to by Figge & Hahn:

- **Environmental** – measuring the impact on resources, such as air, water, ground and waste emissions (Baumgartner & Ebner, 2010, p.79)
- **Social** – relating to corporate governance, motivation, incentives, health and safety, human capital development, human rights and ethical behavior
- **Economic** – referring to measures maintaining or improving the company’s success. For example, innovation and technology, collaboration, knowledge management, purchase, processes and sustainability reporting

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### Measuring corporate sustainability

As a general rule, there are two approaches when measuring corporate sustainability. The first is called the absolute Sustainable Value Added, and the second is the relative Sustainable Value Added (SVA). The former is expressed as follows (Figge & Hahn, 2004a, p. 177):

\[
\text{Absolute Sustainable Value Added} = \text{Value added} - \text{external environmental and social cost} + \text{relative Sustainable Value Added}
\]

The absolute SVA shows how much value a company has created or damaged as a result of its economic, environmental and social resources, compared to a benchmark. Crucially, the concept of SVA is the first value-based approach to measure corporate sustainability. While the conventional approach focuses on the costs of using a particular set of resources, the SVA approach focuses on the return that can be achieved from using the same set of resources (Figge et al., 2006, p. 17). The concept of the relative SVA is particularly useful as it strips out external factors and instead gives a comprehensive view of a company's contributions to sustainability. The SVA can be expressed in monetary terms, thus the user is able to assess to what extent a company has made a positive or negative contribution to sustainability. Put simply, the relative SVA represents the size of a company’s contribution to increased sustainability expressed in monetary terms.

Calculating the relative SVA comprises four important steps:

- First, the change in use of resources compared with the previous period is determined.
- Second, the opportunity cost of the increase or decrease in consumption of those resources is calculated with the help of a suitable benchmark.
- Third, the sets of resources are considered. This is unlike conventional approaches where resources are typically investigated individually. By averaging the opportunity cost of all resources employed, the total value and the total opportunity cost are taken into consideration.
- Finally, the total opportunity cost is compared to the economic growth of the company. Provided that the economic growth exceeds the opportunity cost, a positive outcome is established, i.e., the company has made a positive contribution to corporate sustainability. The calculation is summarized in Figure 1:

”The concept of Sustainable Value Added is the first value-based approach to measure corporate sustainability.”
We will now look at the formula for calculating Sustainable Value Added (SVA) in a little more detail, as this will be the starting point for further examination in this article (Ang & Van Passel, 2010, p. 1):

\[
SV_i = \frac{1}{R} \sum_r \left( \frac{Y_i - Y^*_r}{X_r} \right) X_i
\]

Where:
- \(SV_i\) = Sustainable Value of company \(i\)
- \(R\) = Total amount of resources considered
- \(Y_i\) = Economic output of company \(i\)
- \(Y^*_r\) = Economic output of benchmark \(r\)
- \(X_i\) = Resource of company \(i\)
- \(X^*_r\) = Resource of benchmark \(r\)

First of all, the economic output of company \(i\) is determined in relation to its use of a particular resource \(X_r\). This is then compared to the benchmark which gives the relevant opportunity costs. The benchmark’s factor is then subtracted from the company’s factor resulting in the value spread. The value contribution of a resource, which company \(i\) uses, is calculated by multiplying the value spread by the amount of the resource. To avoid double counting, after adding up all value contributions, the figure is divided by the total amount of resources considered.

This calculation measures a company’s sustainable value for just one period and so in order to develop a more dynamic process, the sustainable value for two periods needs to be calculated. This is arrived at as follows:

\[
SVA_{i,t0} = EG_{i,t0} - (SV_{i,t1} - SV_{i,t0})
\]

Where:
- \(EG_{i,t0}\) = Economic growth of company \(i\) in period \(t_0\)
- \(SVA_{i,t0}\) = Relative Sustainable Value of company \(i\) in period \(t_0\)

The sustainable value of period \(t_1\) and period \(t_0\) are subtracted to obtain the change in use of resources of company \(i\). As period \(t_0\) is the period we are looking at, this figure is deducted from the economic growth in period \(t_1\). The result is the relative SVA of company \(i\) in period \(t_0\) representing the change in use of a set of resources which has contributed to an increase in sustainable value.

**Links with Economic Value Added**

If we now consider the Shareholder Value Approach, its main purpose is in long-term shareholder wealth maximization. This is particularly true for medium-sized firms which view increased shareholder value as essential to a company’s success. In order to operationalize and implement the Shareholder Value Approach, there are a few indices of measurement but it is the Economic Value Added (EVA) method which is one of the most applied indices when it comes to putting the Shareholder Value Approach into practice. The EVA approach is the prevalent concept and has a multitude of benefits compared to other approaches (Kunz et al., 2007). A survey with 186 major US enterprises which was performed in 1999 concluded that a majority of 87% was already familiar with value-based management. The value-based accounting concept EVA achieved 94% and was therefore by far the most well-known concept (Ryan & Trahan, 1999, p. 49).

The EVA is given after deduction of all interest on net operating capital. In other words, the EVA comprises the profit for a period after subtracting all capital costs. A positive value means there are residual earnings or excess profits. Typically, the formula comprises:

\[
E = NOPAT - (Invested capital \times WACC)
\]

Where:
- \(E\) = EVA
- \(NOPAT\) = Net operating cash profits of the company after taxes but before any interest expenditure
- \(Invested\) = Net operating cash profits of the company after taxes but before any interest expenditure
- \(WACC\) = Weighted average cost of capital

\footnote{For the calculation of WACC see Faupel et al. 2010, p. 57.}
The true benefit of the EVA is the ease with which it can be calculated and communicated.

The economic profit is excess of NOPAT over capital costs (invested capital x WACC), and therefore represents the return the firm has to generate in order to satisfy its shareholders who have “rented” capital to the firm. In practice, the true benefit of the EVA is the ease with which it can be calculated and communicated. The process of value creation quickly and easily becomes apparent. Value drivers can be characterized by profit maximization, by the decrease in the capital invested, or by the reduction of the WACC.

Using the EVA terminology, the investors’ expectations are taken into account with the Market Value Added (MVA). This approach relates to the market value minus capital:

$$\text{MVA} = \text{Market Value} - \text{Capital} = \text{present value of all future EVAs} = \sum_{t=1}^{\infty} \frac{\text{EVA}_t}{(1 + \text{WACC})^t}$$

In this way, future EVAs are estimated. If the increase in market value is added to the business assets (BA) of a company, then we can arrive at the firm value (FV) (Faupel et al. 2010, p. 59):

$$\text{FV} = \text{BA} + \text{MVA}$$

The adoption by businesses of EVA will assist in the decision-making process by encouraging decision-making which is better aligned to maximizing shareholder value. One of the main benefits of EVA is greater transparency, which means shareholders have a much better understanding of the business and its interaction with external influences (which could also be viewed as external costs). In addition, EVA represents a very flexible index as it can adjust to particular requirements using specific conversions.

The EVA index provides great potential for integration with not only the absolute but also the relative SVA. Although both concepts are backward looking (the conventional method of SVA always measures the SVA of the previous period instead of the current period), a clear difference exists. While the new concept of the SVA represents a dynamic process, as shown in formula (3), the EVA index does ignore periodical interdependencies. The introduction of the MVA attempts to compensate for this problem with the EVA. By incorporating the future perspective provided by the SVA, an analogue model to the MVA index could be derived. The concept of the Total Sustainable Value Added (TSVA = a company’s contribution to increased sustainability in total) could be calculated as follows:

$$\text{MSVA} = \text{MSV} - \text{Resources} = \text{present value of all future SVAs} = \sum_{t=1}^{\infty} \frac{\text{SVA}_t}{(1 + \text{WACR})^t}$$

Where:

$$\text{MSVA} = \text{Market SVA} = \text{market’s contribution to more sustainability}$$

$$\text{WACR} = \text{weighted average cost of resources}^2$$

By estimating all future SVAs, the increase in the MSVA is taken together with the resources a company owns (resources owned = RO) resulting in the TSVA:

$$\text{TSVA} = \text{RO} + \text{MSVA}$$

In this way, a method for measuring the performance of a company’s contribution to increased sustainability in total is achieved. If the SVA is adopted in addition to the EVA or the MVA, when measuring performance, companies will see increased motivation among employees and will be in a better position to facilitate a dialogue with shareholders.

Realizing synergies

The links between the concept of SVA, shareholder value management and EVA provide enormous potential for synergies. The concept of SVA goes well beyond the generally accepted standard tools for performance measurement, which typically consider only return on capital. It is not just the opportunity cost considerations but also the introduction of the three dimensions of corporate sustainability which make the use of SVA so unique. As a consequence, what is normally a restricted view of standard financial performance measurement, can instead be expanded. Moreover, the concept of SVA relies on the patterns of shareholder value management and on the performance measurement of financial markets.

At the heart of the concept of SVA is the measurement of the size of a company’s contribution to increased sustainability and an indication of the strengths and weaknesses of corporate sustainable performance.

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2 The calculation of the WACR is made analogously to the WACC, where the equity is equalized with the resources owned by the company and the debt is related to the resources loaned by the company.
“At the heart of the concept of Sustainable Value Added is the measurement of the size of a company’s contribution to increased sustainability and an indication of the strengths and weaknesses of corporate sustainable performance.”

A win-win situation
The aim of corporate sustainability is to satisfy the needs of both the direct and indirect stakeholders. The primary purpose of the shareholder value approach is to maximize shareholder value or wealth. Therefore, a significant win-win situation occurs when both concepts are used together. The economic dimension, previously considered, has as its goal “raising the firm’s value” which is intricately linked to the goal of maximizing shareholder value. Hence, the economic pillar of the triple bottom line approach could be described as an integral part of both the shareholder value approach and the concept of corporate sustainability. Figure 2 illustrates this hypothesis.

Figure 2. Economic pillar as a connecting factor

Summary
The TSVA could serve as an excellent model for companies looking to measure sustainability performance. In addition, due to their similarities, the practical advantages of the EVA can also be seen with the SVA approach. Improved communication, transparency and simplicity of calculation contribute to a company’s ability to implement and measure value-based, sustainable objectives.