

# Economic Value Added (EVA), Agency Costs and Firm Performance: Theoretical Insights through the Value Based Management (VBM) Framework

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## Abstract

The current paper, a review of literature, examines the association between the Economic Value Added (EVA) and the firm decision making and performance, and the interplay between the EVA and various dynamics of agency costs. The choice of both objectives is motivated by the inability of traditional accounting performance measures to reflect true financial health of firms and mitigate agency costs inflicted upon firms. The current paper is a critique of the traditional firm performance measures for their over-dependence on historic accounting data, which is subject to manipulation and has questionable conceptual credentials. The paper highlights that the EVA, one amongst various 'Value Based Management' (VBM) measures, enables managers, investors, and analysts to adopt futuristic approach, make comprehensive assessment of their firms, and take objective decisions. The essence of the EVA is that true profit does not arise merely by paying debt cost to firms' debtholders but only when shareholders are also rewarded with a fair return on their investment. The EVA raises the bar of corporate performance, which adds value to the firm, and determines performance based executive pay; consequently, mitigating agency costs. Nonetheless, several institutional factors restrict applicability of the EVA.

**Keywords:** Economics Value Added (EVA), Value Based Management (VBM), accounting profit, corporate performance, agency costs

## 1. Introduction

True and objective accounting data reflect real financial health of a firm. However, traditional measures of firm performance, based on accounting data, have been subject to criticism for a long time (Watts et al. 2011). Critics argue that traditional accounting measures do not reveal true insights of firms. Nevertheless, accountants often espouse to a fallacy that historic data reflects true picture of firms (ibid). Furthermore, accountants fail to understand that not every truth about firms is restricted to managers, shareholders and auditors only. Modern day firms are complex organizations, whose actions are affected by diverse entities including individuals and institutions, both, internal to firms, such as corporate and business-unit managers, corporate lawyers, internal auditors, boards, and external, such as auditors, analysts, media, investors (shareholders and lenders), standard setters, courts, regulators. Each of the above-mentioned entities is associated with a firm differently due to differences in utility functions followed by different entities (Ball et al. 2000). Critics further claim that traditional accounting measures of firm performance lack objectivity, because such measures are more influenced by accounting practices, rather than accounting standards. The accounting practices, when compared to accounting standards first, are more detailed and effective to deal with different contingencies, and second ahead of time as accounting practices precede accounting standards (ibid).

As a result of the above-mentioned limitations, managers may have strong motivation to inflict agency costs on firms through manipulating accounting information in order to exercise their discretions (Hundal 2013). Generally, managerial discretion using accounting data can be traced by efforts of corporate managers to enhance their control over their firms, seek disproportionately high level of remuneration, justify sub-optimal decisions, and mask true value of firms by *tweaking* signals given to investors in the financial markets. Hence, an argument may follow those firms relying relatively more on the traditional accounting performance measures do not necessarily show their true picture, and thereby can jeopardize the corporate governance practices.

In order to address the above actual or potential limitations, several non-conventional firm performance measures, assigning relatively lesser importance to traditional accounting data have been developed. These measures aim to depict an objective picture of the firms' performance. Nevertheless, there are empirical studies in galore, which have shown that the role and relevance of accounting data cannot be diminished because investors' decisions are markedly influenced by the accounting data.

Nowadays firms use several value based measures (VBM) that highlight the true economic substance pertaining to firm performance. An important characteristic of several VBMs is that they are not only conceptually rigorous, arguable but also utilize accounting data. One of these VBMs is economic value added (EVA), which is a measure of economic profit, and it is calculated by subtracting a charge for using total capital, i.e. equity, debt, and any other hybrid form (e.g. preferred stock) from net operating profit after taxes (NOPAT) of a firm. While, the EVA still requires accounting data, nonetheless this measure is argued to be conceptually refined than the traditional firm performance measures, as the former also include cost of equity when calculating charge on capital. It is noteworthy that Stern Stewart & Company has a copyright on the term EVA.

The first objective of the current paper is to study association between the EVA with the firm decision making and performance, and the second objective is to study interplay between the EVA and various dynamics of the agency costs. The choice of both objectives is motivated by the fact that traditional accounting performance measures first have impact on firm decision making and firm performance, and second have attracted severe criticism for eroding firm-value through agency costs borne by firms. Therefore, it is interesting to study how the VBM approach in general, and EVA measure in particular, affect the above-mentioned aspects differently from the traditional accounting based measures.

The structure of the current paper, which is a review of literature, is such that section 2 highlights method of literature review, whereas section 3 includes diverse arguments related to theoretical underpinnings. Sections 4 and 5 underline advantages, and criticism related to the EVA respectively. Section 6 sums up conclusions based on discussion and future research questions.

## 2. Method for Literature Review

The current paper is a review of literature. The rationale of using review of literature methodology in the current paper is to first, critically evaluate validity and significance of the extant relevant literature and interpret in a broader perspective; second, assess developments related to objectives studied in the current paper as found in scientific literature over time; third, placing the current paper in relation to those existing in the annals of existing literature; and fourth, identify key research problems that require future research and focus methodological issues/limitations observed in previous studies.

The diverse literature has been reviewed in this paper using following selection criteria; first, a judicious mix of academic (theoretical and empirical), practitioner, and regulatory literature; second, relevant to various sections and sub-sections of the paper; third, aligned to research objective, fourth, using various methodologies; and fifth, highlighting multiple perspectives, hence, not skewed to one line of argument. The above criteria is used in order to provide strength to multiple arguments discussed in the current paper.

### 2.1 Sampling

The final sample of literature reviewed contains 40 academic journal articles, 10 books, five professional journal articles, and two reports of professional bodies. The academic journals include *Accounting and Finance* (Journal of Accounting Auditing and Finance, Journal of Finance, Journal of Accounting and Economics, Management Accounting Research, The Accounting Review, Accounting Organizations and Society, Journal of Applied Corporate Finance, Journal of Business Finance and Accounting, and Journal of Financial Statement Analysis); *Economics* (Journal of Economic Perspectives, Bell Journal of Economics, Journal of Financial Economics, Journal of Business Finance and Accounting, and Journal of Financial Statement Analysis); *Business Management* (International Journal of Business and Management, Academy of Management Journal, Business and Society Review, International Journal of Operations & Production Management, and Journal of Management); and *Social Studies* (American International Journal of Social Science, and Procedia-Social and Behavioral Sciences).

The review of accounting and finance related journals aims to study multifarious issues related to accounting measures of performance and their limitations, the VBM measures in general, and EVA in particular, executive remuneration, and risk factors; whereas, economics based journals have been reviewed in order to incorporate theoretical perspectives related to the agency theory, for example, moral hazard, adverse selection, information asymmetries, and managerial discretion. Similarly, business management and social studies based research journals combine stakeholders' perspective in the discussion. The book based literature supplements conceptual and theoretical framework of the current paper. As the above-mentioned literature is essentially academic in nature, therefore, in order to provide representation to the viewpoints of practitioners, professional journals (EVALuation

and CEO Magazine), and reports of professional bodies (published by Deloitte and KPMG) have also been reviewed.

## 2.2 Coding and Analysis

By using terms ‘value based management’ and ‘economic value added’ as title, abstract or subject terms in the search engines EBSCOhost, ProQuest, JSTOR Arts and Sciences, and Wiley Online Library, 349 articles were found, and 10 more research articles were chosen by the author from his previously published and ongoing research work-in-process. The final sample of the research articles was restricted to 40. Utmost care has been taken in selecting research articles so that due representation is given to empirical, applying, both, quantitative and qualitative analyses, as well as theoretical research articles. Furthermore, out of 15 books that were selected by using search engine of the library of the University of Jyväskylä in Finland, 10 were chosen in the final sample. Similarly, five professional journal articles and two reports of professional bodies were chosen using cross-referencing from various sources, and google search engine.

## 3. Theoretical Underpinnings

Several researchers and practitioners have criticized accounting standards, methods and procedures, by citing examples, to name a few; mixing operating and financing decisions, underestimating cost of equity, opaque pension plan accounting, expensing research and development (R&D) investments, arbitrariness in the choice of inventory asset valuation, and expensing stock options, which can create discrepancy between reported value of a firm and its *true intrinsic value* (Stewart 1995).

The criticism of traditional measures of firm performance, such as earnings per share (EPS), book value (BV), return on equity (ROE), return on assets (ROA), return on investment (ROI), and return on capital employed (ROCE) stems from multiple dimensions as depicted in Figure 1.

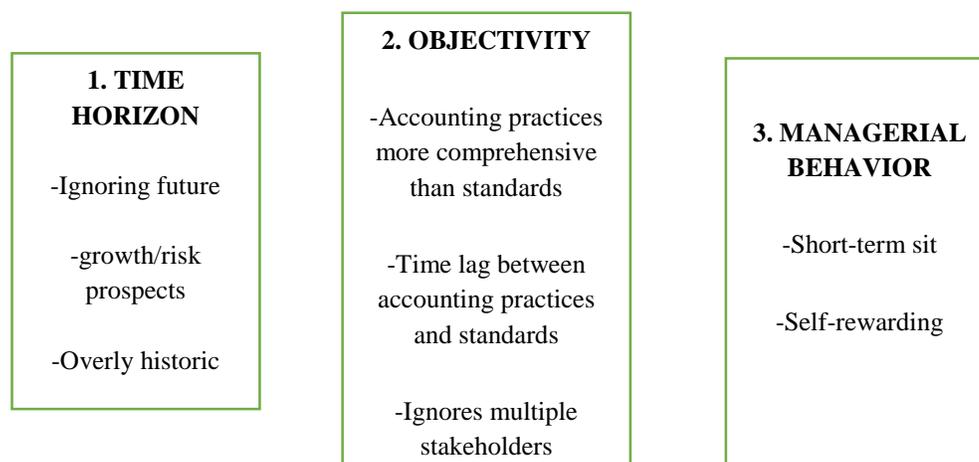


Figure 1: Limitations of Traditional Performance Measures (Adapted by the author)

The first dimension of criticism is regarding the time horizon. Over-dependence of traditional accounting measures on the historic data has often been subject of criticism. Although, one may argue that the limitations regarding historical cost accounting have been eliminated with the adoption of the fair value accounting (IFRS 13) issued by the International Accounting Standards Board (IASB), since January 1, 2013, which was meant for asset valuation (Deloitte 2013). Nevertheless, under the IFRS, both, the fair value and the historical cost are permissible for property, plant and equipment (PPE) and other non-financial assets; thereby, giving discretionary powers to managers with respect to disclosing firm performance. Although, the fair value accounting is a conceptual refinement over the historical cost accounting, critics contend that it is too early to make too many expectations from the former until sufficient empirical evidence is gathered. Furthermore, accounting standards in several countries, for example German GAAP, allows only historical cost accounting for valuation non-financial assets (Christensen et al. 2012).

As per traditional firm performance measures alone, an investor has to make the *future* investment decisions in the *present* based on the *past* information (Combs et al. 2005; Richard et al. 2009). At the most, the derived accounting indicators, such as certain financial ratios (e.g. ROA, ROE, debt-equity ratio) based on historic data can provide the lead to identify certain determinants retrospectively, which may or even may not influence future financial results. Furthermore, the short-term financial performance indicators, calculated on the basis of historic data, are generally of little significant in the process of planning and decision making due to continuous developments taking place in the business environment (McAdam et al. 2002).

Similarly, traditional firm performance measures are not capable of incorporating effects of ongoing, incomplete, and in-process projects (particularly projects related to intangible assets, such as R&D, human resources, brand, and goodwill) beyond the time of measurement on the firm-value (Nørreklit 2000), and as a result accounting measures fail to recognize future growth prospects of a firm.

The second dimension of criticism is related to the objectivity of accounting data. Ball et al. (2000, 4) highlight that accounting practices are more detailed than standards in terms of contents and usability, and standards lag ongoing innovations in practice. Another major criticism of the traditional accounting measures is the inherent assumption that a firm is no more than an entity, which is limited to facilitate the interplay between corporate managers, shareholders and auditors. Corporate managers have legal obligation to produce financial statements for their shareholders in order to highlight the financial position of the firm, and auditors vouch the objectivity and reliability of such statements. However, a firm is a complex organization and it is inclusive of many entities, both, individuals and institutions, other than managers and auditors. These entities are internal to firms, for example, corporate and business-unit managers, corporate lawyers, internal auditors, and boards. Similarly, these entities can be external to firms, such as auditors, analysts, media, investors (shareholders and lenders), standard setters, courts, and regulators. It is important to note that every above-mentioned entity follows a distinct utility function; therefore, its association with the firm is different from those of other entities having with the given firm (ibid). For instance, shareholders' utility function can be maximization of total shareholders returns and in pursuit of their utility function they can influence firm to follow austerity measures; however, austerity measures can be opposed by employees whose utility function, for example, can be maximizing remuneration and job security (Brealey et al. 2010).

The third dimension of criticism is related to managerial behavior. Over-simplicity and relative ease of meeting short-term financial results can dissuade managers from following long-term goals of firms. Several factors can be attributed to such short-term orientation of managerial behavior, for example, new investments can push the short-term return on investment downwards, due to the asset valuation method and the depreciation policy of the firm (Nørreklit 2000). Traditional accounting based firm performance measures allow managers to put disproportionately more emphasis on income statement in order to enhance firm profit in the short period. However, such emphasis can camouflage important economic realities, which can be ascertained by analyzing the balance sheet of firms. An important characteristic of the VBM is that it not only shifts the focus from income statement to balance sheet in order to create better understanding of economic realities, which can affect the firm value in the long run; but also to increase the utility of income statement by subtracting cost of equity, and therefore making the income statement more realistic. The above-mentioned managerial behavior finds further impetus when executive compensation is linked to the short-term financial performance based measures (Bebchuk et al. 2003). Such type of performance-reward arrangement can motivate managers to forsake long-term investment opportunities due to their excessive short-term performance bias. Furthermore, as accounting information is used as performance evaluation benchmarks in order to determine executive remuneration; therefore, managers have an intrinsic motivation to influence accounting information in order to claim higher pay (Shleifer et al. 1996).

As a result of the above-mentioned limitations related to the traditional accounting measures there has been a growing emphasis on developing new performance measurement systems, which is capable deciphering true position of the business organizations (Rigby et al. 2009).

### 3.1 VBM and Firm-Performance

The concept of VBM underscores the economic substance pertaining to the firm performance. Traditional performance metrics, based on accounting numbers are unable to incorporate three fundamental economic realities pertaining to value creation of a firm, *i.e. amount, timings, and risks associated to the future cash flows* (Morin et al. 2001). Adoption of the VBM brings change in the attitude of managers as they start looking for the economic realities hidden in the accounting numbers and beyond, in a dynamic and contextual manner. The VBM can be described as a decision-making framework that consistently adds economic value to a firm in the light of changing business environment (ibid). The constantly changing business environment creates a challenge to re-define firm

value and identify new value creation drivers. The VBM is an essentially a managerial philosophy, which places firm objectives, systems, strategies, processes, analytical tools, performance measurements, reporting, executive remuneration, and corporate culture in relation to each other so that the firm value is maximized (Hall 2008). The fundamental premise of the VBM approach is based on firm operations as this approach defines value of a firm as the sum of its discounted future cash flows (ibid). A firm adds to its value, when it invests capital at a rate of return that exceeds the cost of financing its capital. The VBM approach is essentially a top-down in nature as the same premise of efficiency is also extended to day-to-day functioning of the firm. Such uniformity of managerial philosophy at multiple levels of corporate organizational settings is an important aspect of the VBM approach.

The VBM is a concept which can be achieved by employing several techniques. As argued by Ittner and Larcker (2001), new empirical literature of budgeting and financial control practices have paved the way for several innovative techniques, such as activity-based costing (ABC), balanced scorecard (BSC), strategic accounting and control systems, lean accounting, visual maps, and the EVA. These measures, on the one hand, address some of the limitations attached to traditional firm performance measures, and on the other helps firms to pursue achieving benefits of the VBM. The above-mentioned techniques when put together are categorized as the VBM framework.

Figure 2 highlights four different performance models. The DuPont, EVA, and Market Value-Added (MVA) underscore those performance measures, which place their explicit emphasis on the factors affecting external stakeholders' wealth. By nature such measures are *top-down* in nature, i.e. they move from overall organizational level to the unit level. Such measures encompass many characteristics of *the gestalt theory*, implying that they allow decomposition of elements of overall general objectives/policies from the top-level to the bottom level realities/situations (Watts et al. 2012). On the other hand, there are certain firm performance measures, such as lean management and process improvement as embodied in the CAM-I Integrated Performance Management models, which are *bottom-up* by nature. These new measures place relatively more focus on the term performance management instead of performance measures, recognizing twelve performance management enablers at the micro organizational, for example, unit level, which ultimately grow at the macro organizational, for example, firm level (ibid). These twelve performance management enablers consist of various aspects related to strategy, operations, finance, risk, customer relationship, business process, information, supply chain, innovation, human resources, knowledge, and organization.

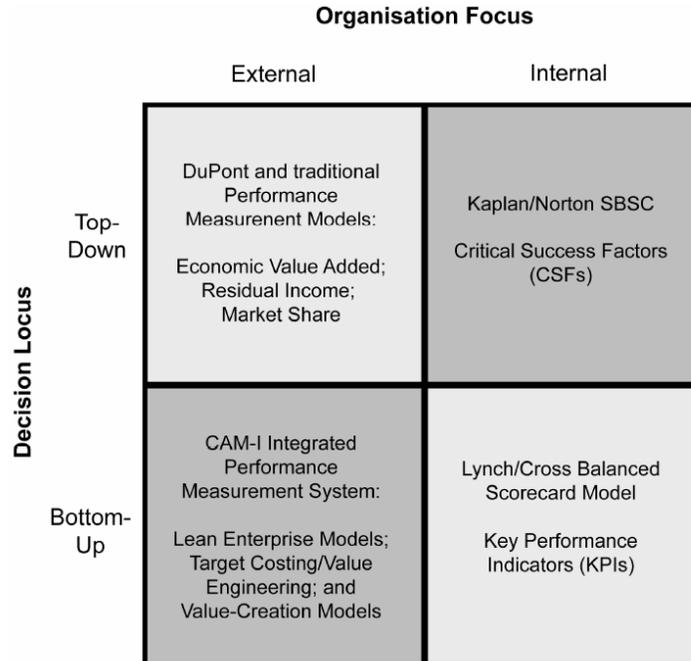


Figure 2: Performance Measurement Models (Watts and McNair-Connolly, 2012)

An important feature of above mentioned models is that despite several conceptual and methodological refinements, the role and relevance of accounting data has not been undermined. Findings of Biddle et al (1997) do

not support the claim that the EVA explains changes in stock returns or firm value better when compared to traditional earnings measures. The study further shows that investors consider traditional accounting measures, for example, earnings before extraordinary income (EBEI), providing more informational content related to the firm, which in turn helps investors to make better decision making. Owing to the above-mentioned arguments, I endeavor to explore several theoretical aspects related to the EVA, which is one amongst several VBM adopters, nonetheless not completely dissociating itself from traditional accounting measures of firm performance.

The term EVA is a measure of *economic profit*; and it underscores the way profit is measured by economists and not by accountants. In theory, the EVA is obtained by subtracting a charge for using total capital, i.e. equity, debt, and any other hybrid form from net operating profit after taxes (NOPAT) of a firm. The concept of EVA recognizes that the true profit of the firm does not merely arise by paying debt cost to its lenders but after shareholders of the firm have also been rewarded with a fair return on their investment (Stewart 1995). The concept of EVA further illustrates that usage of any type of capital is not free of cost, and cost of capital is relevant in important matters related to firms, such as raising new capital, changing capital-mix, and re-deploying capital resources.

Among the key terms used in calculating EVA is *capital charge*, which is the product of the amount of capital employed by a firm and the cost of capital. Capital employed can be derived by adding funds supplied by lenders and shareholders of the firm. Similarly, the cost of capital is the interest rate that the company must pay to finance its capital. The EVA adopts the concept of interest rate as defined in economic theory, i.e. interest expense is not a cash cost but a notional cost. Interest cost is an opportunity cost which is equal to the rate of return that the investors of a firm could expect to earn by investing in a stock and bond portfolio of equal risk.

Interest costs which is used to calculate the EVA incorporates both debt and equity costs, and as returns on equity are expected to be higher than debt, therefore, weighted average cost of capital surpasses conventional measure of cost of capital. Therefore, it can be argued that the EVA sets a higher market performance benchmark for the executives to achieve in order to add value to the firm and claim pay rise based on firm-performance (Stark 2000).

It is noteworthy that companies that increase their EVA will also necessarily increase their EPS. There is no conflict between producing more EVA and delivering more EPS. Nonetheless, this phenomenon is only one directional and more EPS does not always imply more EVA. A firm can over-invest capital, increase its sales revenue by selling its goods at throw away prices, dispose of its assets, reduce the R&D expenditure, and push-up its EPS temporarily but at the same time reduce its EVA and its stock price (Stewart 2002a). For example, the EPS figures of Enron was \$0.18 in 1997, \$0.80 in 1998, \$1.38 in 1999 and \$1.20 in 2000 (Culpan et al. 2005), whereas its EVA when estimated in retrospection, has been \$40 million, \$200 million, \$320 million and \$650 million respectively (Stewart 2002c).

The basic idea of the EVA, as a specific measure of residual income, is that managers should be rewarded for undertaking projects that earn higher returns than cost of capital; therefore, adding to the net present value of the firm (Bromwich et al. 1998). The most important contribution of the EVA is innovating a more realistic and comprehensive measure of residual earnings, capital, and cost of capital; therefore, incorporating several real-life complexities in a single value measure that evaluate corporate performance objectively. The EVA as a corporate performance measure is widely accepted as a new management decision making tool. Also, many companies, such as, AT&T, Coca-Cola, and Quaker Oats, have integrated the EVA into their executive remuneration contracts (Stewart 1991). According to Ittner and Larcker (2001) it is important to study association between the VBM and firm performance in the light of following aspects:

### 3.1.1 Corporate Objectives and Decision Making

Malmi et al. (2003) in their study find an overwhelming 98 percent of CEOs from major companies in Finland acknowledge that the essence of the VBM reflect on their firms' policy statements, either in the true form or as a variant, fully or partially, explicitly or implicitly. Also, the above study provides empirical support to the argument that the VBM adopters are aligned to the shareholder value maximization principle. For example, the EVA not only provides objective information but also a more forward-looking approach to managers. Also, shareholders and other stakeholders find their interests protected, when firms pursue the EVA way of thinking/behaving. Several firms explicitly disclose in their annual reports that the principal reason of adopting the EVA is to promote shareholder interest. Firms not only use the EVA as a performance measure (outcome) but also as a managerial control system (input).

The EVA acts an instrument to achieve two strategic objectives. The first strategic objective is growth of long-term shareholder wealth (Largani et al. 2012). The EVA provides a more realistic and objective yardstick to a firm

in matters related to several strategic decisions as it accounts for equity cost along with debt cost. For example, first, when a firm is planning to acquire another firm, then valuations of target firms can be made more efficiently using the EVA instead of using the ROE; second, when evaluating the financing (cost) side of the potential acquisition, and/or the ROI; third, when evaluating the income flows of the potential acquisition.

The second strategic objective that the EVA recognizes is efficient use of capital. Since the EVA increases the hurdle rate, therefore managers are expected to make the optimum use of capital. The hurdle rate is the minimum rate of return on that a corporate manager must produce, or investor must expect, given the riskiness of a project or investment. The hurdle rate sets a minimum floor that managers and investors must achieve. For example, in quantitative terms, when the internal rate of return (IRR) on a project is higher than the hurdle rate, then such project gets shortlisted for implementation (Brealey et al. 2010).

The nature and extent of foreign competition impacts strategic decisions of firms and the concept of EVA helps managers to prepare themselves to accept this challenge. In the study of Malmi et al. (2003), respondents regard foreign competition as a mean to improve capital utilization. A possible explanation to this view is that the sample Finnish firms, due to foreign competitors, feel pressure to invent new sources of finance at the competitive price, do efficient working-capital management, and invest in the projects, which maximize long run shareholder-value. The above two points further reiterate alignment of the VBM adopters to the shareholders value maximization principle.

In many organizations following a broader stakeholders (including employees, customers, community, and environment) approach in order to achieve organizational objectives is preferred over a single-minded focus on shareholders' value maximization. Several public corporates and public sectors organizations, and especially those working in e.g. health, education and utility sectors, follow the utility functions, which are not confined to focus shareholders only. For example, the VBM adopters surveyed by the KPMG Consulting (1999) rated customers as their most important stakeholders (with shareholders second and employees third), and customer satisfaction their second most important corporate goal (behind profits but ahead of stock returns and economic value measures).

An important argument that follows the VBM approach is that the shareholders wealth creation objective is not necessarily in conflict with interests of other stakeholders. Berman et al. (1999) maintain that firms pursuing corporate objectives, which incorporate stakeholder perspective do not restrict themselves to a *moral commitment* alone; as such firms can still strive to improve financial performance in order to address concerns of various non-owner stakeholders. Increase in profitability, *ceteris paribus*, not only satisfies shareholders alone but also enables corporates to meet their liabilities related to other stakeholders, for example, employees' wages and welfare (employees), debt servicing (lenders), accounts payables (suppliers), meeting tax liabilities (government), and corporate social responsibility (CSR, communities).

### 3.1.2 VBM Value Drivers

The key drivers of the VBM framework, for example, in the EVA, are derived from *sales, costs and assets*. An important feature of these value drivers is that they are not different from the shareholder value models, for example, that of Rappaport (1986). These drivers help decision making at various levels in an organization, depending on the relevance and requirements, as mentioned below, with respect to the matters related to:

- i. strategy, for instance, whether the firm should sell only in the local market or export too, mainly involving the chairman, CEO and CFO in the decision making;
- ii. capital expenditure and investment, e.g. product development or new distribution networks decisions, often decided at the strategic business unit level;
- iii. planning and budgeting, generally, at the operating unit level (Black et al. 1998).

Agency theory based models recognize maximizing shareholder value as the ultimate objective of the firm and therefore, organization's strategies and control systems should emphasize those value drivers which can lead to increase in shareholders wealth. However, despite the fact that the VBM also explicitly recognizes shareholder value maximization as one of the foremost objectives of the firm, more importantly, however, it includes other stakeholders too in its ambit. In order to optimize utility functions of firm stakeholders, the VBM framework includes a comprehensive sets of value drivers, which can evaluate specific aspects related to firms, for example, actions or factors that cause costs and revenues to change, resultantly, influencing improve resource allocation, performance measurement, and the design of information systems of firms (Ittner and Larcker 2001).

### 3.1.3 Developing Action Plans, Selecting Performance Measures, and Performance Evaluation

Most of the traditional performance methods used by firms are either relatively sophisticated capital budgeting techniques (e.g. *discounted cash flow and internal rate of return*) or simpler (e.g. *payback period and accounting rate of return*). The major flaw of such methods is their exclusive focus on quantitative data, heavy reliance on financial analyses, and ignoring non-financial information used in capital investment decisions (Ittner and Larcker 2001).

To overcome the above-mentioned limitations, the VBM framework incorporates non-financial and financial information, which is extracted, both, internally from the firm (accounting data, corporate governance and other management reports), and from external sources (financial markets, analysts reports and media). Therefore, the VBM provides a more effective framework in preparing action plans in order to take strategic decisions (Larcker 1981). Carr et al. (1996), analyze 51 strategic investment decisions in the automobile components industry and find that relatively successful firms place five times more attention on competitive issues, almost three times on value chain considerations, such as customer relations, twice on fundamental cost drivers, while devoting only a quarter as much attention to financial computations in comparison to their relatively unsuccessful competitors. Although the VBM framework emphasizes that the choice of performance measures and control system should depend on value driver analyses, nonetheless, several empirical studies show that choices pertaining to the above are significantly driven by firms' organizational design, strategy, and technology.

Malmi et al. (2003) evaluate the success of business strategies at the group and the divisional level by using the EVA measure. Nonetheless, the same measure is not implemented at the business unit or even lower level. This is possible due to the reason that at the business unit level most important driver of the EVA is the operating profit; whereas, those drivers which represent cost of capital and assets are measured at the higher level, i.e. the group and the divisional level. However, the above study does not provide any clear explanation why the EVA is calculated at group and divisional level. Zimmerman (1997) is critical of calculating the EVA at the division level. When a large multi-divisional company evaluates the EVA at the divisional level it assumes that the divisions are like separate, standalone firms (ibid). On the contrary, such large firms, being synergies of different divisions are expected to share joint costs and benefits that make the overall value of the firm more than the sum of its individual divisions. Thus, the division level measures of the EVA can be misleading indicators of shareholder-value addition, which can be misused by division level managers to claim performance based incentives. If different divisions of a firm are mutually exclusive then the idea of calculating the EVA at the group level does not appear to be convincing (ibid).

Malmi et al. (2003) also find a somewhat contradictory finding that the VBM methodology does not carry much importance beyond the middle-level management. According to them, some firms do not consider the weighted average cost of capital (WACC), inclusive of debt, equity and any other hybrid form of capital, even a strategic driver that should be considered by the top management. Therefore, an argument may follow whether the VBM should figure among the strategic objectives of corporates.

### 3.2 Agency Theory and the EVA

Higher agency costs can diminish quality of information (*informativeness*) of the accounting data provided by firms (Jackson 1996). Since, the EVA is a more rigorous measure, therefore, albeit arguably, it can provide better insights of firms' health. It can be argued that firms that experience higher agency conflicts should be more inclined to use the EVA as performance evaluation measure, or firms that already use EVA are less likely to have poor quality of information. Furthermore, the EVA can be considered as a mechanism that aligns interests of managers with those of shareholders; and as a result, firms are less likely to be susceptible to agency costs.

Agency theorists hold that managerial short-term result oriented attitude increases the agency costs borne by firms, and this is one of the principal arguments against traditional accounting measures of performance (Jensen et al. 1976). One of the important characteristics of the VBM is that it shifts the focus from income statement to balance sheet. The short term attitude of managers can inflict agency costs on the firm if there is excessive managerial emphasis on improving financial ratios by masking balance sheet realities. Some corporate managers may invest in certain projects, which are more propelled by their specialized skills and experience but not by the economic realities of the firm. Such behavior is called *managerial entrenchment* (Shleifer et al. 1997), which focuses on incremental sales (income statement side) regardless of the quality of investments (balance sheet side). The EVA, for example, by raising the performance benchmark deters managers from such *investment spree*. Malmi et al. (2003) argue that some managers are driven by the short term results as reflected in the financial ratios showing increase in the firm revenue to the extent that they cannot espouse to the long term performance measures propagated by the VBM framework due to the fear of losing market share, at-least in the short period. As a result of

short versus long term managerial conflict of interest and attitude, managers find it difficult using the VBM as a firm performance measure. The concept of EVA discourages managerial entrenchment, and reduces managers' incentive for overinvestment. The EVA encourages managers to accept projects that they truly believe will cover the full cost of capital and adds to the shareholder value (Shleifer et al. 1997).

The EVA is capable of providing an objective basis for determining performance based component (Jensen et al. 1976) of executive remuneration in several ways. First, the managers' bonuses should commensurate with growth in the EVA that over time rather than being tied to meeting a budgetary target (Stewart 2002c). Second, the concept of EVA can be used to encourage managers to think and act like owners; and to facilitate such behavior it can be argued to reject the notion of fixing a ceiling on the size of the bonus that managers of a firm can earn as a result of its enhanced EVA. The rationale behind unlimited bonuses is as follows; in order to alleviate discrepancies of interests of the principal and the agent hence, diminishing the agency costs, the compensation system should treat both, the principal and the agent equally. And similar to the principal who want unlimited upside pay potential (capital gains), the agent should also have similar privilege of unlimited potential performance pay. Since the EVA is more rigorous firm performance measure than the traditional accounting measures, therefore, the EVA can minimize agency cost borne by firms. However, Stewart (2002b) cautions that in order to encourage long-term planning and accountability, a significant part of potentially unlimited annual bonuses should be linked to the EVA growth in a way that it is carried forward and paid out over time; and also subject to revocation, if the growth of the EVA cannot be sustained or if a manager leaves before completing her tenure with the firm.

The concept of EVA discourages over-leveraging the balance sheet. Since the cost of debt is corporate tax deductible and the traditional accounting based measures of firm performance consider equity costless, therefore, traditional firm performance measures are not only exaggerated but also prompt managers to turn firm's capital structure over-leveraged (Aloy Niresh and Alfred 2014). However, such action, first, is based on incomplete information as cost of equity is ignored; and second, can push the firm towards bankruptcy as ever increasing leverage ratio can increase financial distress of the firm, such as likelihood of bankruptcy (Brealey et al. 2010). Such, so-called gains through financing choice can *mask* operational inefficiencies of the firm management (Stewart 2003). The EVA measure is inclusive of cost of equity too, and therefore, is capable of addressing above issue effectively. Generally, the cost of capital of firms is based on a target capital structure; it gives to firms options to choose capital structure that can minimize their overall cost of capital and maintain prudent financial flexibility.

Despite having conceptual refinement of the VBM, one of the criticisms against the VBM concept and its methodology is the failure to check sub-optimal decision-making, arising due to trade-offs and overlapping interests of shareholders and other stakeholders. Regarding trade-offs between interests of shareholders and other stakeholders, a firm may lay off employees at the behest of investors (including debt-holders) by labeling such action as *austerity* measure or/and corporate restructuring measure. Such action may find support from some other stakeholders, such as high level executives, suppliers and tax authorities; whereas, shop floor workers and lower level executives are those stakeholders who are more likely to be averse to such move. Regarding overlapping interests of shareholders and stakeholders, for instance, managers may be willing to divest some of the businesses of the firm; however, big shareholders can thwart such action as the latter can also be suppliers and customers of the firm. Such ambivalence also points out difficulties in forming utility functions of different stakeholders as their classification based on functional and personal capacities can overlap. Further, such overlap of interests of various stakeholders as cited in the above-mentioned example, underscores agency costs including; horizontal dimension, for example, minority shareholders consider above action of big shareholders (also suppliers and customers of the firm) as wealth expropriation; and vertical dimension, for example, expropriation of firm wealth by the agent and the divergence between the interests of the principal and the agent widens.

It can be argued that the EVA encourages short term attitude among managers of the business unit or lower level. The key to this argument lies in the executive compensation based on the EVA. Even when adopting the EVA as a performance measure, managers at the business unit level can push-up the short term EVA at the expense of the long term EVA. Such actions of the managers of the business units can jeopardize the very purpose of using the EVA as a performance measure of business organizations. There may be conflict within different layers of management, for example, the firm level management may be interested in the long run EVA whereas the unit level management may be attempting to enhance the short term EVA. Such problem can be serious in firms having complex organizational structure, for example, the MNCs having multiple business units may find it challenging to align strategic objectives at the *horizontal* (among business units) and *vertical* (firm and business unit managers) level. Such the MNCs prefer to calculate the EVA at the global level in order to avoid shareholder-value erosion at the business unit level. From the above discussion, it is evident that there is an association between the EVA and agency theory. The following intermediate variables explain such association.

### 3.2.1 Executive Compensation

The EVA concept recognizes compensation policy as an essential link between corporate objectives and strategy formulation, and its implementation as performance target setting cannot be effective without linking it to executive compensation. The essence of an effective implementation compensation policy is the firm's capability to identify its value drivers that enhance its value, and also determine the relevant time frame in which the corporate objectives are achieved.

The agency theory underlines two types of executive compensation contracts. The outcome-based compensation contracts are most useful when it is difficult for principals to judge the results of the agent's actions (Baker et al. 1988). On the contrary, Holmstrom (1979) argues that input-based compensation contracts, in such situation, can cause moral hazard phenomenon as it is not easy to measure quality of inputs (efforts) of a manager (for example, a manager can spend significantly larger amount of time in the firm office working on his/her private business of consultancy).

Accordingly, bonuses derived in conjunction with the EVA as a measure of performance, on the one hand mitigate wealth expropriating managerial behavior (e.g. moral hazard), and on the other hand reflect more rigorous benchmark than those according to traditional accounting measures. When linking reward with the firm performance, the relative incremental EVA is recognized as *a yardstick* to achieve bonuses instead of absolute level of the same (Martin et al. 2000). Thus, linking reward with the relative growth of EVA motivates (*or forces*) managers to constantly strive for enhancing firm value.

Another important aspect of the use of the EVA in determining the executive compensation is taking-off upper ceiling on performance based bonuses. This phenomenon is in contrast with the executive compensation based on the agency theory model, which recommends putting an upper limit on the performance based bonuses too. The rationale for unrestricted bonuses as recommended by the EVA theorists (e.g. Steward 2002) underpins the compensation policy that can motivate managers to continue enhancing the incremental EVA, and hence, firm-value.

The EVA concept is not averse of equity-based compensation system (e.g. stock options and warrants), which can be used to enhance alignment of shareholders and managers interests (Martin et al. 2000), provided such form of reward is only given to top-level managers, as low/middle level managers neither get equity-based compensation so often nor can directly influence the market value of firm equity (Ehrbar 1998). However, a major limitation of the stock options based compensation plans is that, first, corporate executives are rewarded without discounting general changes in the market, therefore, leaving room for rewarding/punishing managers for factors uncontrollable by them; and second, such plans ignore cost of equity. Nonetheless, the concept of EVA clearly addresses the second problem as firms can increase the *exercise price* of call options in conjunction with the cost of equity capital (ibid). Therefore, the EVA raises the performance benchmarks, and motivates corporate executives to work towards not only enhancing market value of the firm but also minimizing cost of equity.

Malmi et al. (2003) find that executive compensation, to a limited extent, is determined by the EVA as it contributes 40 percent of the total bonus (20 percent each is attributed to achieving group targets and unit targets). However, a major limitation of above study is that it does not rationalize why a certain proportion of performance based executive pay is tied to the EVA when the latter is not calculated at the unit or lower levels. Also, the study does not explain why, contrary to the basic tenets of EVA theory, firms do not grant unrestricted bonuses to their executives (ibid).

### 3.2.2 Risk Factors

Corporate managers are interested in the total risks (*market and firm specific*) management of firms and such risks can be measured in a variety of ways. Generally speaking, managers are more risk averse than shareholders, as the latter have the possibility of owning highly diversified investment portfolio, whereas, the former cannot do more than one job at a given point of time. As a result of *over-cautious* attitude of corporate managers, shareholders can be deprived of optimum returns; hence, firms having such managers suffer from higher agency costs. On the other hand, *over-zealous* managers, in order to pursue their own utility function, for example, *empire building*, can expose firms the level of risks, which can be more than what such firms can withstand (Bebchuk 2003). Usually, in empirical studies, total risks faced by firms can be used as the proxy for the managers' risk preferences (Lovata et al. 2002).

Stewart (1991) contends that beta coefficient, which is a measure of market risk faced by firms, can be used as a relevant discount rate to calculate present value of cash flows of firms. Underlying assumption behind calculation of the cost of capital is based on the risk-reward trade-off measured by beta (Sharpe 1964). In other words, since beta is a participant of the cost of equity measure, hence, it is naturally included in the WACC, which allows beta coefficient to act as an appropriate discount rate, accounting for riskiness of the future cash flows.

The interplay between the risk and the EVA can be either direct, or indirect, for example, via executive compensation. The critics argue that firms linking reward to the EVA are more susceptible to the agency costs. Since the EVA is more comprehensive measure than traditional profitability measure, for including total cost of capital, resultantly, managers' performance benchmarks are increased and they bear increased level of total risk for a given level of reward. Therefore, firms linking reward to the EVA put more pressure on managers and make managerial pay more sensitive to total risks faced by such firms. Furthermore, given their risk-averse nature, managers can avoid undertaking potentially value-enhancing projects. Ignoring potentially value-enhancing projects because they come in conflict with managers' utility function can increase the agency costs faced by firms. The above agency theory view predicts that firms linking reward to the EVA deliberately pushes beta downwards (Bloom et al. 1998). According to another argument, such risk-averseness of managers can discourage managers from investing even in those projects where risk is inherently unavoidable (Morck et al. 1988). For example, food sector is relative less riskier, hence *ceteris paribus* is likely to have lower project beta, however, R&D in the food sector itself will still be riskier due to outcome uncertainties. Such managerial behavior, for example, towards R&D projects, even in the less risky sectors, can hamper the future cash flows.

### 3.2.3 Ownership

The agency theorists argue that as the proportion of promoter/manager increases in total capital of a firm, there is declining reliance on traditional firm performance measures (Roe 2004). In such firms, there is more likelihood of using the VBM framework in general and EVA in particular, to evaluate firm performance (Lovata et al. 2002).

On the other hand, in a corporate setting characterized by *diffused and dispersed ownership*, for example, the Anglo-Saxon corporate ownership structure, which comprises large number of small shareholders, the managerial power can be significant enough to continue using traditional firm performance measures without effective resistance. However, in the Anglo-Saxon corporate ownership settings, where, first, regulators are very strong (e.g. the Securities and Exchange Commission (SEC) of the USA), second, capital markets are relatively bigger and transparent (e.g. New York Stock Exchange), and managerial actions are actively monitored; firm managers take strong initiatives to improve firm performance measures lest the market reacts adversely. Also, in such corporate settings incentive contracts are generally comprehensive, and can also include clause(s) related to objective firm performance measures.

Also, high degrees of institutional ownership have been associated with a more long-term oriented management focus (Bushee 1998). This may be because the institutional investors are more knowledgeable and resourceful, and capable of employing sophisticated methods when evaluating firm or a specific project evaluation. Also, the institutional investors have less information asymmetry when compared to individual shareholders, and thus, are more aware of the moral hazard problem arising in the firm due to managerial opportunism (Abdel-Khalik 1993). Given their substantial stake in the firms, institutional investors have the motivation to adopt those performance measures, such as the EVA, which are comprehensive and align the principal-agent interests effectively. Similarly, if a company is relying on institutional investors, it will have the incentive to ensure that the firm continues to survive, grow and prosper, hence adding to the shareholder value, otherwise its survival can be at risk given the size of investments in the firm by the institutional investors. Therefore, it can be argued that companies with a higher percentage of institutional investors are more likely to implement the EVA (Lovata et al. 2002).

## 4. Advantages of EVA

The VBM approach underscores a new managerial philosophy that strives to maximize firm-value by integrating and coordinating firm objectives, systems, strategies, processes, analytical tools, performance measurements, reporting, executive remuneration, and corporate culture. Being a top-down approach, the VBM is essentially capable of bringing efficiency and homogeneity at various levels of organizational set-up of firms. One of the most important contributions of the EVA is that it provides firms with performance measure, which is realistic, comprehensive, forward looking and objective. The EVA shifts managerial focus from income statement to balance

sheet, which ultimately helps firm to comprehend economic realities and become forward looking. Similarly, the VBM approach is compatible not only to shareholders wealth creation objective but also to protect interests of other stakeholders.

The EVA, as a measure of firm performance is superior to other metrics because it requires managers to take a *longer-term planning horizon*, and gives managers clearer signals how to increase shareholder value (Stewart 1991). To increase the EVA, manager can either increase operating profits, without increasing capital; or reduce capital, provided the reductions in profits are more than offset by reduced capital charges; or increase capital, if increased capital charges are more than offset by increased profits. The EVA is the financial performance measure that reflects the true economic profit of an organization and is directly linked to enhancement of shareholder wealth over time (Stewart 1995). The EVA is an estimate of the amount by which earnings exceed or fall short of the required minimum rate of return that shareholder and debt holder could get by investing in other securities of comparable risk. Under conventional accounting, it is argued that many companies can deliberately create a *façade* of high profits through falsification of accounting data and intentionally paying corporate tax (ibid). The EVA corrects this error by explicitly recognizing that managers, when employing capital, must be prepared to pay for it as if it were wages or any other factor payment.

Regarding executive incentives, the concept of EVA discourages placing caps on bonuses. This argument is based on the premise that managers should not be considered different from shareholders; and since there are no restrictions, at-least in theory, put on shareholders' income, therefore, by the same rationale no caps should be placed on managerial income, especially, the performance based reward. The above argument assumes that managers and shareholders have alignment of interests. Similarly, in order to smooth *peaks and valleys*, arising due to business cycle, the EVA based executive compensation can be made more effective by using a long term, say three-year, payout for performance. Managers' bonuses can be accumulated in a bonus bank so that, normally, one-third of the bonus earned in one year is paid that year, and the remainder is added to the bonus bank and paid over the next two years. Therefore, the EVA is considered superior to the traditional performance evaluation methods as the former moves in the direction to align managers and shareholders objectives and alleviating the moral hazard problem. The EVA concept makes managers act as though they are shareholders of the firm. If the managers act in their own self-interest, then firms will benefit (ibid).

One of the major problems with the executive compensation of top managers is that they are paid like bureaucrats rather than like value maximizing entrepreneurs (Jensen et al. 1976). Traditional bonus systems produce minimum incentives for performance improvement and guarantee substantial compensation even for mediocre performers. Compensation methods based on the EVA facilitates in achieving the objective of goal congruence and minimizes the agency cost. The EVA, as a measure of incentive, can motivate managers to bring improvement in operating efficiency by increasing asset turnover and it can be used also as a signal to investors regarding improvement in the internal control measures adopted by firms. Linking compensation with the EVA can assist employees in conducting self-examination of every action taken by them to ensure that it enhances EVA of the firm. Further, the EVA shifts the managerial focus from adopting financing to operating measures in order to improve firm performance and thus, claim higher performance based pay. The EVA calculations are neutral to source of financing and depend primarily on the efficient utilization of use of the funds. Thus, the EVA measure mitigates the agency costs by taking away managerial discretion of making source of funding superior to other.

Another advantage of the EVA is that its applicability is practically universal as all it requires is two of the most commonly used financial statements, the balance sheet and the income statement. Since the principles of EVA, which are efficiency and corporate wealth enhancement, can be easily conveyed to others including employees, therefore, helping to create a common goal(s) among different stakeholders. The EVA can also be used as a type of diagnostic tool, showing managers which sections of the firm need more work to increase a firm's value for the next period. Furthermore, the EVA concept facilitates firms to adopt a holistic attitude towards any future contingencies, for example, increased competition from foreign firms.

In a nutshell, the EVA has the advantage of being conceptually simple, and easy to explain to managers, even those having non-financial education and experience background. This is so because it starts with familiar operating profits and simply deducts a charge for the capital invested, either in the company as a whole; or in a business unit; or even in a single plant, office, or assembly line. The EVA can be used as an effective performance measure because of its ability to measure results periodically. Advocates of the EVA affirm that its use provides a superior measure of the year-to-year value that the business creates. Moreover, because the EVA measures performance in terms of value, it should be the basis of any financial management system used to set corporate strategy or to evaluate potential capital investment decisions, corporate acquisitions or performance.

## 5. Disadvantages of EVA

Despite its several conceptual advantages, the EVA as a measure of firm performance has not been fully accepted by several corporate leaders. The major reason for the EVA concept not becoming popular in the corporate world is not the EVA concept itself but the way it is measured. In practical terms, calculation of the EVA is complicated as it requires many adjustments (Young 1999).

The EVA is difficult to use for inter-firm and inter-divisional comparisons because it is an absolute measure. Since the relative measures of firm performance are discounted by the firm size, therefore, provide better comparisons. Additionally, divisional performance should be appraised based on the economic income by estimating future cash flows and discounting them to their present value. This calculation could be made for a division at the beginning, and end of a measurement period. The difference between the beginning and ending values would represent the estimate of economic income. However, the main problem associated with the use of estimates of economic income to evaluate performance is that it lacks precision and objectivity.

Another major disadvantage of the EVA is the difficulty to accept the notion of the universal suitability of the EVA. One may argue that the EVA is not the best choice for each firm, however, it is meant for big and established organizations. Adoption of the EVA system in an organization involves high cost, for example, additional training is necessary for managers to understand various dimensions of a new metric thoroughly before they can implement it. Furthermore, the EVA as a measure of corporate performance is not free from limitations that traditional accounting measures are also susceptible to. The corporate performance measured, based on the EVA can be manipulated by early yield projects over those completing in longer-term and, therefore, generating delayed income streams. This can be particularly true for companies that have invested heavily in the current period, and expect positive cash flow only in a distant future. The element of managerial discretion, as highlighted in the agency theory, is also present in the EVA measure, and it can motivate managers to restrict investments on research and development and other developmental expenditures. The true EVA of long-term investments cannot be measured objectively because future returns cannot be measured with perfect accuracy and this phenomenon can pave the way for subjective estimations, which can defeat the core purpose of using the EVA measure. Another factor that restricts the application of the EVA is that inflationary factors are not recognized when calculating it; and as a result, the EVA does not to reflect true wealth of enterprises.

EVA can encourage short-term attitude among managers of the business units or lower levels. Owing to their personal interests, for example, claiming more bonuses, managers at the business unit level can inflate the short term EVA at the expense of the long-term one. Further, pursuing the long-term EVA by the group-level management and the short-term EVA by the unit level managers can create conflict within the organizational structure of a firm. In addition, linking reward to the EVA makes managers stressful and overly risk-averse, which can dissuade them from undertaking value-enhancing projects.

In addition, the use of conventional depreciation methods in the EVA calculation creates incompatibility between the short-term and long-term EVA. Moreover, a firm having un-depreciated new assets in its balance sheet may still show the negative EVA, even when it has high level of profits.

Similarly, the EVA is more effective if it is used as supplementary measure of performance along with the other VBM and traditional accounting measures. Even though the concept of EVA encourages managers to focus on the balance sheet, however, in practice, many investors and analysts focus more on the income statement as there is more market pressure to improve quarter-to-quarter performance of the firm.

## 6. Conclusions and Future Research

One of the important contributions of the VBM framework, which is essentially a top-down approach, is that it underpins economic substance of the firm performance. Furthermore, adoption of the VBM framework brings change in the attitude of managers as they start shifting their focus from short term accounting numbers to long term corporate performance by recognizing economic realities. Over the period of time, the VBM framework has become more inclusive of different stakeholders. The VBM framework supports corporate planning, operations, and decision-making aspects in the light of economic value addition and changing business environment. An important contribution of the VBM framework is that it highlights numerous compatibilities between the interests of shareholders and other stakeholders, hence, deviate from several traditional firm performance measures who majorly focus conflicts among various stakeholders. Interestingly, the VBM framework provides a road-map of achieving above mentioned compatibilities in a more pragmatic sense and does not restrict itself to moral commitments alone.

The EVA, as a part of the VBM framework is a measure of economic profit, and it is calculated by subtracting a charge for using total capital, i.e. equity, debt, and any other hybrid form, from NOPAT of a firm, and hence, it highlights that usage of any type of capital is not free of cost. The user of capital must recognize its cost regardless of the source of financing.

Despite the relatively recent adoption of the EVA as an internal and external financial performance measure, its conceptual underpinnings derive from a well-established micro economic literature regarding the link between firm earnings and wealth creation. The EVA metrics provide managers with a commanding tool to weigh investment and spending decisions against capital requirements and investors' expectations. The basic idea of the EVA in particular and the VBM framework in general, is based on the effective economic principle that a firm's value increases only if it is able to generate surplus over its cost of capital. Therefore, the EVA is a highly established concept as it is based on clearer theoretical foundations and it is not merely a tool. Unlike several traditional accounting measures, which are heavily reliant on historic data, the EVA is more forward looking approach to managerial philosophy.

Similarly, the concept of EVA creates a very well structured linkage between managerial reward and firm performance. The firms compensation system is designed in a manner so that managers are paid (or even not paid) depending upon their ability to combine efficient asset utilization with profitable operating results. Adoption of EVA when determining executive remuneration, raises the performance bar, and managers must demonstrate far more diligence, efforts, efficiencies, and commitments to achieve their targeted rewards.

Admittedly, the EVA measures firm performance, not only in terms of end results but also the cost of the input of funds, which is incurred to obtain such results. Therefore, the EVA provides a broader basis of measurement of efficiency, and motivates managers to make efficient utilization of funds. Despite several limitations, investors consider traditional accounting measures as published in corporate annual and quarterly reports, and in financial analysts' reports, as useful tools to make investment decisions. There is ample empirical evidence to support the phenomenon that the traditional accounting measures explains changes in stock returns or firm value better when compared to measures underpinned by the VBM framework (Biddle et al 1997). An interesting aspect of the EVA is that unlike other VBM measures it does not distance itself completely from traditional accounting measures of firm performance; rather recognizes many accounting measures, however, in a more rigorous and in-depth manner; as a result, it can also explain stock price movements. However, critics argue that the EVA measure relying on accounting information is not free from limitations associated with the historic data.

The empirical evidence further shows that managers adopting the EVA concept can form policies, planning and strategies amidst highly competitive business environment, especially, foreign competition. The nature and extent of foreign competition can expose corporates to new and uncertain dynamics pertaining to planning, strategies and operations, and the concept of EVA help managers to prepare themselves to accept these challenge effectively. The EVA measure is highly useful for those organizations, which do not merely espouse shareholders value maximization, and rather, following a broader stakeholders approach. Such organizations are generally comprised of those working in health, education and utility sectors.

Among the future research questions that can be value-additive to the empirical literature are exploring various dynamics of performance based executive compensation and the VBM framework. Another research question that can be studied in the future is to what extent bonuses tied to the EVA are paid in cash or stock options; and, whether recipient of stock options based bonuses are group/division/business unit level executives. Similarly, a pertinent research question that can be addressed in the future studies is whether performance based reward contingent to firm performance should be unrestricted. Carrying forward as well as backward and revocation/revision of bonuses are a few examples of unrestricted performance based pay.

Another, however, related research question that can be studied in the future is whether relative EVA discounted by the firm size can be used a performance measure at inter-firm and inter-divisional comparisons. Currently, the EVA measure is majorly used at the divisional level comparisons.

## Acknowledgements

My sincere thanks to Professor Marko Järvenpää and Professor Aila Virtanen (both at Jyväskylä University School of Business and Economics, Finland) for their valuable guidance and encouragement. I am immensely thankful to Liikesivistysrahasto (Finland) for providing financial assistance to complete my doctoral project. Last but not the least; I extend my gratitude to anonymous reviewers.

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