Drivers of Shareholders' Value

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"Economic Value Added measures the profitability of a company after taking into account the cost of all capital. It is the post-tax return on capital employed (adjusted for the tax shield on debt) less the cost of capital employed. Companies which earn higher returns than cost of capital create value. Companies which earn lower returns than cost of capital are deemed destroyers of shareholder value." **Infosys's Annual Report (FY 2005-06)**

Introduction

The most important objective of Financial Management is the maximization of shareholders' value. After reading this, the first question which comes to our mind is that how do shareholders know that the company to whom they have entrusted their hard earned money is efficiently utilizing it and thus, creating value for them. We have always read the annual reports of the companies to find out information about their 'top line' and 'bottom line'. We also have various financial ratios for our aid like Return on Capital Employed (ROCE), Return on Net Worth (RONW), Earning per Share (EPS), Dividend per Share (DPS) etc.

In 1890, Alfred Marshall introduced the concept of Residual Income, which can be arrived at by subtracting the charge for the capital employed from the operating profit. In the beginning of the 1990's, Stern Stewart & Co. came out with a modified way of calculating Residual Income suggesting accounting changes with respect to depreciation, inventory, research and development expenditure etc., for arriving at the figures of operating profit and capital employed. With this, the term – Economic Value Added (EVA) was introduced on which the firm has the copyright.

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Many studies have been carried out to find out whether these measures really contribute to the shareholders' wealth. However, since EVA was introduced as an indicator for shareholders' wealth maximization, it has been a focal point for majority of the studies. Also, many Indian companies like Infosys, Hindustan Lever, Tata Steel, Godrej etc. have adopted EVA and are mentioning about it in their annual reports.

This paper is another attempt to find out whether EVA really explains the value accretion for the shareholders. Are we better off by removing the focus from EVA and concentrating on traditional measures like ROCE, RONW, EPS, DPS etc.?

Objective

The primary objective of this paper is to find out what drives the shareholders' value. The study has been conducted to find out the correlation of the measures like ROCE, RONW, EPS, DPS, Cash Flow from Operations and Economic Value Added with Market Value Added (MVA).

EVA and MVA

As the introductory paragraph of this paper suggests, EVA is the surplus profit after accounting for all the expenses including the cost of capital. We have always looked at the figures of Profit after Tax to find out whether a company is performing well or not. However, what we forget is that the shareholders invest money in a company in expectation of some return. So, the basis for evaluation should be whether the company has earned over and above the minimum required rate of return by the investors. If there is surplus after accounting for this opportunity cost of equity, the company is creating value for its shareholders. If not, then it is destroying value. In other words, value is created when return earned by the firm is more than its cost of capital or firm invests in the projects with positive NPV.

EVA can be calculated through any one of the following methods:

- Profit after Tax-(Cost of Equity*Net Worth)
- Operating Profit after Tax-(Weighted Average Cost of Capital*Capital Employed)

- (Return on Capital Employed-Weighted Average Cost of Capital)*Capital Employed

As JHvH de Wat (2005) puts it, EVA is an internal measure of performance that determines MVA, which is an external measure of performance.

MVA can be calculated by subtracting Capital Employed from the Market Value of the firm. Another variant is subtracting Net Worth from the Market Capitalization of the firm. MVA states the value addition at a particular point of time, hence it is a stock variable where as EVA is a flow variable.

A company can be an EVA and/or MVA positive company by:

- Increasing revenue
- Reducing operating costs
- Efficient utilization of assets
- Raising funds at cheaper cost

Literature Review

Stewart (1991) had carried out a research to find out the relationship between EVA and MVA. This study was done by taking average EVA values for the years 1987 and 1988 of 613 companies in USA and then comparing them with their MVA values for 1988. The study found an r^2 of 97% between the EVA and MVA values for the companies with positive EVA while this correlation was insignificant for the companies with negative EVA values. Finegan (1991) took a sample of 450 companies in USA and found that average values of EVA could explain 61% of the variance in MVA whereas the similar figure was 44% between the change in EVA and change in MVA. He also observed that this r^2 was 47% between ROCE and MVA. Dodd and Chen (1992) found ROA as a better driver of shares returns as compared to EVA.

Stern (1993) found out that EVA is the best measure that drives the shareholders' value with an r^2 of 50% with MVA. The next important driver was ROE with an r^2 of 25% with MVA. Lehn and Makhija (1996) also studied the relationship of share returns with ROE, ROA, Return on Sales (ROS), EVA, MVA and CEO turnover. Correlation was found to be highest in case of EVA however, CEO turnover also

affected the shares returns. O'Byrne (1996) used measures like capitalized EVA (EVA divided by the cost of capital), NOPAT and free cash flows and correlated with them with market value divided by the invested capital. He found NOPAT as a better indicator with an r^2 of 33% compared with 31% in case of EVA. However, changes in EVA values explained 74% of the changes in market value over a period of 10 years. Uyemara and others (1996) studied MVA's correlation with EVA, Net Income, EPS, ROE, and ROA over a period of 10 years. r^2 was highest in case of EVA (40%) followed by ROA (13%). It was least in case of EPS.

Grant's (1996 and 1997) study of 983 companies showed that of Standardized EVA (EVA divided by Capital) had an r^2 of 32% with Standardized MVA (MVA divided by Capital). The data taken was for the year 1993 and he also found that the correlation was higher for positive EVA companies. Milunovich and Tsuei (1996) studied the correlation between EVA and MVA in the US information technology industry for the period 1990-95 and found an r^2 of 42%. EPS was judged as the second best measure with an r^2 of 34%. Kramer and Pushner (1997) established that lagged levels of NOPAT explained MVA better as compared to EVA. This correlation was found higher even when changes in NOPAT were correlated with changes in MVA. According to Biddle and others (1999), Net Income was found to be the best measure to explain share returns. Majority of these studies were focused on US companies. Griffith (2004) concluded that an investor or analyst using EVA or MVA measures to forecast performance would have experienced significant losses. Ferguson and others (2005) also doubted that adopting EVA improves stock performance.

JHvH de Wet (2005) analyzed the database of 89 South African companies and observed that the Standardized Cash Flow from Operations (CFO divided by the Invested Capital in the beginning) had an r^2 of 38% with the Standardized MVA (MVA divided by the Invested Capital in the beginning), which was found to be the best driver as compared to the Standardized EVA (EVA divided by the Invested Capital in the beginning), ROA, ROE, EPS and DPS. He also observed that correlation of EPS and DPS with MVA was insignificant and thus questioned the logic of using EPS and DPS for valuing the shares. Roji George (2005) analyzed the data of 21 Indian banks for the period 1999-2003 and concluded that there is a positive relationship between EVA and productivity and negative relationship between EVA and NPA.

Research Method

This analysis was carried out over a period of 10 years on 25 companies which form part of BSE Sensex. Though Sensex comprises 30 companies, 5 companies were

eliminated because of the inadequate information available as these companies were listed post 2001 while the study period was April 1997 – March 2006. The reason for choosing companies from Sensex was its reliability in terms of the selection of the companies as only those companies are selected which have a listing history of at least 3 months with sufficient trading frequency. This helps in efficient discovery of price which in turn helps in calculating an accurate value of MVA, Beta and the Cost of Equity.

The regression analysis was done to establish the relationship of MVA with EVA, ROCE, RONW, EPS, DPS and Cash Flow from Operations.

Different measures which were used for the analysis were:

- Standardized Market Value Added (Std. MVA), which is MVA/Avg. Net Worth
- Standardized Economic Value Added (Std. EVA), which is EVA/Avg. Net Worth
- Return on Capital Employed (ROCE)
- Return on Net Worth (RONW)
- Earning per Share (EPS)
- Dividend per Share (DPS)
- Standardized Cash Flow from Operations (Std. CFO), which is CFO/Avg. Capital Employed

Database used was CMIE's Prowess and Business Beacon from where the values of Avg. Market Capitalization, Avg. Capital Employed, Avg. Net Worth, risk-free return, market return, beta, profit after tax (net of non-recurring transactions), ROCE, RONW, EPS, number of outstanding equity shares, dividends paid and cash flow from operations were taken.

MVA was calculated by subtracting Avg. Net Worth from Avg. Market Capitalization. Value of debt was ignored while calculating MVA because India still doesn't have a well developed corporate debt market which would have created problems in terms of availability as well as the reliability of the data.

EVA was calculated as follows:

$$EVA = \text{Profit after Tax} - (\text{Cost of Equity} * \text{Avg. Net Worth})$$

where, Profit after Tax was net of non-recurring transactions.

Cost of Equity was calculated using the Capital Asset Pricing Model, where:

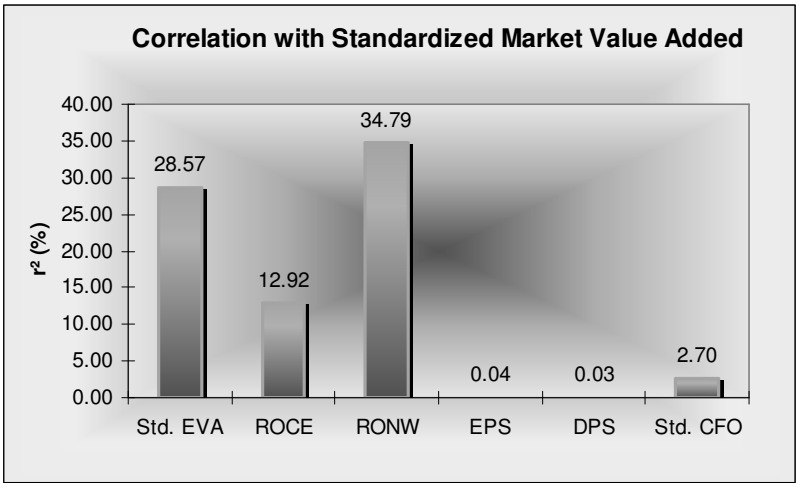
Cost of Equity = Risk-free return + Beta*Market Risk Premium

For calculating risk-free return, average of maximum and minimum yield on 364-days Treasury bill has been used. Beta values have been taken from BSE website and Prowess. Market risk premium has been taken as 7% for the period 2002-05 and 8% for the period 1996-2001, as representative figures being used by some of the companies in Sensex.

Research Results

Results of the regression analysis (each with a single variable) are tabulated as follows:

	Standardized EVA	**ROCE**	**RONW**	**EPS**	**DPS**	**Standardized CFO**
r	0.53	0.36	0.59	0.02	-0.02	0.16
r^2	28.57	12.92	34.79	0.04	0.03	2.7
Standard Error	7.18	7.93	6.86	8.49	8.49	8.38



Analysis establishes that RONW has the strongest correlation **(0.59)** with Std. MVA with an r^2 of **34.79%**. Standardized EVA comes second with an r^2 of **28.57%** followed by ROCE (r^2 of **12.92%**). Much sought after ratios like EPS and DPS have shown insignificant correlation.

Conclusion

The regression analysis suggests that RONW is the most important variable which explains 34.79% of the variance in MVA, which is not a surprise since shareholders should value an enterprise, based on the return what they are getting on their invested money, which proves that it doesn't matter whether the company retains or distributed its earnings, so long it is being utilized for productive purposes.

EVA values do have an impact on the MVA of the companies. It takes into account the opportunity cost of capital and it is proved that increase in EVA does add value for the shareholders. ROCE also has some impact, however EPS, DPS and Std. Cash Flow from Operations have shown insignificant relationship.

Thus Return on Net Worth and Economic Value Added emerge as strong drivers of the shareholders' value.

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