Understanding Value Creation: The Shareholder Value Perspective

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Abstract

This paper explains the concepts of value from two perspectives, namely: stakeholders and shareholders. Value perception differs for different stakeholders. It is attempted here to explain the measures of value for stakeholders as well as for shareholders. Different methods used for computation of shareholder value are illustrated through a case example. The paper hopefully will serve as an instrument of communication to the professionals attempting to understand the all inclusive meaning of value as well as to the practitioners engaged in accounting/financial services/auditing functions.

Keywords: Stakeholder Value, Shareholder Value, EVA, MVA, ROI, ROE, Value Based Measures.

1.0 Introduction:

As a result of relentless and strong pressures on competition during the recent times, companies across the globe are applying various concepts like value innovation, value chain, value added, value analysis, value stream mapping, etc., with multiple objectives like cost reduction, enhancement of customer value, improvement in profitability and creation of sustainable value to shareholders. Uses of such concepts have grown in importance in creating competitive advantages. Kim and Mauborgne (1997) mentioned that high-growth companies make their competitors irrelevant through a strategic logic, which they called as value innovation. Porter (1985) propagated the concept of value chain for a business unit, which helps to sustain competitive advantage based on cost or on differentiation or on both. Different methods have been used historically for improving functional effectiveness of products and services and the efficiency in the use of resources. In trying to respond to the super ordinate focus of maximization of value; firms have adopted a wide variety of

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approaches, including business process re-engineering, corporate restructuring, outsourcing, venturing, and rejuvenation.

Companies often refer to customer value, shareholders value, value for money, added value, etc., without providing corresponding definitions for understanding or measuring value. Value in essence is a dynamic concept and it differs from product to product, customer to customer, company to company and across time. A clear understanding of the meaning of value and focus on value for whom and how to measure such value, is essential for management of companies so that they can enhance value. The objective of this paper is as follows:

- To explain the theories that deal with the issue of what value companies should focus on;
- To highlight the importance of shareholder value and explain its measures critically;
- To illustrate the calculation of shareholder value measures and its decomposition into value drivers using the case example of ABB Ltd.

THEORIES DEALING WITH VALUE MAXIMISATION:

Value creation in an organization is inherently positive, and involves a set of competencies and capabilities at different levels, because they have a predominantly determining role in the transformation of assets and processes, but in order to effectively create value, it is essential for companies to define their goals in terms of value creation for whom and how to measure the same. There are two approaches that deal with the issue of value maximisation. They are:

- The shareholder value approach, and
- The stakeholder value approach.

THE STAKEHOLDER VALUE APPROACH:

The stakeholder value approach, conceptualizes the company as an agent who contracts with multiple stakeholders like the employees, customer, supplier, government society and shareholder who provide different resources to the company in return for value gained by them (Ross, 1973). We conceptualize the linkages between a company and its all the stakeholders as shown in Figure 1. Kanter (1994) termed these linkages as alliances through concepts, competence, and connections.

![Figure 1: Value Delivered by Company to Different Stakeholders](image-url)
In order to improve the magnitude of value perpetually, it is essential to measure the value created by the company to each category of stakeholder. The meaning of the stakeholder value components and ways for their measurement are discussed in the following section.

**Value to Customer:**

Customer value is what “they get” relative to what they have to “give up”. The financial value provided by a company to its customers can be ascertained using the principle of consumer surplus in economics. In other words, whenever a customer buys a product for final consumption, the value created by a company to its customers is given by the excess of the price a customer is willing to pay for a product over the price actually paid by him.

However, if the commodity sold is going to be used for the purpose of further business or value creation, customer value created can be measured using the Discounted Cash Flow method, i.e. Value to customer = (PV of net cash flows - Amount Invested).

Where, *PV of net cash flows* represents the discounted net cash flows earned by the customer using the product. Discounting is done at a rate equal to the cost of capital of the customer. *Amount Invested* = Price paid by the customer for the product.

Thus, we have two models for measurement of value to customers under two different circumstances. The former model suffers from the disadvantage that it cannot be easily applied and quantified for all products as the customer tastes and preferences can differ widely, thereby creating various prices which different customers would be willing to pay for a product, and also the same customer may be willing to pay different amounts at different points of time.

In addition to above, a company creates a lot of the intangible benefits to a satisfied customer like reduction in time spent for ordering, locating vendors, price negotiations etc. for future transactions thereby saving costs. The company also benefits out of creating a loyal customer and improved brand image.

In a product market characterised by perfect competition, the value created by a company to its customers disappears if the customer can buy a similar product from another company at the same price, terms and conditions. However, under such conditions, companies differentiate their products and thereby create value to customers.

**Value to Suppliers:**

Value created by a company to its suppliers is similar to the value created by it to customers, except for the fact that the company pays out cash in return for goods/services here. In simple terms, value to supplier can be expressed as: Value = [Price received – Total Cost].

Under perfect competition, the company does not create any value to supplier because the supplier can sell his product to any other company at the same price, terms and conditions. However, if we take the macro view, all companies put together do create value for the supplier. If the supplier does not get any value added, he will discontinue his business.

**Value to Employees:**

Employees contribute the “Human Capital” to the company. In other words the contribution of the employees is comparable with those of the owners, as human skills or intellectual capital contributed by the employees is also company specific just like owner’s capital. They also bear some risks associated with the company. The value created by a company to its employees can be summed up as the aggregate of the salary, bonus and incentives paid to the employee in addition to intangibles like skills development, reputation, and experience and so on. Thus, we have,

Value to employees = (Salary + Bonus + Other Perquisites)
In a perfectly competitive market condition, there is no room for companies to provide less compensation (value) to employees than others. If any company pays less, then the employee will switch to the company that pays him fairly. Hence, the value provided by the company will disappear as the employee can get paid the same returns in any other company he decides to work for. However, the intangible value added and personal preferences of an employee bring in the differentiation, which enable value creation to employees and help in their retention.

**Value to Government:**

The government contributes “free” resources like good roads, public health system, administration systems, courts, laws, education, public safety and such other basic infrastructure. Further, the Government also enables the company to function in a regulated environment by having systems, like licensing, permission for investment abroad, etc., for which it charges a fee. Value contributed to the government, primarily is the aggregate of various taxes the government receives like corporate income taxes, taxes on payrolls, taxes on sales, duties and excise, and other payments in the form of fee, like property taxes, tolls, surcharge, etc. A Company creates value to Government when:

\[
\text{[Value returned to Government} > \text{value of free resources consumed by company]}.
\]

The disadvantage of the method is that it is difficult to quantify the magnitude of consumption of free resources and value them.

**Value to Community:**

The firm consumes scarce resources, without paying for them. At the same time company also returns to the community value in the form of more employment opportunities, better living conditions, may contribute to social causes, like literacy, health, etc. as a part of what we today call as “Corporate Social Responsibility”. Value created by the company is the net result of these positive and negative contributions to the society which is part of Social Accounting.

**Value to Investors:**

Value of a company to its investors is expressed as below:

\[
\text{Value to Investors} = [\text{PV of Cash returns} - \text{Cash Investments}].
\]

*Where*

\[
\text{PV of cash returns} = \text{Present Value of dividends and market value realisable on sale of stock. It is ascertained by applying the discount rate that is equal to the cost of capital of the investor.}
\]

\[
\text{Cash Investments} = \text{money paid for purchase of the security.}
\]

From the above, it can be said that the minimum value created by a Company to different categories of stakeholders can be measured. However, such value creation will be perceived as adequate only if the stakeholders feel that they are receiving more value in return for the products given or services rendered by them. The resource exchanges will constantly reshape a company’s perceptions of their own value to others, update their knowledge of useful assets and capabilities, and suggest new ways of organizing and coordinating, all of which will contribute to a process of value innovation and growth.

The major drawbacks of this approach are as follows:

- It fails to measure intangible value created by the company for its stakeholders, like improvement in employee skills due to training, technology/know-how transfer to suppliers to improve quality of inputs, etc.
- It fails to quantify the total value created by a company to each category of stakeholder, including financial and non financial value.
- It also does not help find the aggregate value created by a company to all its stakeholders put together. In the absence of appropriate scoring mechanism, it
becomes impossible to measure the value creation by a company in a holistic manner.

- It does not provide a single objective function for value maximisation and multiple objectives is no objective. Hence, when there are conflicting interests among different stakeholders, there is no clarity on whose interests must be given priority and how decisions should be taken.

Due to the above reasons, a company is unable to adopt maximising value to all its stakeholders as the corporate financial goal. Adopting the stakeholder theory leaves the company with no clear cut management control or performance management and measurement system, using which the company can motivate and provide incentives for value-increasing behaviour among the employees (Jensen, 2001). Hence, an alternative approach, namely the shareholder value approach, was suggested and is popularised by many authors like Rappaport (2001), Elbhar (1999).

**Shareholder value maximisation approach:**

The Shareholder value maximisation goal is based on theory of firm (Simon, 1996), where an organisation is viewed as an instrument in the control of the owners, who are the sole risk bearers and bear all the risks associated with the organization and contribute capital for running it. They are also “residual claimants” and they get returns only after all other factor contributors are compensated, including the Government. The value creation process and flow in a typical organisation following shareholder value maximisation goal is illustrated in Figure 2 given below. From the figure, it can be seen that for a Company operating in a market driven economy, the process of maximising value for shareholders is possible only if it creates value for all other stakeholders like customers, suppliers, employees and government.

The argument that maximising value to shareholders should be the corporate goal is supported by the following additional reasons:

- Since all other factor contributors have been compensated, at the opportunity cost (in a free market economy) profits should belong to the shareholders.

- All other stakeholders have an opportunity to renegotiate their value periodically with the organisation, however, there is no provision in the Act where a shareholder can ask for higher dividend than what the board decides and the capital appreciation of the value of the share depends on the capital market forces and overall performance of the business at present and expected future growth.

**Measuring Shareholder Value**

There are two approaches to measuring shareholder value. In case of companies that are listed and whose shares are traded in the market we have value measures that are based on the market price of the shares. These measures help measure the value created in the capital markets for the shareholders. In this paper these measures are classified under the heading of financial market based value measures. In case of companies that
are unlisted, no market price is available and financial market based value measures cannot be calculated. Hence, shareholder value in such cases is measured using the accounting information and expected performance. These measures are known as intrinsic value measures. These measures can also be calculated for the listed companies. The intrinsic value measures measure the value created by the management of the company through efficient management of resources. It is expected that the value created for the shareholders in the capital markets is derived from the intrinsic value created by the management of the company. The different measures generally used to measure returns to the shareholders are given in Figure 3 followed by a brief explanation of the measures and their calculation.

**Holding Period Return (HPR)** is a very popular measure of shareholder wealth. It is calculated, based on the change in the market price of an investment over the period for which it is held. The formula for calculating HPR as suggested by Reilly & Brown (2008) is as follows:

\[ HPR = \frac{\text{Ending value of investment}}{\text{Beginning value of investment}} \]

HPR will always be equal to or greater than zero. A HPR value of greater than 1 means that shareholder wealth is created, HPR of 1 means that neither wealth is created nor destroyed, HPR of less than 1 means that shareholder wealth is destroyed. HPR of zero means that shareholder has lost all his investment.

HPR actually measures wealth created for the period for which investment is held by the shareholder. Shareholders prefer to measure wealth created in percentage terms on an annual basis. This is calculated as Holding Period Yield (HPY) as given below:

\[ HPY = HPR - 1 \]

Annual HPY = \((HPR)^{1/n} - 1\)

Where \(n\) is the number of years for which the share was held by the shareholder.

**Price Earnings Ratio (PE)** is another important measure of shareholder wealth that is most popular. It represents the price that the investors are prepared to pay for the share for every rupee of earnings made by the Company. It is calculated as follows:

\[ PE = \frac{\text{Market Price Per Share}}{\text{Earnings Per Share}} \]

A high PE ratio generally indicates that the investors think that the company is performing well and expect the long term return on investments to be high due to high growth. A higher level of PE ratio than past may also indicate more gains to existing shareholders who have invested into the shares earlier. High PE can also result because of a temporary depression in earnings.

**Market to Book Ratio (MB)** measures the ratio of market value of a share to its book value. Book value of a share is the net worth divided by number of outstanding shares. It represents the moneys which the company has received from its shareholders and includes investments made by the company on their behalf by retaining profits (internal accruals). MB ratio is calculated as given below:
\[ \text{MB ratio} = \frac{\text{Market Price Per Share}}{\text{Book Value Per Share}}. \]

**MB ratio** shows how the company is worth for every one rupee of shareholders' money employed as capital in the company. An MB ratio of more than 1 means the company has added more value to shareholders than the capital contributed by them and vice versa.

**Market Value Added (MVA)** is a measure of shareholder wealth popularised by Stern Stewart & Co. It is calculated as follows:

\[ \text{MVA} = \frac{\text{Market Value of Capital Employed Including Debt and Equity} - \text{Invested Capital}}{\text{Market Price Per Share}}. \]

*It measures the value which the market perceives the company has created and has the potential to create. It is an absolute measure of shareholder wealth.*

While all the above measures are used to measure shareholder wealth, the Holding period return, \( HPY \) measure the actual returns of an investment made in the security for the specified period, taking into account interim cash returns to shareholder. Other measures, like \( PE, MB \) ratio, \( MVA \) measure the wealth created by a company over the years and also the perception of the future wealth creation potential of the company (by the investors) for its shareholders. This is because these measures use the book value of capital invested which quantifies all the investments made by the shareholders in the company till date and market price of share which is a reflection of expectations of the investors about the future performance potential of the company and the value of intangibles.

Thus, the corporate goal of maximising shareholder value means that corporate managers should work towards increasing the market prices of shares.

Share Price or market prices of the shares of a company are used to measure the wealth created by a company for its shareholders. However, the use of share prices to measure performance of a company is criticised and regarded as impractical for the following reasons:

- Share prices of a company quoted in the stock market are an external assessment of the company's performance and health. They do not reflect actual performance of the company. It is an assessment of corporate performance against expectations of the investors. Thus, they can severely penalise the best performing company, and reward a company whose performance is low or average based on expectations (Koller et al., 2005).

- Stock market investors have limited information about company's performance and prospects, based on which they quote prices in the market. The share price is thus a subjective statement of beliefs about the future and represents a perception (that is one of many possible perceptions) about the company's prospects (Knight, 1998). It can deviate from the true value created by the company.

- Too much of focus on maximising share prices of the company can make managers feed the market with misleading and fraudulent information to achieve their goals.

- Moreover, the share prices in the short term are driven more by differences between actual performance and market expectations and by changes in this expectations, than by the level of performance per se. companies that consistently meet the high performance expectations but don't exceed them have difficulty delivering high returns. The market may believe that management is doing an outstanding job, but its approval has already been factored at the share price (Koller and Dobbs, 1998).

**Intrinsic value measures**

Intrinsic value measures used for measuring shareholder value can be classified in two different groups. They are:

- Accounting based measures, and
Understanding Value Creation: The Shareholder Value Perspective

- Value based management measures.

**Accounting based measures**

Traditional measures used to measure shareholder value are based on data drawn from the audited accounting records of the company. They include measures, like the Earnings per Share, Return on Investment, Return on Equity, Dividend per Share and Dividend Yield. A critical evaluation of these measures is given below:

**EPS – Earnings per Share**

Earnings per share represent the profits earned by the Company and available for distribution to the shareholders for the accounting period. It is calculated as given below:

\[
\text{Earnings per share} = \frac{\text{Profits After Taxes and Preference Dividend}}{\text{No. of Outstanding Shares}}.
\]

**Return on Investment (ROI)**

ROI is one of the most popular measures used by the companies for evaluating their performance. It is also reported in the annual accounts as one of the key measures of success. It is also one of the main measures of the divisional performance.

ROI is calculated as:

\[
\text{ROI} = \frac{\text{Net income} + \text{Interest} (1 - \text{tax rate})}{\text{Book Value of Assets}}.
\]

Though Return on Investment is a popular measure increase in ROI is no guarantee of shareholder value creation. Only if ROI exceeds the cost of capital for the company, shareholder value is created. Further ROI is criticised as follows:

**Return on Equity (ROE)**

ROE measures the returns to providers of equity funds. It is calculated as given below:

\[
\text{ROE} = \frac{\text{Net Income}}{\text{Book Value of Shareholders' Equity}}.
\]

Where shareholders’ equity refers to the aggregate of paid up capital and reserves and surplus appearing as a part of shareholders’ funds. Net income is the profit after taxes and preference dividend.

Since ROE is similar to ROI, it has all the disadvantages as ROI. Further, ROE is very sensitive to the leverage and can give a misleading picture of value created. ROE will increase as more than optimal debt is issued for financing at a rate less than return on investment. However, excess leverage actually contributes to financial risk and the risk adjusted value decreases. So the ROE and shareholder value criterion is in conflict here.

Another problem of the ROI and ROE is that it is impossible to compare the returns for the knowledge company with that of an Industrial Company. The industrial company invests a lot in the fixed assets, while the knowledge company spends a lot on training, research, information but a small percentage is capitalized / (Rappaport, 2001).

**Dividend Per Share and Dividend Yield**

Dividend per share is measured as the total dividend declared by the company for the accounting period upon the number of outstanding shares. It is the actual payment received by the shareholders. It is only a measure of partial wealth for the shareholders. Shareholders total returns on investment comprise of both dividend and capital returns. Dividend yield is measured as follows:

\[
\text{Dividend Yield} = \frac{\text{Dividend per Share}}{\text{Market Price}}.
\]

It measures the dividend returns to a shareholder who invests in the stock at current market prices.

All the accounting measures discussed above are criticised by different authors as measures not suitable for measuring performance with the objective of value enhancement. Ehrbar and Stewart (1999) criticize these measures from the CEO’s point of view, particularly, the rationale of connection of the CEO or CFO’s bonuses to these
indicators. If the bonus depends on ROI or ROE or ROA (ROA = net income/total assets), the manager can take the project, which can destroy value but increase accounting earnings. Once again, the author mentions (without any reference to the previous author) the stock repurchase, which increase ROE. So if for example, the ROA (or ROI) target is 25%, the manager will reject any project that will bring less ROA, even if it returns more than the cost of capital and creates the shareholder value. Or the head of the division whose target returns are 5% will accept an investment, and it does not matter whether it covers the cost of the capital or not. Ehrbar and Stewart (1999) write about the same things discussed above concerning the returns (ROE, ROI, ROA) but he divides the disadvantages into two types: the accounting and financial disadvantages. Accounting distortions deal mostly with the different costing methods (LIFO, FIFO etc) while the financial distortions deal mostly with proportion of debt and equity. If the management’s task is to increase ROE, the manager can accept a bad project, which is financed by the debt, and reject the good one if it is financed by the equity. A comparison of the measures is presented in Table 1.

Table 1-Comparison of Different Traditional Measures of Performance

<table>
<thead>
<tr>
<th>Criterion</th>
<th>EPS</th>
<th>ROI</th>
<th>ROE</th>
<th>DPS/DY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not distorted by accounting GAAP</td>
<td>✓</td>
<td>X</td>
<td>X</td>
<td>✓</td>
</tr>
<tr>
<td>Simple and easy to use</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Is not affected by leverage</td>
<td>X</td>
<td>✓</td>
<td>X</td>
<td>✓</td>
</tr>
<tr>
<td>Includes cost of equity</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Takes into account time value of money</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Applicable across industries</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

Indicates that the measure meets the criteria, while X indicates that the measure does not meet the criteria

Traditional accounting based measures of value, like Return on Investment, Earnings Per Share, cease to be relevant under the changing conditions as they fail to take into account the factors that drive shareholder value. Contributors of capital to a given risky venture expect returns which are equal to the opportunity cost of such capital. Capital markets measure value by discounting the expected future cash flows at a rate that the investors expect to get, if they invest in companies with similar risks. Hence, a company that reports accounting profits need not necessarily be a value creator from the perspective of a shareholder (Drucker, 1998). Further, the traditional bonus system also fail to link up with value correctly. This resulted in too small incentives for good performers and too big compensation for mediocre performers (Jensen & Murphy, 1990). Thus, the need to measure and manage value in a manner consistent with the way owners and other stakeholders’ measure value was felt by top management. It became essential for management not only to understand the process of value creation but also to create tangible links between their strategies and value creation to facilitate both decision making and performance measurement. To meet this need, a novel approach to management known as the Value Based Management’ (VBM) was innovated.

Value Based Management Measures:

Taggart, Kontes and Mankins (1994) first coined the word value-based management. They suggest a framework that links the company’s strategy to its value in capital markets. They have identified five key institutional value drivers that are essential for sustainable value creation. They are: Governance, Strategic Planning, Resource Allocation, Performance Management, and Top Management Compensation. The VBM approach uses metrics at different levels that are aligned to the institutional drivers, key functions and processes. The shareholder value measured using the methods suggested using the VBM approach are known as “Intrinsic value” of shares. Investment decisions are taken by comparing the share prices in the market with the intrinsic value of shares. If intrinsic value is less than market price the share is over valued and vice versa. By linking intrinsic value measures and it value drivers with performance at different levels, it is possible to manage and enhance shareholder value in the long
Understanding Value Creation: The Shareholder Value Perspective

The different definitions of shareholder value using the intrinsic value measure approach by different authors and method adopted for its measurement are given below:

Shareholder value is defined by Rappaport (2001) as “The total economic value of an equity. This value of the Company is known as the corporate value while the value of the equity portion is named shareholder value”. The value of a company can be represented in the form of equation as given below:

\[ \text{Corporate Value} = \text{[Value of Debt + Shareholder Value]} \]

Equation (1) above can be rearranged to arrive at the shareholder value as given below:

\[ \text{Shareholder value} = \text{[Corporate Value - Value of Debt]} \]

In this formula the value of debt represents the market value of debt, unfounded pension liabilities and also the market value of other claims such as preference shares. The corporate value is the value of the total firm or business unit. It is calculated as the aggregate of the following components:

- The present value of cash flows from operations during the forecast period.
- "Residual value", which represents the value of the business attributable to the period beyond the forecast period.
- The current value of marketable securities and other investments that can be converted to cash and are not essential to operating business.

The above method of arriving at the shareholder value of a Company is also known as the discounted cash flow method (DCF).

Other authors who have defined shareholder value include “value as being the difference between the corporate value and debt whereby the corporate value is the sum of the future or free cash flows discounted at the WACC”. The free cash flows themselves are made up of the individual cash flows for each year of the growth duration or competitive advantage period or the residual value. Thus, cash flow is named free in the sense that it could be distributed to shareholders. The consulting firms have attempted to define shareholder value as being the sum of discounted value of all cash flow from the Company to the owner, including what is distributed when the Company is sold or dissolved.

Sensing the need for a comprehensive metric for measurement and management of shareholder value, metrics were devised, such as Economic Value Added (EVA). Cash Flow Return on Investment (CFROI), Shareholder Value Added (SVA), Economic profits and Economic Earnings, etc. All the above metrics are rooted in the concept that reported earnings are subject to accounting distortions and do not take into account the total cost of capital. Hence, financial performance measure used to measure intrinsic value of share must look at the returns that exceed the total cost of capital. Each metric also uses the principles of Discounted Cash Flow (Myers, 1996). While economic profits and economic earnings are variants of EVA, the other two metrics differ in their calculations. The meaning, calculation of some of the important metrics given above along with their relative merits and demerits are given below.

**Economic Value Added (EVA)**

EVA is trade marked measure of shareholder value. It is aimed to be a measure that tells what has happened to the wealth of shareholders. EVA is based on the concept that earning a return greater than the cost of capital increases value (of a company), and earning less destroys value. It is calculated as:

\[ \text{Economic Value Added} = [\text{NOPAT} - (\text{Invested Capital x WACC})] \]

Where, \text{NOPAT} = \text{Net operating cash profits of the company after taxes but before any Interest expenditure}, \text{WACC} = \text{weighted average cost of capital of the company}. 

21
Invested capital = the economic capital invested in the business includes both equity and debt but does not include non-interest bearing current liabilities.

Weighted average cost of capital (WACC) is calculated as:

$$WACC = [\text{Cost of Equity} \times \text{Proportion of equity from capital} + \text{Cost of debt} \times \text{Proportion of debt from capital} \times (1 - \text{tax rate})].$$

Economic profit is excess of NOPAT over a capital charge. Capital Charge represents invested capital and WACC. In other words, economic profit is the profits (or returns) the company must generate in order to satisfy the lenders and shareholders who have "rented" capital to the company.

**Cash flow return on investment (CFROI)**

Cash Flow Return on Investments, or CFROI, is a measure of Company performance developed and trademarked by Holt Value and Associates. It is based on the assumption that a company can be modelled as a project that generates cash over the useful life of its underlying assets and investments.

Under this framework, CFROI is the implied return on these cash flows, or equivalently, the implied *discount rate* in the discounted cash flow model in which:

- The initial cash outlay is the amount required to replicate the asset base (both depreciable and non-depreciable) of the company, and
- The terminal cash flow includes the liquidation value of the company's non-depreciable assets.

**Shareholder value added (SVA)**

Shareholder value added is a measure that is similar to the DCF method of arriving at shareholder value. The DCF method arrives at the economic value resulting from the forecasted scenario while shareholder value added measures the change in value over the forecast period. It is calculated as (Rappaport, 2001):

$$SVA = [\text{Cumulative present value of cash flows} + \text{Present value of liquidation at the end of forecast period} - \text{current liquidation value}].$$

Shareholder value added helps in “understanding the drivers of the business that are most critical to value creation enables management to focus its analysis more efficiently on key elements of a strategy”. It is better suited for performance evaluation as it accounts for risk, free from accounting distortions and measures the change in value (Rappaport, 2001).

<table>
<thead>
<tr>
<th>Criterion</th>
<th>SVA</th>
<th>CFROI</th>
<th>EVA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not distorted by accounting GAAP</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Simple and easy to use</td>
<td>X</td>
<td>X</td>
<td>✓</td>
</tr>
<tr>
<td>Is not affected by leverage</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Includes cost of equity</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Takes into account time value of money</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Applicable across industries</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Relationship with shareholder returns</td>
<td>NE</td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>

✓ indicates that the measure meets the criterion, X indicates that the measure does not meet the criterion and NE indicates that it is still not established by empirical studies.

**Shareholder value enhancement process?**

The shareholder value enhancement involves the following steps:

- Choosing the shareholder return measure and intrinsic value measure used in the Company for planning and control;
- Identifying major value drivers that are directly linked to intrinsic value; and
- Managing the value drivers in such a manner as to enhance shareholder value.
Understanding Value Creation: The Shareholder Value Perspective

The above process that can be followed by a company for shareholder value enhancement under the above framework is discussed and illustrated using the data of ABB Ltd., which is a multiproduct, multi-location company. The measure chosen for measuring shareholder value is MVA and the corresponding intrinsic value measure is EVA. EVA is decomposed into its value drivers which are profit margin drivers, growth drivers, capital structure and cost of capital. This is represented in Fig. 4.

An illustrative case example

The calculation of the different measures and identification of value drivers that drive shareholder value is illustrated using the financial data of ABB Ltd., which is a multi-product, multi-location company in India. The financial data for the calculation is drawn from capital line database, 2009. The share prices for the purpose of calculation of returns are drawn from the website of Bombay Stock Exchange, www.bseindia.com.

MVA

The formula for calculation of MVA is excess of book value of capital invested (Debt + Equity) over the market value of equity and debt. However, the market value of debt for Indian companies is not ascertainable due to want of adequate data. Hence, the MVA is calculated as excess of market capitalization of equity over the Book value of Capital. Table 3 gives the calculation of MVA.

<table>
<thead>
<tr>
<th>Date</th>
<th>Equity funds</th>
<th>Equity m cap</th>
<th>MVA</th>
</tr>
</thead>
<tbody>
<tr>
<td>ABB 31/03/1997</td>
<td>444.97</td>
<td>1946.74</td>
<td>1501.77</td>
</tr>
<tr>
<td>ABB 31/03/1998</td>
<td>459.65</td>
<td>2092.75</td>
<td>1633.1</td>
</tr>
<tr>
<td>ABB 31/03/1999</td>
<td>368.55</td>
<td>1035.5</td>
<td>666.95</td>
</tr>
</tbody>
</table>

MVA of the company has increased in the year 1998 and again fallen in the year 1999. Hence, the returns to the shareholders have suffered in the year 1999 as compared to the earlier years.

EVA

Intrinsic value is calculated using the Economic profit model suggested by Young and Byrne (2003). Under this method, the EVA for the company for each of the years is calculated. EVA calculation involves calculation of the NOPAT after making accounting adjustments. NOPAT has been calculated by deducting depreciation, taxes, tax shield on interest. An analysis of the profit and loss account of the company shows that the company on an average has extra ordinary expenses of Rs.299 billion every year. Hence, only expenses above Rs.299 billion are taken as extraordinary and adjusted. Expenses below Rs.299 billion
per annum are taken as regular extra ordinary expense incurred by the company and the same is not adjusted for calculating NOPAT. The effective tax rate for the company for each year is calculated and the same is used to calculate the tax shield on interest. Stepwise calculation of EVA is given in Table 4.

WACC is calculated by taking the market value weights for equity. Post tax cost of debt is taken into account. Value of preference capital is taken at actual value as per the balance sheet. Cost of preference capital is also taken at actual rate from the balance sheet data. Cost of equity is calculated using CAPM model as detailed in Table 5.

<table>
<thead>
<tr>
<th>Table 4: EVA of ABB</th>
<th>1997</th>
<th>1998</th>
<th>1999</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating Profit</td>
<td>113.13</td>
<td>76.5</td>
<td>75.12</td>
</tr>
<tr>
<td>Depreciation</td>
<td>15.82</td>
<td>17.51</td>
<td>15.8</td>
</tr>
<tr>
<td>Tax</td>
<td>21.5</td>
<td>11.5</td>
<td>16</td>
</tr>
<tr>
<td>Extraordinary Items</td>
<td>0.09</td>
<td>0.85</td>
<td>2.85</td>
</tr>
<tr>
<td>NOPAT before tax</td>
<td>75.72</td>
<td>46.64</td>
<td>40.47</td>
</tr>
<tr>
<td>rate</td>
<td>0.2487274</td>
<td>0.229568744</td>
<td>0.2895499</td>
</tr>
<tr>
<td>Interest</td>
<td>10.96</td>
<td>9.75</td>
<td>6.12</td>
</tr>
<tr>
<td>Tax shield on interest (2)</td>
<td>2.7260528</td>
<td>2.2384707053</td>
<td>1.747012</td>
</tr>
<tr>
<td>NOPAT (1-2)</td>
<td>72.939347</td>
<td>44.410152925</td>
<td>38.72299</td>
</tr>
</tbody>
</table>

| Shareholders funds  | 444.97 | 459.65 | 368.55 |
| Debt                | 45.67 | 17.5 | 41.62 |
| Capital Investd     | 490.64 | 477.15 | 410.17 |
| WACC                | 0.1330583 | 0.132958766 | 0.129941 |
| Cost of capital     | 65.28372 | 63.44127608 | 53.29795 |
| EVA                 | 7.7102148 | -19.03974684 | -14.575 |

<table>
<thead>
<tr>
<th>Table 5: Calculation of WACC</th>
<th>1997</th>
<th>1998</th>
<th>1999</th>
</tr>
</thead>
<tbody>
<tr>
<td>Equity Funds</td>
<td>444.97</td>
<td>459.65</td>
<td>368.55</td>
</tr>
<tr>
<td>Beta**</td>
<td>0.6708</td>
<td>0.6708</td>
<td>0.6708</td>
</tr>
<tr>
<td>RR**</td>
<td>0.1224</td>
<td>0.1228</td>
<td>0.1141</td>
</tr>
<tr>
<td>RPW</td>
<td>0.0142071</td>
<td>0.013837062</td>
<td>0.0225372</td>
</tr>
<tr>
<td>Ke</td>
<td>0.1319502</td>
<td>0.132081901</td>
<td>0.129941</td>
</tr>
<tr>
<td>Debt</td>
<td>45.67</td>
<td>17.5</td>
<td>41.62</td>
</tr>
<tr>
<td>Kd</td>
<td>0.1802983</td>
<td>0.237819511</td>
<td>0.1147936</td>
</tr>
<tr>
<td>Equity m cap</td>
<td>1946.74</td>
<td>2692.75</td>
<td>1035.5</td>
</tr>
<tr>
<td>WACC</td>
<td>0.1330583</td>
<td>0.132958766</td>
<td>0.129941</td>
</tr>
</tbody>
</table>

**Beta is calculated taking daily returns for stock and compared with the benchmark index of BSE Sensed. The beta is calculated for the period of 10 years from 1997 to 2007 and is taken as the long term stock risk measure for the company for the entire period.

*It is the long term lending rate of 10 year government bond for the year of study.

# is calculated as the difference between the Return on the sensed and the risk free rate for the period.

EVA of the company has fallen from 1997 to 1998 and has subsequently become less negative in the year 1999. However, MVA of the company has increased in 1998 and has subsequently fallen steeply in 1999. In other words, it can be said that the value created in the market for the company is driven by the current operation value created by a lag period of a few months or quarters.

**Intrinsic value using EVA**

The intrinsic value of the company consists of the current operation value and future growth value components of the company. The current operation value is measured using the EVA of the year as the basis. The future growth value depends on the incremental value the company expects to create in future. This is measured using the incremental EVA as the basis. The EVA for the year 2000 and 2001 are calculated as 7.27 and 12.27. For the purpose of calculation of FGV, the incremental EVA for 3 years following the year of calculation is taken and discounted at the cost of capital. The same is multiplied by (1+WACC)/WACC arrive at the FGV of the company. The calculation of the intrinsic value of the company for the years 1998 and 1999 is given in Table 6.

<table>
<thead>
<tr>
<th>Table 6: Intrinsic Value of ABB</th>
<th>1997</th>
<th>1998</th>
<th>1999</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current operation value EVA</td>
<td>7.71021479</td>
<td>19.03974684</td>
<td>14.574966</td>
</tr>
<tr>
<td>Incremental EVA</td>
<td>-26.74996162</td>
<td>4.464781</td>
<td></td>
</tr>
<tr>
<td>WACC</td>
<td>0.1330583</td>
<td>0.132958766</td>
<td>0.129941</td>
</tr>
<tr>
<td>Equit capital</td>
<td>444.97</td>
<td>459.65</td>
<td>368.55</td>
</tr>
<tr>
<td>cop_val</td>
<td>316.4496143</td>
<td>256.3841</td>
<td></td>
</tr>
<tr>
<td>FGV</td>
<td>8.5155017</td>
<td>8.521128664</td>
<td>8.695793</td>
</tr>
<tr>
<td>3Yrs. Incremental EVA</td>
<td>27.771</td>
<td>52.6645</td>
<td></td>
</tr>
<tr>
<td>Future growth value</td>
<td>236.4646412</td>
<td>457.655</td>
<td></td>
</tr>
<tr>
<td>Total intrinsic value</td>
<td>553.0962555</td>
<td>714.0391</td>
<td></td>
</tr>
</tbody>
</table>

From the Table, it can be seen that the intrinsic value of the company has increased in the year 1999, though the MVA and the EVA for the year has fallen. However, the decomposition of the intrinsic value into current operations value and future growth value shows that the current operations value has fallen in the year 1999 in line with the MVA and shareholder value. The future
Understanding Value Creation: The Shareholder Value Perspective

growth value, however, has increased. Hence, the increase in future growth value is attributed to the actual increment in EVA achieved by the company in the subsequent years.

**VALUE DRIVERS OF ABB**

Decomposition of the value into its major component value drivers, namely growth drivers, profitability drivers and economic factors are shown in Table 7. From the table, it can be seen that the intrinsic value of ABB in the year 1999 was driven by sales and margin growth achieved in subsequent years 2000 and 2001. However, this is not reflected in the MVA for the year 1999, as the overall market was depressed as shown by the return on the Sensex. Further, the sales and the margin growth for the year 1999 for ABB continued to be negative.

Hence, it can be said that in the case of ABB Ltd. Current operation value plays a significant role in determining the value returned to the shareholders. Future growth value does not. Market prediction of incremental EVA for future years is based on current market conditions. When current market conditions do not show good growth, then the market takes a prediction which is on the lower side resulting in low MVA for shareholders, as is shown in the case of ABB.

**Concluding remarks**

The shareholder value, as determined by the market value of the company, depends on the intrinsic value created by the management of the company. However, economic factors and overall market sentiments and current operation value play a significant role in determining the shareholder returns of the company in a given specific period. The future growth value does not seem to have a significant impact, as shown in the case of ABB Ltd. This could be because of the reason that analyst and investors may not be in a position to always take a correct prediction of the future growth expected in a company. This results in short term distortions in the market value which is corrected in the long run. Further, the market value of the shares is also affected by numerous other factors, like general market sentiments, global market movements, etc., which are not factored into the above model.

### Table 7: Value Drivers of ABB

<table>
<thead>
<tr>
<th></th>
<th>1998</th>
<th>1999</th>
<th>2000</th>
<th>2001</th>
</tr>
</thead>
<tbody>
<tr>
<td>Growth Drivers</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SE</td>
<td>-17.55%</td>
<td>-10.75%</td>
<td>2.25%</td>
<td>31.30%</td>
</tr>
<tr>
<td>Mg</td>
<td>-34.67%</td>
<td>3.37%</td>
<td>26.48%</td>
<td>18.40%</td>
</tr>
<tr>
<td>Profitability Drivers</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Margin</td>
<td>8.80%</td>
<td>9.68%</td>
<td>12.04%</td>
<td>11.09%</td>
</tr>
<tr>
<td>ATO</td>
<td>1.0171308</td>
<td>1.059257236</td>
<td>1.0113867</td>
<td>1.108994</td>
</tr>
<tr>
<td>Debt_equity</td>
<td>0.03802724</td>
<td>0.112929046</td>
<td>0.041718</td>
<td>0.024121</td>
</tr>
<tr>
<td>Tax rate</td>
<td>22.96%</td>
<td>28.55%</td>
<td>23.26%</td>
<td>22.44%</td>
</tr>
<tr>
<td>Interest</td>
<td>9.75%</td>
<td>6.12%</td>
<td>8.26%</td>
<td>12.23%</td>
</tr>
<tr>
<td>WACC</td>
<td>13.30%</td>
<td>12.99%</td>
<td>12.73%</td>
<td>12.33%</td>
</tr>
<tr>
<td>Economic factors</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GDP</td>
<td>11.201942</td>
<td>15.27518414</td>
<td>10.54668</td>
<td>7.752033</td>
</tr>
<tr>
<td>WPI</td>
<td>5.6</td>
<td>7.9</td>
<td>4.6</td>
<td>10.4</td>
</tr>
<tr>
<td>Sensed returns</td>
<td>0.075</td>
<td>-0.505195448</td>
<td>0.0518</td>
<td>-0.22419</td>
</tr>
</tbody>
</table>
Reference:


