Economic Value Added : An Overview

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ABSTRACT

Economics value added is a powerful new management tool which is considered to be important source of corporate governance. It is an alternate performance measurement technique which is used to overcome the limitation of traditional measurement criteria by correlating with shareholder's wealth and action of a company's manager. Various performance measurement criteria have been adopted by corporate entities, among them return on investment is considered to be an important tool for determination of profitability. The main aim of every corporate management is to maximize its shareholder's value and value of business.

From past few years EVA has emerged as a new way to measure financial performance of highly reputed corporation like Coca-Cola, AT&T, Quaker, Oats and Briggs and Stratton have set up EVA measurement system throughout their organization.

Key word. Economic value ,capital invested, NOPAT , CAPM , Beta estimation

INTRODUCTION

Economic value added is considered to be tool for measuring corporate performance not only for evaluating performance of companies out also for determination of incentive pay. It tries to cope with the tension that exists between the need to come up with a performance measure which is correlated with shareholder's wealth and at the same time less subject to random fluctuations in stock prices.

EVA is a rupee amount rather than a ratio remaining after capital charge or cost of capital is deducted from the amount of operating profits. EVA model indicates that EVA is net result of excess of risk adjusted cost of capital employed to generate cash flows. Estimation of stock market data represented in calculating EVA does not form a part of standard accounting principles. So EVA is a way of measuring an operation's real profitability. It holds a concern accountable for the cost of capital it used to expand and operate its business. It is better than traditional method as it encourages growth through investment in new products, management and shareholders. EVA is linked with bonus to employees, remuneration to management, and bonus share to equity shareholders.

DEFINITION OF EVA

According to Peter F. Drucker, "EVA is based on something one have known for a long time, what we call profits, money left to serve equity, is not profit until a business returns profit, that is greater than cost of capital it operates at loss. The entire enterprise returns less to the economy than it devours in resources until it does not create wealth, it destroys it".

" As a performance measure EVA comes too closer than any other tool to capture the true

economic profit of an enterprises. It is directly linked to the creation of the shareholders wealth over time EVA based financial management and incentive system gives manager superior information and motivation to make decisions that will create the greatest shareholders private enterprise".

"Economic Value Added (EVA) is an increasingly popular corporate performance measure one that is often used by companies not only for evaluating performance, but also as a basis for determining incentive pay. Like other performance measure, EVA attempts to cope with the basic tension that exists between the need to come up with a performance measure that is highly correlated with shareholders wealth, but at the same time somewhat less subject to the random fluctuations in stock prices. This is a difficult tension to resolve, and it explains the relatively low correlation of all accounting based performance measures with stock returns, at least on a year-to-year basis".

According Stem Steward, "EVA makes use of principles and methods modern economics to provide a accurate measure of Weighted Average Cost of Capital (WACC)".

EVA is also defined as

"Excess profit of a firm after charging cost of capital".

EVA is a corporate surplus, which should be shared by the employees, management and the shareholder. Efficiency bonus, profit sharing schemes, managerial remuneration over and above a minimum sustenance salary, issue of bonus shares and incentive divided to equity and preference shareholders respectively can be better linked to EVA.

EVA

- → Bonus to employees
- → Extra remuneration to management
- → Incentive dividend to preference shareholders
- → Bonus share to equity shareholders

The Intellectual Capital and Intangible Report of Balarampore Chini Mills Ltd. Describes that, 'What makes EVA potentially potent is in its application; it can be based to structure employee remuneration or increments in proportion to the act of their creation/ destruction of wealth. When applied through the organization, the separate divisions are able to break down their expenses/income structure more analytically than if the exercise were carried out by a centralized accounting head.'

Economic value added considers all aspects of a company's financial management and it also caters into account minimum expectation of shareholders.

Value of EVA

EVA = Net Operating Profit After Tax

Capital Charge (or overall cost of capital)

EVA is positive when NOPAT exceeds capital charges.

Negative in case when capital charges exceeds NOPAT.

EVA=NOPAT – Capital Charge

Or EVA = NOPAT – (WACC x Invested Capital)

WhereWACC = Weighted Average Cost of Capital

NOPAT = Net Operating Profit before Interest but after depreciation and Tax

Invested Capital = Invested Capital at the beginning of year.

Relative profitability and invested capital are the two factors which derive EVA. So the formula shows if return of a company are not enough to cover cost of capital then more investment will bring more negative EVA. So in such case company must make efforts to improve EVA by either increasing the return or reducing the amount of capital invested.

EVA can be improved by earning higher profits without using more capital, investing capital in projects having high returns and using reduced capital to carry same operation.

So calculation of EVA facing some tricky issues. Each element is discussed separately. The important adjustments which had to be made to Stewart computed EVA arrives at modified EVA are as follows:

(I) NET OPERATING PROFIT AFTER TAX (NOPAT)

NOPAT is income available to shareholders plus interest expenses (after tax). According to Stewart, "It is the profit derived from the company's operation after taxes before financing cost and non cash book keeping entries". In order to reach at NOPAT depreciation is subtracted. Non-operating income is also considered as part of NOPAT. Stewart said that in order to arrive at NOPAT adjustments have to be made which would eliminate distortions in accounting results. In calculation of NONPAT four adjustments which is also known as equity equivalents are made. These adjustments are added to invested capital and periodic change is added to operating income to arrive at NOPAT. The adjustments are as follows:

(1) DEFERRED INCOME TAX RESERVE

For accounting purpose current tax and deferred tax liability are considered. Deferred tax liability exists when tax is more than tax liability as per income tax laws. NOPAT is charged with taxes paid in cash/ actual instead of accounting provision for taxation. So deferred tax liability is added to NOPAT and deferred tax asset is deducted from NOPAT.

But in India there is no standard on accounting for income tax. Tax charge for a period is

determined on the basis of tax effect accounting method which recognize deferred tax liability and deferred tax asset. But this approach will need some time to reach financial statements. So tax payable method can be used for the time being till this approach comes. Most of the companies and companies under study use tax payable method only.

(2) GOODWILL AMORTIZATION

Goodwill arises from the accounting for amalgamation in nature of purchase by purchase model. Goodwill is shown in balance sheet as money's worth been paid. It should be amortized over a period of not more than five years. In case of major acquisition at high premium would depress profits seriously. Pooling of interest also leads to non-recognition of goodwill. In this case difference between purchase consideration and equity share capital of acquired company must be adjusted in a reserve which leads to reduction in equity of acquired company. If purchase method is used equity will be reduced to amortization of goodwill. So return on equity capital post-amalgamation will be low. So goodwill recognition shows true cost of acquisition which is the market value of securities. So periodic amount of amortization of goodwill is added to NOPAT and cumulative amortization of goodwill is added back to equity.

(3) THE LAST IN FIRST OUT (LIFO) RESERVE

This method is used for valuation of inventories in order to save tax at high price rise. In this case companies using this method, make adjustments and inventories in balance sheet are shown at recent prices. It is the difference between FIFO and LIFO value of inventory. Periodic increase in LIFO reserve is added to NOPAT.

(4) AMORTIZATION OF RESEARCH AND DEVELOPMENT COST

Long term success in competitive market is assessed by research and development efforts. Research cost must be immediately expensed while development cost can be amortized on fulfillment of certain conditions.

Many companies make charge for entire R & D cost in the year in which they occur. So profits get lower for that year. So a company discouraged to lie upon R & D program. Annually charged R & D expenditure is added back to NOPAT and an amortized portion is deducted from NOPAT.

Many companies which are following practice of writing off R & D cost have included same in natural heads of accounts. So it is not possible to find out costs written off. So only a part of capitalized R & D cost isamortized through annual depreciation and R & D cost of revenue is written off in year in which it incurs. So no adjustment in NOPAT is made for R & D cost of revenue nature.

(II) INVESTED CAPITAL

Invested capital is defined as net worth plus borrowed funds where borrowed funds include both long-term and short-term funds borrowed. And net worth is total of paid up share capital plus free reserve and surplus less miscellaneous expenditure if any.

Invested Capital Is Shown As :-

Invested capital = Net Worth + Total Borrowings

Where

Net worth = Share Capital + Reserve & Surplus

-Revaluation Reserve – Accumulated Losses

-Miscellaneous Exp.

Total Borrowings = Long-term Interest bearing debt

+ Short-term Interest bearing debt

(III) WEIGHTED AVERAGE COST CAPITAL (WACC)

WACC is calculated as :-

$$WACC = \frac{E}{CE} X K_e + \frac{LTB}{CE} X Kd$$

Where

E = Equity capital

CE = Capital employed

LTB = Long term borrowings

K_e = Cost of equity

K_{di} = Cost of debt

It is the study to include two costs i.e. cost of equity shares (k_e) and cost of debt (k_d) where cost of debt is obtained by multiplying pre tax debt cost (I-T) where 't' is effective tax rate post tax debt cost is calculated because debt cost enjoy tax shield.

Company with how tax rate can enjoy tax shield with debt and company with high tax rate must have higher proportion of debt in its capital structure.

Cost of debt is calculated as :-

$$\textbf{Cost of debt } (k_d) = \frac{\textit{Total Interest Expense}}{\textit{Total Borrowings (Beginning)}} x\,(1-T) X100$$

Value obtained through this can give high figure because total expenses are much in relation to beginning total interest bearing debts. Repayments of loans, rescheduling of loans repayments are some of the reasons due to which borrowing cost show high value.

K_e i.e. cost equity can be calculated by Capital Asset Pricing Model (CAPM). Cost of equity may be defined as, "the minimum rate of return that a firm must earn on equity – financed portion of an investment project in order to leave unchanged the market price of the share". It is used to determine minimum required rates of return from investment in risky assets. So CAPM is used as measure for cost of equity in order to compute EVA. The expected return on equity under CAPM is calculated by following formula.

$$R_j = R_f + \beta\,(R_m - R_F)$$

Here, Rj = Expected return on scrip j

β = Beta representing the volatility of scrip j against market volatility

R_m = Expected stock market return

The formula given above shows required rate of return on equity is equal to the sum of risk free rate of return and increment which compensates investors for accepting assets risk.

Factors which are needed to be applied for capital asset pricing model are :-

(I) ESTIMATED MARKET RETURN

Market means whole capital market. Market return is estimated on basis of scrip traded in secondary capital market i.e. stock exchange in India, the most famous stock exchange are Bombay Stock Exchange (BSE) and National Stock Exchange (NSE). According to data of 31st March 1999, BSE had 848 companies and NSE had 645 companies under it, BSE is the oldest Stock Exchange in Asia and a gateway to capital market in India. NSE was founded by public limited company owned by leading institutional investors in the country. It is managed by Board of Directors. In this membership of Exchange does not mean ownership of Exchange. Market operating decisions are taken by the Board to an Executive Committee which comprises members of public, management and trading members.

Every Stock Exchange has an index of shares trade. Each scrip is compared with the index. Every stock price moves because of news about the nation or company. Each stock has a mixture of stock news and index news. In case of averaging the return on many stock individual stock news cancel out. There can be good or bad stock specific news for any day. In good index such variations are canceled out and news will be left for common stocks.

Although NSE and BSE are fast, regular but BSE SENSEX is considered as appropriate index because BSE provides a longer time series of price data than NSE, many companies are traded on BSE as compared to NSE and information related to corporate action is not provide by NSE. So a particular methodology is required for calculating such return, on the basis of studies carried out it was found out that CAPM given more reliable and accurate estimate of equity cost.

CAPM give a biased and misguiding equity cost of R_m i.e expected market return is not calculated property. This misleading estimation can lead to less the risk free rate of return. R_m depends on

size and quality of portfolio. But it does not mean that if size is increased R_m will smoothened. For good results portfolio must consist of traded shares.

Market return for any particular period is calculated as

$$\left[\frac{P_t - P_{t-1}}{P_{t-1}}\right] x100$$

Here, t= period and P= closing index value.

In this monthly index value are considered and monthly return is estimated as

$$\frac{Change\ in\ market Index\ value\ for\ two\ consecuitive months}{Index\ value\ of\ first\ month}$$

(I) ANNUAL RISK-FREE RATE OF RETURN

Reserve Bank of India (RBI) issue treasury bills of four kinds 14, day,19 day, 182 day, and 364 day. Before 1991, only one kind of Treasury bill was available that was 91 days Treasury bill. It was sold at discount rate of 4.6% in the period 1979 to 1991. Government then started a scheme of auction for 91 days bills. 4.6% discount rate cannot be taken as average risk free rate because in same period call money rates were between 9% -10%. 364 day treasury bills are considered as risk free rate for years concerned.

However, doubts have been expressed above the risklessness of risk free rates by Petit. It was said by Petit that treasury bills are bit risk free and adjustments have to made to get risk free rated for this historical yield statistics of treasury bills and stocks are required.

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(II) CORPORATE BETA ESTIMATION

Beta is a measure of volatility of security's return relative to returns of broad based market portfolio. Securities which have high beats exaggerate market development and those which perform well, Market goes in positive direction and goes down then market is downward. Beta is a measure of exposure to systematic risk. It is estimated by the following formula:-

$$\beta = \frac{Co - variance\ (R_j R_m}{Variance\ (R_m)}$$

Beta is calculated on monthly return basis where,

$$\frac{Return\ on \frac{scrip}{R_{jt}}}{(month\ t)} = [Adjusted\ Closing\ Price\ of\ j\ in\ (t) month]$$

$$= \left[\frac{Adjusted Closing\ Price\ of\ j\ in\ month\ (t-1)}{Adjusted\ Closing\ Price\ of\ j\ in\ month\ (t-1}\right]$$

$$\left[\frac{Return\ of\ SENSEX\ (Rmt)}{(in\ month\ t)}\right] \quad [\ Closing\ Value\ of\ SENSEX\ in\ month\ (t)]$$

$$\left[\frac{Closing\ Value\ of\ SENSEX\ in\ month(t-1)}{Closing\ Value\ of\ SENSEX\ in\ month\ (t-1)}\right]$$

Beta can be calculated from regression relationship on basis of ratio of past stock prices and market return.

Low beta sign indicate low return of security; negative beta implies a price of security is moving opposite to market. Beta of one indicates that risk of specified security is equal to market. Zero beta indicates that there is no market related risk in investment. Beta also depends on leverage. High financial leverage can lead to increase in company's beta which increases volatility of profits.

(I) ESTIMATED RISK PREMIUM

It is the difference between

$$k_d x\ (\ Beginning\ Total\ Borrowings/Beginning\ Investmentcapital\ )$$

$$k_e x\ (\ Beginning\ Net\ Worth/Beginning\ invested\ Capital)$$

Where Invested Capital = Beginning Total Borrowings + Beginning Net Worth

IMPLEMENTATION OF EVA

In order to make EVA an effective management tool, system planning, execution and evaluation are required to be done property. Proper plan must be set up and management success in carrying out the plan is measured in terms of EVA.

In order to carry out process property there are four conditions which are required to be met, which are as follows :-

(A) Property defined objective must be find laid down

(B) Specific criteria must be set for making investment project i.e. only positive projects which can earn at least their cost of capital.

(C) At regular time interval companies must evaluate actual performance of their investment. EVA is used to measure the wealth creation on destruction from point of shareholders.

(D) Incentives in form of yearend bonus lead to EVA must be provided to managers who are responsible for capital allocating. This encourages them to take decisions consistent with shareholder's objectives.

One of the important strength of this approach is the consistency that it maintains among the three management phases of strategic planning, performance, measurement and managerial

compensation.

EVA Reporting

In order to make EVA an effective tool, three, stages of EVA systems are required i.e. Planning Execution and Evaluation. Management must start by making a proper plan in terms of expected EVA and then it becomes responsibility of management.

Four basic requirements in order to make EVA effective are as follows:-

(a) Managerial objective must be well defined so that positive EVA can be obtained.

(b) Proper criteria must be used for investment in projects

(c) At regular time interval, proper evaluation pf performance of company's investment must be done.

(d) Bonus scheme must be provide to manager as an incentive in capital allocation.

EVA represents value added to shareholders by generating operating profits in excess of cost of capital employed in business.

EVA = Net Profit After Tax (NPAT) - WACC

BENEFITS OF EVA

Benefits of EVA are as follows :

(1) EVA links corporate strategy to financial results.

(2) EVA creates greater accountability among employees.

(3) EVA increases productivity through incentives.

(4) It leads to driven cultural transformation

(5) It creates a common framework in the organization

CRITICISM

The EVA measurement, like any other management technique suffers from limitations.

Boston Consultancy Group (BCG) has said that in solving the capital investment problem EVA results in making managers milk their existing assets and discourage them from making investment in future.

EVA AND MVA

MVA is the difference between market value determined by stock price and economic book value. It is a more revealing figure than a simple rise in a market capitalization because latter fails to consider the money investors put up.

EVA is the ultimate measure of corporate success. It measures current performance, share prices reflect expectations, good current EVA must hold for future EVA improvement for market to react favorably.

EVA is breaking down annual installments of multiyear NPV which is calculated by using DCF capital budgeting technique. MVA is equal to present value of all future EVA's like NPV.

MVA cannot be calculated for private firms and nonprofit companies because they do not trade shares. It is a performance measure of consolidated firms. It individual unit level there is no measure of MVA.

HOW TO IMPROVE EVA

EVA can be improved by not growing the business but improving the efficiency and increasing return on existing capital. It can also be improved by getting rid of those part of business which offer no promise for improvement and grow the business by taking new investment which promise to earn more than cost of capital.

So EVA encourages managers to engage in periodic willing of their business.

CONCLUSION

This concept emphasizes that equity capital of an organization is expensive and an organization capable of monitoring net profit would generate value for its owners. Its other objective is to identify whether organization NOPAT in a given period is capable of covering cost of capital for same period and create value for its owners.

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