

The Effect of Board's Quality on Performance: An Indian Evidence

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- *Corporate Governance*
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Abstract

The value creation and shareholders protection of a firm is largely influenced by the quality and the structures of the board, contributing on various dimensions of the firm's performances. We measure the comprehensive relation between the qualities of the boards with performance of the firm, by ranking the board in terms of score defined by self-created index for 150 Indian firms in terms of four broad categories of the board quality. Drawing on the classical agency theory, various statistical models of univariate and multivariate nature were used to analyze the impact of board's quality on firm performance. Using two broad categories of performances, traditional accounting-based measures (like Price to book value, market to sales ratio) and value creation-based measures we establish a close association amid the board efficiency and the performances of the firm. Moreover, the association emerges stronger when the efficiency effect is captured by market value performance measures in the form of Economic value added, Market value added and Cash flow value of the company. The result provides a strong support for the previously inconclusive attempts, especially in the light of a self-created and wide index covering multiple aspects for the board's quality.

1. Introduction

This paper investigates the association between a set of board quality and the financial performance of Indian companies listed on the National Stock Exchange (NSE). Specifically, we examine if the better-termed quality of the board of these firms do have any consequences in terms of generating higher financial performance. Boards tend to be very important for the efficient working of corporations in an internationalized and dynamic environment.

Conventionally boards perform and helps the corporation through diverse range of duties, including, supervising the activity of the management in order to reduce any opportunist behavior and control agency cost (Shleifer & Vishny, 1997). Especially, advising and counseling to the Chief Executive Officer (Vancil, 1987), start and complete the designation of management (Hermalin & Weisbach, 1998), and giving value able yet guileful command for the firm (Tricker, 1984; and Kemp, 2006), being resourceful by equipping and assigning distinct resources (Hendry & Kiel, 2004).

There exist an inherent association amid boards of directors and the firm performance (Jensen, 1993; Conheady et al, 2015). Specifically, Jensen claims, "the board, at the apex of the internal control system, has the final responsibility for the functioning of the firm" (Jensen (1993; p.49). The board of directors are selected by the owners or shareholders of the corporation in order to protect their interest. Apart from supervising the corporations projected cases and

initiatives they have the authority to choose and if required remove the organizations managers. Specifically, the board of directors are seen as the most crucial aspects for supervising in public sector firms to assess the management activity.

The well-being of our economies, society and organizations depends on identifying how boards can affect firm performance (Nicholson and Kiel, 2004). Previous literatures that analyze the board characteristics and the performance of the firms can be broadly categorized into two categories of which the first outlook denotes analyzing individual quality of the board that influences the separate activity, and thus the overall impact that affects the corporate performance. Individual quality that may also include independence of directors, role duality, Board committees etc. Meanwhile, the second outlook analyzes the relationship amid board characteristics and corporate performance directly (Bhagat et. al 2002). The former approach's intention is to examine the effect of an individual factor of the Board Quality with respect to the overall performance of an organization.

This outlook is very plain and smooth while it also gives the potentiality of straightforward and tractable data so could provide statistically robust result. Whereas, the latter approach ensures a complete scenario or the platform with respect to the quality of board and performance of the firm but has the challenge of endogeneity and constructive statistical argument (Bhagat et. al 2002). This study while using the second approach also tries to get the statistically significant result using univariate and multivariate analysis.

Most of the previous studies tries to capture the performance of the firms using the traditional accounting based performance (Dalton et al, 1998, Eisenberg et al, 1998, Bhagat and Black, 2000, Conheady et al, 2015) while there is very limited studies providing information with respect to the Market Based Value measures (Adjaoud et. al 2007). Whereas for India, there is no scientific paper, which gives the Market based valuation of the performance while analyzing the quality of Board from holistic point of view.

For an emerging economy like India, both the valuation and the contracting role of accounting information have important implications. Considering the way the quality of this information is having an effect on the quality of the board's characteristics is in the better interest for investors as well as regulators. Most of the prior literature have studied on the association amid integrated Corporate Governance mechanism and financial performance of the corporations, upto now has been, concentrated particularly on the advanced and developed economies and stock market of Europe, America, and Asia-Pacific (Black et al., 2006a, b; Beiner et al., 2006; Henry, 2008; Cheng et al., 2008).

Within the Indian context, several previous studies have examined the effect of individual corporate governance mechanisms on corporate performance (Sarkar et al., 2009, Kumar et al., 2012). As per our knowledge, this would be the first study to conduct an examination of the holistic version of board quality and its association with the Indian Corporate Performance.

The core fabric of the corporate sector has a major challenge arising from the separation of the owners and its managers giving rise to classical agency conflict. Despite corporate governance, system has managed immensely to curtail the agency conflict associated amid the separation of ownership and control (Denis, 2001). However, the board of directors are considered as the

primary means of the shareholders to defend their interest as opposed to the managers who may act as opposed to their interests. The board of directors are seen as the fundamental structure for the corporate governance especially within the firms, which has diffused shareholding (Romano (1996).

According to Daily et al. (2003, p. 372) “The board of directors is the most central internal governance mechanism”. Even the media and the major business critics mostly view the board of directors as the major line of defense or the corporate governance structure against the challenge of ownership and control separation, while other aspects comparatively are given very less attention. According to Nicholson and Kiel, (2004), a string of investigation, studies and professional reports proposing governance reform have taken place due to the stress on the board of directors.

Intellectuals from diverse areas of organization theory (Johnson, 1997), economics (Tirole, 2001; Jensen and Meckling, 1976), finance (Fama, 1980), strategic management (Boyd, 1995), law (Richards and Stearn, 1999), and sociology (Useem, 1984) have all made additions to the corporate governance research account.

As a result, we have number of theories related to corporate governance, originating from these sources including of resource dependence theory, agency theory, stakeholder theory, stewardship theory, and institutional theory as the forefront theories from theoretical perspectives. Since the board is directly responsible with the supervision of the management, according to agency theory the board of directors must consider a competent regulation. The performance of the board with respect to its effective monitoring is affected by its various characteristics like its size, diversity, culture, composition, role duality, and transparency process.

Even though, the legal system in India gives to the investor one of the best system for their protection globally, there is fundamental process of pyramiding and tunneling among the business giants in the country, along with the copious reporting obligations (Chakraborty et al 2007). Nevertheless, the banking industry within the country has one of the lowest percentage of non- performing assets; indicating the practice of corporate fraud and tunneling are not out of control (Chakraborty et al 2007).

As with majority of the economies, corporate governance issues are multi-dimensional in India as well. According to Topalova (2004), the top 500 market value corporations in India, holds for more than 90% of the market capitalization of the Bombay Stock Exchange (BSE), and thus discloses further that almost 60% of these corporations (and 65% of total market capitalization), belongs to “business groups” or being termed as conglomerates. As an emerging market, ownership of firms is relatively concentrated in India (Subramanian, 2006). It is apparent that there is a strong influence within the Indian corporate sector of the family-run business groups or such conglomerates (Chakrabarty et. al 2007).

Under such scenarios, it is very crucial to maintain a flawless system of the Corporate Governance to safeguard the interest of the minority shareholders and the overall stakeholders in general. In these situations, the board being termed as the primary line of defense for the shareholders becomes an interesting research area. The main findings of this study is directed to calculate the impact of the Boards quality as a whole which is calculated with the help of self-created index of the top 150 Indian Listed firms on the overall performance of the company calculated with the help of Both traditional accounting measures and market value based measures.

Especially, the study attempts to establish the links for the following question: If the quality of the board has any influence on the comprehensive performance of the corporations? If the quality of the board has any relationship with the traditional accounting-based earnings measures? If there is any impact of Boards quality towards the market-based measure of evaluating performance of EVA, MVA is used for corporations? Does the Quality of the Board has any impact on the Cash value based measures such as CFROTA? Is Board's quality associated with the liquidity of the corporation? Does the performance of traditional measures also reflects in terms of Cash Flow of the organization analyzed or if the performance of traditional measures is positively associated with the CFROTA (Total Shareholder returns) of the firms?

In this research, the main argument within the context of Agency theory contributing the quality of the board towards the performance in the light of the various performance measures including that of the Cash measures, this paper contributes in several ways. First, using Board Quality data collected from annual reports and databases, we construct an integrated Board Quality index for a sample of 150 NSE -listed corporations for the year 2011/2012. Our index consists of four broad categories of Board quality for Indian corporations with 21 items. Second, we provide evidence on the association between Board Quality and financial performance for NSE-listed corporations.

This also extends the international evidence to Indian corporate context. Finally, and distinct from prior studies, we offer evidence on how board Quality with Indian context-specific affirmative action and CG Provisions by the existing governance system affect the financial performance of NSE Listed corporations in the light of Market based value performance measures and its differentiation from the traditional accounting measures of performance. Our results show the quality of the board is one of the important determinant that explains the performance of the firm. The result is more robust for the market-based performance measures compared to that of its accounting measures counterpart.

The remainder of the paper is organized as follows. Section 2 provides an overview of the existing research for the related studies. Section 3 develops the link between Board Quality and financial performance. Section 4 describes the data and research methodology. Section 5 reports empirical results, while section summarizes and concludes.

2. Literature Review

Most of the prior literatures analyzing the corporate governance issues globally focused mainly on country-specific differences in legal tranches and institutional contexts. Due to idiosyncrasies that exist in the legal origins over the countries (La Porta, Lopez-de- Silanes, Shleifer, and Vishny 1998, Uribe-Bohorquez et al., 2018), the laws made to safeguard the interest of the investors deviate from country to country. The impact of these origins have been of higher influence as it also affects through its enforcement to various decisions within the corporate and management domain as such including that of market valuations, cost and availability of finance, dividend payout and ownership structure (La Porta, Lopez-de-Silanes, Shleifer, and Vishny 1999, 2000, 2002).

Various strategies and models have been developed to understand the association of the board and performance like Hermalin and Weisbach (1998) developed a model that can be utilized to ascertain the fluctuation of the association amid CEO and the board, especially with respect to the independency of the board from that of CEO. Recent studies (Gaur et al. 2015)

demonstrates that the presence of internal directors, CEO duality, board size and presence of professional directors leads to better firm performance. However, the positive effect of board independence, board size and board competence on firm performance decreases in firms that have a high- ownership concentration. They (Gaur et al. 2015) also exhibits, the effectiveness of a particular governance mechanism (such as board members) may depend on the presence or absence of another governance mechanism (such as ownership concentration).

Models are also developed in order to study the behavior of the board with respect to various forms of environmental inconclusiveness (Boyd 1990). While the model constructed by Zahra and Pearce (1989), determines the effects of the roles and attributes of the board with respect to the performance of the corporations. While, Conheady et al, (2015), investigates the relationship between board effectiveness and company performance using various econometric model based upon the “board shareholder confidence index”. They find a positive association between the firm’s measure of board effectiveness and the firm’s contemporaneous and future market measure of performance, Tobin’s Q.

Black (2001), tried to establish the link for the major Russian corporations during the evolutionary scientific phase of such studies that is the association amid the governance and performance, where he concluded a strong positive association between the two variables even though the sample size was not significant. Significant amount of studies have been carried out in the same vein, to ascertain and clarify further this relationship. Ran et al (2015), suggest that supervisors with an accounting or academic background, supervisor compensation, and female supervisors are consistent drivers of improvements in accounting information quality. Francis et al. (2015) demonstrate that companies with directors from academia are associated with higher performance and play an important governance role through their advising and monitoring functions.

CEO duality has statistically significant negative impacts on firm performance while, this effect is positively moderated by board independence (Duru et al, 2016). Ararat et al (2015) provide empirical support for the importance of contextual factors in the relationship between diversity and performance along with framework and the compound diversity and board-monitoring indices. According to Gaur et al., (2015), the positive effect on performances by various governance factors actually reduces if the firm’s ownership is highly concentrated.

On the grounds being the conclusion not very competent, recently, there has been a surge in the scientific world of interrogating the positive association amid the firm performance and corporate governance. Authors like Core, Guay, and Rusticus (2006) question few of the conclusion by Gompers, Ishii, and Metrick (2003) since the results are drawn upon the technology firms and thus its effect on the unevenness in the prices of the stock. Studies even conclude that the significant above average returns observed by Gompers, Ishii, and Metrick (2003), were due to higher risk for the firms as their ranking for the anti - takeover index was very low signifying the level of governance mechanism (Yen, (2005) and Ferreira and Laux (2007).

According to Yen (2005), the existing association reported by these authors (Gompers, Ishii, and Metrick (2003)) is being derived due to quantum reported by “penny stocks” and outliers. Many studies also reported of not evidencing any connection amid performance and governance (Pham, Suchard, and Zein (2011), Firth, Rui, and Fung (2002). According to Pham, Suchard, and Zein (2011) superior corporate governance is even related with reduced stock returns in Australia. On the contrary, studies even gives evidence for the negative correlation

for example Aman and Nguyen (2008) concludes corporations with lower level of Corporate Governance in Japan drastically exceed in performance with those of better Corporate Governance.

One possible explanation could be the risk factor as the corporations with fragile governance has the higher risk, if curtailed rightly could generate higher returns. Nevertheless, fragile governance or complete failure may degrade the shareholder's interest fundamentally or even complete destruction. As mentioned board being the primary line of defense for shareholders, it is very crucial to observe the fundamental characteristics of corporate governance and its effects of the overall firm performance.

Earlier researchers have clearly outlined the important role played by the boards within the corporate governance of public sector corporations (Berles and Means, 1932). The quality assessment of the boards actually creates a process within the board to capture the very grounds of inefficiencies and thus helping them to rectify the same before they turn into disaster. For instance, the assessment may evaluate the risk management initiative taken by the board or ways its handling the information asymmetry for the sake of stakeholder's interest.

Previous studies have claimed about negligible amount of strategic relevance for the board as to managing the organization under the dominating management headset, (Mace, 1971). Meanwhile there are other theories as well that consider the other way around and viewed the boards an utmost important mechanism of strategic decision-making process (Boulton, 1978). Moreover, should work hand in hand along with the management to not only monitor every move of the management but also provide guidance with their expertise and diverse experience (Andrews, 1980). Motivated by theoretical advancements in agency theory (e.g. Hendry, 2002), and coerced by increasing number of corporate excesses such as Satyam Computer's in India, Parmalat in Italy, Enron in US, hence, shareholders, law makers and society in general are rigorously looking for boards to demonstrate leadership and control.

In other words, the boards is being viewed as more being the leader of the organization rather than the management support like in the past. It may not be the universal practice as one of the director's statement that is reported by Lorsch and MacIver (1989, p. 67) clearly mentioned that, "the thinking through of where the company is going is under emphasized among director's roles", whereas the more focused area was the compliance. According to Pound, (1995), the understanding of the board as the leadership figure within the corporation do exist even if standing at the evolutionary phase. Nevertheless, there is a change in the perceptions to where new studies (Conger et al., 2001) acknowledge directors being guiding the managers about strategic initiatives.

Drawing on classical agency theory, a direct and positive association exist amid performance of the corporations and the level corporate governance (Jensen & Meckling, 1976). In other words, the better the corporate governance standards within the corporation, the higher its market value should be so as its overall performance. According to Shleifer & Vishny, (1997), the managers tend to focus more towards the project of shareholders interest and less towards personal benefits and interest when supervised efficiently. Other researches claims for the boards to be an important management contributor that helps in the strategic direction of the corporation's (Walsh and Seward, 1990; Finkelstein and Hambrick, 1996).

The agency theory underlines the agency relationship wherein the principle hires the agent, but there also exist the risk sharing amid the two, which may turn into probable interest collision (Eisenhardt, 1989). Agency theory is grounded on the assumption that agents do

operate rationally and behave opportunistically and will so maximize their own benefit at the expense of shareholders interest (Eisenhardt, 1989). The board being the primary means for the shareholders to defend their interest, has the major role to mediate and maintain a control over any opportunistic behavior by the management and provide strategic role on a broader scale (Eisenhardt, 1989; Hill, 1995). The statement of providing strategic direction by the board is based on the assumption that due to better controlling mechanism, curtailing the opportunistic behavior of the management is surpassed (Hill, 1995) and such mechanism could be further utilized for the strategic purposes (Stiles and Taylor, 2001).

According to Finkelstein and Hambrick, (1996), various academic research have been conducted to zero down the overall effects of the board's quality on the corporations performance in the form of board composition, role duality, director's tenure and diverse experience, size of the board, and others as such producing mixed results not specifying a thorough evidence of the linkage. One of the possible explanation for the inconclusive results could be the endogeneity or increased complexity and thus difficult to manage statistically and different methodology to measure the quality of the boards and that of the firm performance.

Table 1: Country wise ranking in terms of protecting investors

<i>Parameters</i>	<i>India</i>	<i>China</i>	<i>Brazil</i>	<i>Russia</i>	<i>UK</i>
<i>Protecting Investors (rank)</i>	34	98	80	115	10
<i>Extent of Disclosure Index (0 - 10)</i>	7	10	5	6	10
<i>Extent of Director liability index (0 - 10)</i>	4	1	8	2	7
<i>Ease of Shareholder suits index (0 - 10)</i>	8	4	6	6	7
<i>Strength of investor protection index (0 - 10)</i>	6.3	5	4.9	4.7	8

Source: Doing Business 2014, (World Bank)

In a recent report by World Bank named as 'Doing Business 2014', India stood at 34th rank in regards to protecting investors and providing constructive corporate governance. The ranking was based on all the global economy comparing countries globally, surpassing other major emerging economies like Brazil, Russia and China repeatedly over the last 5 years (NSE report, 2014).

Clause 49 of the Listing Agreements is termed as the important benchmark in the development of the corporate governance mechanism in India. The rules mentioned were applicable to companies which has a paid up capital of Rs. 100 million or with a net worth of Rs. 250 million at any time during the past five years on March 31, 2002, and to other listed companies with a paid up capital of over Rs. 30 million on March 31, 2003. The crucial mandatory features of Clause 49 regulations especially that deals with the boards are with respect to composition of the board of directors, the composition and functioning of the audit committee, and reporting on corporate governance as part of the annual report.

3. Governance and Firm performances

According to Weimar and Pape, (1999), Corporate Governance is a foundation of institutional, legal and cultural factors influencing the design of control that stakeholders exercise over the management's behavior (Weimer and Pape, 1999). The justification for examining the quality

of the board is that the board of directors regulate information disclosure in annual reports consequently, constituents of boards may be important. We try to highlight few of the important corporate governance component used within the index creation for the board quality in the literature review.

Independent Director (Clause 149): According to Chen et al., (2012), board independence is largely driven by regulations, which are country specific. With the introduction of clause 149, the notion of Independent Directors (IDs) has been brought in for the first time in the Company law in India, wherein the composition of the board has been of special attention. The clause defines an ‘independent’ director and further advocates for at least half of the board members, especially if there is role duality between CEO and Chairperson. In the same vein, agency theory encourages the concept of ‘dominating outsiders’ namely, to enhance the board’s independency the outside director must dominate the boards. The Cadbury code also suggests, “The board should include nonexecutive directors of sufficient caliber and number for their views to carry significant weight in the board's decisions”.

According to Abdullah, (2004), in order to control the activity and decision making process of the management, the board of director is very crucial and so is its independency. Wu et al., (2015) documents the increasing independency of the board in Chinese firm’s reduces the occurrences of connected transactions and violations such as financial statement fraud, insider trading and asset misappropriation. Previous literatures (Ahmadi et al., 2016), have found positive relationship amid the performance and the independency of the board (Weir et al., (2002), Mura (2007), O’Connell et al., (2010), Fooladi et al., (2012), Knyazeva et al., (2013), Chen (2015) and Liu et al., (2015)). Moreover, Dehaene et al. (2001) along with Dahya and McConnell (2003) established a significant positive relationship for the Belgian companies amid the independent directors and return on equity.

On the contrary, the Stewardship theory argues the control to be in the hands of managers and suppress any needs for monitoring the management. It is based on the assumption of the presence of the social and business collaboration amid the top management and the Board of directors which promotes and encourages collaborative and strategic (Westphal, 1999; Dalton and Daily, 1999b). According to Black and Bhagat, (1999), firms with mostly outside directors is worst off in terms of performance along with no difference amid the firms having greater inside director or outside director, at least no evidence of improved performance by higher outside director representation. Zhou et al., (2018) analyses how the companies having more outside directors perform poorly than the firm with leading insider directors who are well informed about their firms and decide accordingly. Many previous literatures have demonstrated a negative association amid the performance and the independency of the board (Bhagat and Black, 2002, Adams and Ferreira, 2009, Carter et al, 2010 and Chen, 2016).

A significant number of previous literatures that explores this relationship of performance and Independency of board reports little consistency in their findings (Dalton et al, 1998), or any direct association (Shivdasani and Zenner, 2002). In their research, Wagner, Stimpert and Fubara (1998) carried an empirical research in order to review the relation amid board composition and firm performances reported inconsistent result. Among the reasons for the inconsistencies, endogeneity that arises from the joint determination and firm value remains on top position (Hermalin and Weisbach, 2003), followed by other reasons like CEO influence over the composition of the board especially, in terms of selecting the outside director (Mace, 1986). While, Chen J, et al., (2018) demonstrated the gender of the boards do have impact on firm performances in distinct ways. They found, the association of female directors with the boards leads to better innovation Culture and thus better performances of the firms.

Role duality: An important monitoring component drawn upon agency theory implications is separating the role of Chairman and the CEO of the firm (Rechner and Dalton, 1991). Drawing upon the “lone insider boards” Zhorn et al., (2017), demonstrates how the culture of increasingly and successful campaign of Independent boards have created lone insider boards with serious implication on Agency cost, including but not limited to increased pay and pay gap between CEO and Top Management, and decreased performance. Previous literature (Ahmadi et al., 2016) have argued on a person managing two crucial positions may lead to tendency of pursuing personal goals at the cost of organizations interest (Jensen and Meckling, 1976). In the same vein, Abidin et al, (2009) argued about the crucial question of “who monitors management”. In other words “who will watch the watchers?” where the CEO even has the possibility to set the board’s agenda and can directly impact (if not control) the selection of the Board of Directors. The role duality can be detrimental for the board’s ability to supervise executives (Abidin et al., 2009) and will thus even worsen board's independency making even more challenging to control management effectively (Fooladi et al., (2012), Jermias, et al., 2014).

Nevertheless, the empirical investigation with respect to the role duality on performance measures of the firm is not very conclusive. For example, researchers like Coles et al. (2001), Judge, Naoumova and Koutzevol (2003), Ahmadu et al, (2005), Mustafa (2009) and Bhagat and Bolton (2008), and Duru et al., (2016) found significant negative relationship between role duality and corporate performance. While Duru et al., (2016) also argued the negative impact can reduced to a certain extent if the board is vigilant enough. On the contrary, Wan and Ong (2005), Schmid and Zimmermann (2008) found no significant association.

Board Size: Size of the board refers to the number of directors on the board. According to Cheng (2008) larger boards are not very efficient and are deemed to be slower in decision-making, along with the threat of CEO dominating the board and having increased power in decision-making process (Jensen, 1993, O’Connel et al., 2010). Researchers also argued that larger boards are detrimental to effective monitoring of the management (Lipton and Lorsch, 1992) and thus advocated for smaller boards for quality monitoring (Jensen, 1993). However, researchers also argued and demonstrated that board size is determined by firm characteristics and some governance mechanisms jointly (Chen et al., 2012). While Zhou et al., (2018), suggest firms having bigger boards, as large sized boards companies perform better than their smaller counterparts.

The Indian companies’ act 2013 in its clause 166 for Board of Directors states that the company can have a maximum of 15 directors on the Board; however, appointing more than 15 directors will require shareholder approval. Analysis of the empirical investigation between the corporate performance and board size is not consistent. Researchers as if Bhagat and Black (2002), Beiner et al. (2004) demonstrated no significant association amid the firm performance and the board size, whereas, Ahmadu et al. (2005), Mustafa (2009) and Chan and Li (2008), found the association with detrimental performance while others even report a negative association (Yermack, 1996).

Board Committees: The 2013 Act mandates the corporates to setup the Nomination and Remuneration Committee that describes the parameters for selecting directors, and provide further guidelines towards the remuneration for the directors, Key Managerial Personnel (“KMP”) and other important employees alike. These committees must have at least three or more non-executive directors and one-half of the members must be Independent directors. Moreover, the act advocates for the ability to read and understand the financial statements for

majority of the Audit committee members including its Chairperson and thus specifying even the academic and professional qualifications.

Previous literatures, have argued for the audit quality to be a crucial aspect of Corporate governance (Defond and Francis, 2005, Fan and Wong, 2005) while its size is another important concept for its effectiveness (Cadbury Committee, 1992). Audit committee has been reported to control the internal mechanism and providing accurate information to shareholders, (Anderson et al. (2004), thus strengthening the auditing function and better assessing risk (Hsu, 2007). Profitability moderates the association between audit committee independence and earnings management signifying independent audit committees are more effective monitors of earnings management in profitable firms than in non-profitable firms (Kapoor, & Goel, (2017).

Directors Biography: Previous researches have argued that there exist an implicit association amid boards of directors and corporate performance for example, Jensen, (1993) wherein, he argues, “the board, at the apex of the internal control system, has the final responsibility for the functioning of the firm.” In their research, Coles et al, (2008) demonstrated that corporates are more aligned with the internal advice thus benefiting from insider representation on the board, underlining the importance of the firm knowledge and industry specifics. Various analysis in the past has confirmed the director’s reputation effect on their human capital (Gilson, 1990, Li 1997, Ferris et al, 2003, Keys and Li 2005, and Francis et al., 2015.)

With the analysis of this review, it is very much evident that the board by fulfilling its fiduciary duties is a very crucial part of the control mechanism towards controlling and directing the firm (Abdullah, 2004). However, also it is evident that the empirical investigation has not revealed a very conclusive reporting amid the association between corporate performance and board quality. At one part, studies find little to no evidence to suggest that board characteristics affect firm performance (Dalton, et al. 1998, and Weir et al. 2002). On the contrary, researches have timely demonstrated the positive association amid the Corporate Performance and essential qualities of the Board (Bhagat & Black, 1999; Kiel & Nicholson, 2003; Bonn, 2004).

Considering the analysis, it is quite apparent there are mixed result and are not very conclusive from the past researches, which attempt to explore the association amid the performances of the firm and the structure and quality of the board. This could be partly explained by the vulnerability to calculate the firm performance or the quality of the board or both, or as argued by Rediker and Seth, (1995) about the internal control mechanism to be actually “substitutes” and not to be used all at once. Past literatures using wide categories of various performance measures and the corporate governance variables in the form of board characteristics disclosed an inconsistent and paradoxical conclusion.

One of the intention of this paper is to pursuit and improve the measures of corporate governance in the form of board quality and the performance of the companies. Specifically, empirically establishing the core of the board practices vis a vis its effect on the performance of the firm and further elaborating the performance measure that considers the shareholder’s value creation and its robust association with the quality of the board. Implying from these inferences, we thus hypothesize that: *ceteris paribus*, the quality of the board is positively related with the performance of the firm.

Market based measures

Along with the traditional accounting measure, in this study, we also attempt to establish a link amid the quality of the Board and the company performance in the form of market based measure. One such measure is the Economic value added (EVA), which is developed and

registered by Stern Stewart & Company. According to Grant (2003), EVA is a measure that is described upon residual incomes of corporations and is more reliable and complete than the traditional accounting measures (Adjouad et al, 2007), considering the accounting measures does not imply the cost of equity, but focuses solely on the cost of debt.

Consequently, technically EVA computes the difference between the net profit after taxes and the total cost of the capital employed. Moreover, it also adjust the operating profit for various accounting policies in the form amortization and other such financial obligations.

According to Brewer et al, (1999) EVA focuses on the financial performance based on the after tax net operating income and the investment in assets required to generate this income along with the cost of investment. It is not surprising, to see many studies based on company performance that includes the EVA as their performance measure for instance, Coles et al. (2001) empirically tested 144 US corporations from 1984 to 1988 to determine the fluctuations in EVA and MVA due to corporate governance variables. EVA has also been established as an intertwined measure with that of the market adjusted annual returns than Earning and cash flow from operations (Feltham et al, 2004). While, its superiority over the accounting measures is also being confirmed particularly within the context of describing the shareholders wealth (Elali, 2006).

The EVA is calculated as:

$$\text{EVA} = \text{Net income to common shares after taxes} - (\text{Cost of Equity}) * \text{Common equity}$$

Wherein the Common equity = is equal to value of common stock + surplus capital + retained earnings.

We also introduce Market value added (MVA) in the analysis in the form of Market based performance measures. According to Shawn (1994), MVA is one of the most crucial form of measurement that verifies the value creation process of the companies, and is being confirmed by researcher's alike (John et al, 2000). The MVA is calculated as:

$$\text{MVA} = \text{Market value of shares outstanding} - \text{Common equity}.$$

In order to calculate the Cost of equity we used the Capital asset pricing model as follows:

$$\text{Cost of Equity} = R_f + (R_m - R_f) * \text{Beta}$$

Wherein, we used Government Bonds for risk free return (R_f) and BSE S&P 500 for determining the market benchmark (R_m). While, the Beta was calculated manually for all the 150 companies by downloading the prices of the stocks from the BSE website, on everyday basis for the period of the financial year 2011-12.

The individual beta was calculated using the formula: $\text{Beta of stock } n = \frac{\text{Cov} (P_n, P_m)}{\text{Var} (P_m)}$

Where in, P_n refers to prices of the stocks and P_m refers to the prices of the market benchmark. All the data are obtained directly either from the annual reports or through the Ace tech database.

CFROTA

In this study, we add another company performance measures focusing financial performance, which attempts to calculate the efficiency of the boards, and the leaders involved in effectively utilizing the resources at their disposal and signifying their overall quality. Initially, introduced by Dulewicz and Herbert (2004), designated as Cash Flow Return on Total Assets (CFROTA).

According to Dulewicz and Herbert (2004), the ratio excels in various ways compared to other such measures like, providing a close approximation of the actual company's cash flow by evading the impact of depreciation, amortization and goodwill. The measure also represents the total resource allocation at the disposal of the company financed by the shareholders. Measuring the inflow of Cash vis a vis these assets allows to underline the efficiency of its leaders.

CFROTA (percent) is therefore defined as:

Operating Profit Before Interest, Taxation, Depreciation and Amortisation / Total Assets (Fixed Tangible and Intangible plus Current) *100

All the CFROTA data was calculated using the annual reports for the year 2011-12 for the sample companies used in the study.

4. Methodology

This study examines Performance measures in the corporate annual reports of Indian companies fully listed on NSE (National stock exchange) for the financial year 2011 -12. Firms were selected based on the market capitalization as in most of the previous studies (Mcfarland, 2002; Adjouad et al, 2008), wherein originally 249 firms were grouped. Which was further reduced to 150 due insufficient data availability; all the accounting and market related measure were calculated from the annual reports or were directly obtained by the ace tech database.

Table 2. Correlation Matrix

	Total	ROE	EPS	PBV	MSR	TQ	EVA	MVA	CFTA	SIZE	LVG	BCOMP	SHC	DISC	SHR	NIF 50
Total	—															
ROE	0.118	—														
EPS	0.142	0.147	—													
PBV	0.378	0.166	0.198	—												
MSR	0.418	0.101	0.065	0.209	—											
TQ	-0.380	-0.040	0.121	-0.027	0.007	—										
EVA	0.453	0.102	0.019	0.184	0.275	-0.201	—									
MVA	0.179	0.092	0.003	0.276	0.456	0.486	0.198	—								
CFTA	0.509	0.227	0.086	0.346	0.193	-0.144	0.231	0.166	—							
SIZE	-0.413	-0.043	0.042	-0.142	-0.130	0.595	-0.375	0.155	-0.302	—						
LVG	-0.124	-0.021	-0.243	0.119	-0.241	0.119	-0.182	-0.022	-0.227	0.111	—					
BCOMP	0.611	-0.014	-0.061	0.225	0.296	-0.335	0.222	0.076	0.193	-0.400	0.015	—				
SHC	0.726	0.100	0.123	0.297	0.351	-0.241	0.272	0.168	0.466	-0.249	-0.117	0.247	—			
DISC	0.321	0.036	0.110	0.031	-0.011	-0.220	0.167	-0.176	0.186	-0.115	-0.065	0.014	0.113	—		
SHR	0.881	0.157	0.197	0.356	0.370	-0.249	0.448	0.236	0.490	-0.288	-0.153	0.240	0.655	0.177	—	
NIF 50	-0.098	-0.129	0.079	0.022	0.111	0.576	-0.164	0.458	0.041	0.292	-0.035	-0.095	-0.067	-0.060	-0.056	—

The abbreviations used in the above table are; **TOTAL** - Total score for the board quality, **ROE** – Return on Equity, **EPS** – Earning per Share, **PBV** – Price to book value, **MSR** – Market to Sales Ratio, **TQ** – Tobin's Q, **EVA** – Economic value addition, **MVA** – Market value addition, **CFROTA** – Cash flow return on total Assets, **SIZE**- Size of the firm, **LVG** - Leverage of the firm, **BCOMP** - Board composition, **SHC** - Shareholding compensation, **DISC** - Disclosure strategy, **SHR** - Shareholder rights, **NIFTY 50** - If listed under NIFTY 50.

The index creation is developed by the authors in lieu with the previous researches and is inspired by the index used by McFarland (2002) in the Globe and Mail Ratings of Business reports. The study utilizes the self-created index in order to rank them as per their quality of the board. The self- Created index utilizes the four major characteristics of the board Quality in the form of Board Composition, Disclosure Practices, Shareholder rights, Shareholder Compensation. The data for each of these variables that comprises 21 elements representing all the four Broad qualities for the board is being collected manually from the Annual reports of the Organization under investigation for the year 2011-12. The scores pertaining to each of these qualities were further divided by elements belonging to these subcategories. A content analyses technique was utilized in order to identify presence of the component and its quality for the organization and a score were allotted accordingly. In the

index all the items used were assigned a fixed score (see appendix) and the prorated score allotted for the individual companies were then added up to arrive the final score.

Table 3. Descriptive statistics

	<i>BCOMP</i>	<i>SHC</i>	<i>DISC</i>	<i>SHR</i>	<i>Total</i>
Mean	38.77	3.487	19.61	12.91	74.78
Median	40.00	2.500	20.00	20.00	77.50
Std. Deviation	5.390	2.587	2.402	8.155	13.13
Skewness	-0.8117	-0.1919	-6.297	-0.3892	-0.5661
Kurtosis	-0.1169	-1743	39.04	-1.737	-0.7465
Minimum	24.00	0.000	3.000	0.000	46.00
Maximum	46.00	6.000	20.00	20.00	92.00

Although, the index is completely self-developed but is inspired by the previous studies and the variables that has been considered important within these studies (Adjaouad et al 2007). Lastly, the index was also prepared considering Indian companies explaining the series of modifications attempted to keep it aligned with the sample companies. In addition, is allotted a specific score to reach the final score of the overall board quality (See appendix). The scores for each company within the sample is further computed by the information through its annual reports.

Control Variables

Firms with larger resources are more inclined to provide the security with the help of constructive governance mechanism resulting further value creation for the shareholders. Thus expecting a positive association amid the governance practices, we include the proxy for the size of the infirm in the form of total assets in line with the previous studies (Black et al, 2003). Companies having a reputation of being listed in popular indices indicates its overall efficiency with respect to the shareholder security and thus the governance practices as well. Having considered this, we add another control variable of NIFTY 50, which is the name of a very important market benchmark termed in India by NSE (National stock Exchange).

Being listed in a NIFTY50 list, which comprises only 50 companies of all the listed firms, is considered a hallmark of quality including of its governance practices giving the value of 1 or 0 otherwise, thus implying positive effect. In order not to have an effect of sector specific firms, we also add sector specific control variable especially the financial sectors name financial dummy to wean out such effects on the performance parameters. So if the firm belongs to the financial sector it is coded as 1 or 0 otherwise. Following previous literature (Adjouad et al, 2007), we also add the leverage position of the firm in the form of debt equity ratio implying the higher ratio will foster higher governance mechanism.

Regression diagnostics

Various univariate and multivariate regression analysis is used to examine the relationship between the performance parameters and the various board characteristics along with the control variables. In order, to wean out any multi-collinearity issues the correlations between independent variables were reviewed, in addition, various inflation factors were computed for each of them. Moreover, normality test was conducted based on skewness and kurtosis and the data was transformed when normality was a problem.

In order, to test for homoscedasticity, linearity and normality assumptions, plots of studentised residuals of the predicted values along with the Q-Q plot and analysis of residuals were conducted.

Table 4: Regression Table of each Performance parameter with the total score of Boards Quality. Calculated using the following equation: Performance Parameter = $a + b1$ (Total Score).

Parameters		ROE			EPS			PBV			MSR		
		Coeff.	T stat	p-val	Coeff.	T stat	p-val	Coeff.	T stat	p-val	Coeff.	T stat	p-val
Constant	VIF	1.7492	19.71	< .001	0.8679	3.58	< .001	1115	19.99	< .001	-0.9988	-4.28	< .001
b1	1.00	0.0016	1.45	0.150	0.0055	1.74	0.084	0.003	4.96	< .001	0.0172	5.60	< .001
R- Square			0.0139			0.020			0.143			0.175	

Parameters		TQ			EVA			MVA			CFTA		
		Coeff.	T stat	p-val	Coeff.	T stat	p-val	Coeff.	T stat	p-val	Coeff.	T stat	p-val
Constant	VIF	5.856	26.51	< .001	4.1339	160.7	< .001	4.284	29.00	< .001	0.0810	0.535	0.594
b1	1.00	-0.014	-5.00	< .001	0.0021	6.19	< .001	0.004	2.21	0.028	0.0144	7.202	< .001
R- Square			0.145			0.206			0.0320			0.260	

Correlations

Table 2 presents the correlation for the dependent and independent variables in the form of both Performance parameters of accounting and market-based values with the various qualities of Board characteristics and control variables. It is evident from the correlation table, that all the performance parameters with the exception of Return on Equity are significant with at least two of the independent variables examined. The correlation table also reveals all the independent variable associations are below 0.60. Whereas the VIFs for each independent variable (shown in Table 7) are all less than 3.0, suggesting that multi-collinearity is not a problem. It can also be seen that the total score of the board quality is significantly associated with all the performance parameters except for Return on Equity and Earning per share. Individual analysis of the Board Quality with the performance parameters reveals the market-based parameters are highly associated with Board Quality individual scores, compared to that of the traditional accounting measures.

Among the traditional accounting Tobin's Q shows significant relation with most of the independent variables, while among the controls Leverage is the most common variable for majority of the parameters significant negatively both at 1% and 5%. While among the individual quality Board composition followed by Shareholding compensation is closely followed to be significant with most of the parameters at both

1% and 5%.

Table 5: Regression Table of each Performance parameter with the individual score of Boards Quality. Performance Parameter = $a + b1$ (Board Composition) + $b2$ (Shareholding Compensation) + $b3$ (Disclosure) + $b4$ (Shareholder rights).

Parameters		ROE			EPS			PBV			MSR		
		Coeff.	T stat	p-value	Coeff.	T stat	p-value	Coeff.	T stat	p-value	Coeff.	T stat	p-value
Constant	VIF	1.88898	11.1722	< .001	1.21959	2.6712	0.008	1.22076	11.477	< .001	-0.4926	-1.118	0.266
b1	1.24	-0.00193	-0.6494	0.517	-0.01084	-13536	0.178	0.00327	1752	0.082	0.0203	2.631	0.009
b2	1.80	1.91e-4	0.0241	0.981	0.00165	0.0771	0.939	0.00438	0.878	0.381	0.0332	1.606	0.110
b3	1.04	5.53e-4	0.0849	0.932	0.01587	0.9016	0.369	-0.00148	-0.362	0.718	-0.0162	-0.956	0.341
b4	1.87	0.00386	1.5215	0.130	0.01299	18953	0.060	0.00417	2612	0.010	0.0152	2.301	0.023
R- Square			0.0276			0.0565			0.152		0.201		

Parameters		TQ			EVA			MVA			CFROTA		
		Coeff.	T stat	p-value	Coeff.	T stat	p-value	Coeff.	T stat	p-value	Coeff.	T stat	p-value
Constant	VIF	6.72219	16.224	< .001	4.15037	85.162	< .001	5.01932	18.417	< .001	0.38308	1.347	0.180
b1	1.24	-0.02695	-3.707	< .001	0.00146	1.704	0.091	7.05e-4	0.147	0.883	0.00411	0.823	0.412
b2	1.80	-0.01776	-0.913	0.363	-0.00138	-0.602	0.548	0.00242	0.189	0.850	0.03511	2.629	0.009
b3	1.04	-0.03970	-2.486	0.014	0.00237	1.262	0.209	-0.02947	-2.806	0.006	0.01617	1.475	0.142
b4	1.87	-0.00533	-0.857	0.393	0.00327	4.469	< .001	0.01008	2.463	0.015	0.01346	3.151	0.002
R- Square			0.182			0.225			0.105			0.291	

5. Results

Descriptive statistics of each measure of Board quality scores, at both overall and subcategory levels, for the sample companies are shown in Table 3. The mean total score for the sample companies is 74.78, while for Board composition and Disclosure practices the mean stood at 38.77 and 19.61 respectively. The mean score for the Shareholding compensation and Shareholders rights is 3.48 and 12.91 respectively.

With the Total, score ranging from 46 to 92, the Board composition and Disclosure scores ranges between 24 to 46 and 3 to 20 respectively. While the Shareholding Compensation and the Shareholders rights varied between 0 to 6 and 0 to 20 respectively. The total score for the Board quality had a median score of 77.50 with the standard deviation of 13.13 and mean of 74.78 representing the sample having an above average

approach within these companies with respect to their Board of director's efficiency. With the major contributor towards this score is the Board composition with the mean of 38.77 and the median of 40 with the standard deviation of 5.390 clearly demonstrating the importance of this characteristic for the importance of an efficient board. Closely followed by the disclosure practices of the board having a mean of 19.61 and the median of 20 along with standard deviation of 2.402.

Table 6: Regression Table of each Performance parameter with the total score of Boards Quality and the control variables.
Performance Parameter = $a + b1$ (Total Score) + $b2$ (Size) + $b3$ (Leverage) + $b4$ (NIFTY 50) + $b5$ (Financial Dummy).

Parameters		ROE			EPS			PBV			MSR		
		Coeff.	T stat	p-value	Coeff.	T stat	p-value	Coeff.	T stat	p-value	Coeff.	T stat	p-value
Constant	VIF	1.75694	16.7837	< .001	0.65660	2.393	0.018	1.10539	17.066	< .001	-1.1691	-4.446	< .001
b1	1.00	0.00176	1.3271	0.187	0.00801	2.306	0.023	0.00367	4.471	< .001	0.0189	5.663	< .001
b2	1.75	4.88e-8	0.4681	0.640	8.52e-8	0.312	0.756	2.06e-8	0.319	0.750	-2.14e-7	-0.816	0.416
b3	1.08	-9.64e-4	-0.1849	0.854	-0.04470	-3.269	0.001	0.00787	2.438	0.016	-0.0392	-2.990	0.003
b4	1.12	-0.05602	-1.5259	0.129	0.08200	0.852	0.396	0.01782	0.784	0.434	0.1934	2.097	0.038
b5	1.58	-0.00108	-0.0209	0.983	0.26377	1.947	0.053	-0.0345	-1.080	0.282	0.3023	2.328	0.021
R- Square			0.0299			0.113			0.182			0.260	

Parameters		TQ			EVA			MVA			CFROTA		
		Coeff.	T stat	p-value	Coeff.	T stat	p-value	Coeff.	T stat	p-value	Coeff.	T stat	p-value
Constant	VIF	4.91611	26.696	< .001	4.15795	145.521	< .001	4.01284	26.421	< .001	0.3636	2.1675	0.032
b1	1.00	-0.00518	-2.223	0.028	0.00184	5.088	< .001	0.00664	3.451	< .001	0.0111	5.2323	< .001
b2	1.75	8.05e-7	4.388	< .001	-9.97e-8	-3.501	< .001	2.61e-7	1.727	0.086	-4.68e-9	-0.0280	0.978
b3	1.08	0.00716	0.780	0.437	-0.00319	-2.237	0.027	0.00198	0.262	0.794	-0.0129	-1.5403	0.126
b4	1.12	0.52734	8.165	< .001	-0.00723	-0.721	0.472	0.31417	5.898	< .001	0.0770	1.3089	0.193
b5	1.58	0.22961	2.525	0.013	0.04092	2.900	0.004	-0.0306	-0.408	0.684	-0.2785	-3.3626	< .001
R- Square			0.580			0.307			0.277			0.358	

Shareholding rights has the median of 20 and the standard deviation of 8.155. Shareholding compensation is not very prevalent among the Indian companies for their directors comparing with those of the developed countries practices, as it is also evident from the descriptive, having mean score of 3.487 with the median and standard deviation of 2.50 and 2.587 respectively.

Table 7: Regression table of each Performance parameter with the individual score of Boards Quality and the control variables.

Performance Parameter = $a + b1$ (Board Composition) + $b2$ (Shareholding Compensation) + $b3$ (Disclosure) + $b4$ (Shareholder rights) + $b5$ (Size) + $b6$ (Leverage) + $b7$ (NIFTY 50) + $b8$ (Financial Dummy).

Parameters		ROE			EPS			PBV			MSR		
		Coeff.	T stat	p-value	Coeff.	T stat	p-value	Coeff.	T stat	p-value	Coeff.	T stat	p-value
Constant	VIF	1.91537	10.4317	< .001	0.95003	1.9858	0.049	1.21981	10.723	< .001	-0.7600	-1.671	0.097
b1	1.24	-0.00205	-0.6397	0.523	-0.00574	-0.688	0.492	0.00289	1.457	0.147	0.0246	3.105	0.002
b2	1.80	-8.7e-5	-0.0109	0.991	0.00534	0.2552	0.799	0.00431	0.866	0.388	0.0376	1.891	0.061
b3	1.04	1.25e-4	0.0190	0.985	0.01730	1.0080	0.315	-0.00117	-0.286	0.775	-0.0144	-0.882	0.379
b4	1.87	0.00394	1.5192	0.131	0.01326	1.9600	0.052	0.00433	2.692	0.008	0.0152	2.368	0.019
b5	1.75	1.93e-8	0.1798	0.858	-2.15e-8	-0.076	0.939	1.41e-8	0.212	0.833	-1.7e-7	-0.657	0.512
b6	1.08	-1.2e-4	-0.0227	0.982	-0.04153	-3.022	0.003	0.00798	2.442	0.016	-0.0411	-3.144	0.002
b7	1.12	-0.05564	-1.5082	0.134	0.08717	0.9068	0.366	0.01707	0.747	0.456	0.1873	2.049	0.042
b8	1.58	0.00192	0.0369	0.971	0.27463	2.0258	0.045	-0.03320	-1.030	0.305	0.3063	2.376	0.019
R- Square			0.0437			0.136			0.192			0.291	

Parameters		TQ			EVA			MVA			CFROTA		
		Coeff.	T stat	p-value	Coeff.	T stat	p-value	Coeff.	T stat	p-value	Coeff.	T stat	p-value
Constant		552.427	1.731.599	< .001	419.678	84.663	< .001	462.963	18.005	< .001	0.6696	2.310	0.022
b1	1.24	-0.01132	-203.426	0.044	6.74e-4	0.779	0.437	0.00554	1.236	0.219	6.71e-4	0.133	0.895
b2	1.80	-0.00654	-0.46880	0.640	-0.00121	-0.558	0.578	0.00505	0.449	0.654	0.0300	2.363	0.019
b3	1.04	-0.02712	-236.962	0.019	0.00190	1.070	0.286	-0.02504	-2.715	0.007	0.0133	1.283	0.202
b4	1.87	-1.7e-5	-0.00392	0.997	0.00309	4.405	< .001	0.01086	2.986	0.003	0.0103	2.501	0.014
b5	1.75	7.56e-7	405.899	< .001	-1.08e-7	-3.738	< .001	2.51e-7	1.673	0.096	-9.0e-8	-0.534	0.594
b6	1.08	0.00828	0.90367	0.368	-0.00289	-2.028	0.044	0.00189	0.255	0.799	-0.0108	-1.298	0.196
b7	1.12	0.52405	817.595	< .001	-0.00732	-0.735	0.463	0.30746	5.952	< .001	0.0827	1.420	0.158
b8	1.58	0.23668	261.823	0.010	0.04094	2.915	0.004	-0.02736	-0.376	0.708	-0.2627	-3.199	0.002
R- Square			0.596			0.332			0.336			0.386	

Regression

Table 4 represents univariate Regression result for the all the parameters individually tested with the total score of the board quality and excluding the control variables. The table demonstrates the strong relationship amid the efficient board qualities and the performance parameters under analysis. With the exception of return on equity (ROE) and Earning per share (EPS), the efficiency of board is significantly associated with all the performance parameters. With the exception of Market value added all the parameters are significant at 1% while the MVA stood at below 5%. Apart from Tobin's Q, all the parameters are positively associated with the efficiency of the board. While, Tobin's Q is negatively associated at 1%.

Table 5 represents the multivariate regression analysis for the all the parameters individually tested with the individual scores of the board quality and excluding the control variables using the equation $\text{Performance Parameter} = a + b_1 (\text{Board Composition}) + b_2 (\text{Shareholding Compensation}) + b_3 (\text{Disclosure}) + b_4 (\text{Shareholder rights})$. With the exception of ROE and EPS all, the parameters are significant with at least one of the board characteristics in the analysis both at 1% and at 5% respectively. Consistent with the previous regression Tobin's Q is negatively associated with all the characteristics of the Board's efficiency. In addition, we found the Market value added is negatively associated with the disclosure practices of the board's quality and is significant at 5%. This regression analysis continues to exhibit the importance of the total scores on explaining the performances even with the addition of control variables in the regression.

In the Table 6 the regression analysis attempts to analyze the parameters tested individually with the total score of Boards Quality all the control variables using the equation $\text{Performance Parameter} = a + b_1 (\text{Total Score}) + b_2 (\text{Size}) + b_3 (\text{Leverage}) + b_4 (\text{NIFTY 50}) + b_5 (\text{Financial Dummy})$. In this regression, analysis while including the controls, Earning per share has shown to be significant along with other parameters with the total quality score. On the contrary to its original relation in the previous regressions, although it exhibited negative association with the control variable of leverage at 1% level.

While ROE continues to be insignificant, Tobin's Q as expected is negatively associated with the total score. Among the accounting parameters, leverage is the most popular control variable, which is significant. While, among the market based financial dummy is the mostly significant. Size seemed significant with Tobin's Q and EVA, and the inclusion in the NIFTY50 list is significantly associated with MSR, TQ and MVA clearly signifying its impact in the financial market. Although, size and leverage is negatively associated with the EVA at 1% and 5% level respectively, and CFROTA with financial dummy at 1% level is linked negatively.

Table 7 presents the multivariate analysis that attempts to verify the linkages amid the individual performance parameters with the individual board quality characteristics along with the control variables. The regression was carried using the equation: $\text{Performance Parameter} = a + b_1 (\text{Board Composition}) + b_2 (\text{Shareholding Compensation}) + b_3 (\text{Disclosure}) + b_4 (\text{Shareholder rights}) + b_5 (\text{Size}) + b_6 (\text{Leverage}) + b_7 (\text{NIFTY 50}) + b_8 (\text{Financial Dummy})$. The regression shows just like in previous regressions so far that the explanatory power of market-based parameters is far better than compared to that of the accounting parameters, thus implying that the accounting parameters are also influenced by the other factors apart from the governance factors.

It can be implied based on the regression analysis, that the market is very receptive in the effects of governance practices followed by the companies. Among the individual characteristics, shareholding compensation (SHC) and the shareholders rights (SHR) is mostly

significant with most of the dependent variables. While, leverage (LVG) and financial dummy (FD) among the controls demonstrates major linkage amid the performance parameters. MVA is negatively associated with the disclosure quality at 5% level. Among the controls, leverage is negatively associated at 5% level with EPS, MSR and EVA. While among the market based parameters EVA is negatively associated with the size at 1% level. While CFROTA is negatively associated with the financial dummy at 5% level in line with previous findings. The other instrumental variables have coefficient with expected signs.

6. Summary and Conclusion

In this paper, we attempt to establish the connection amid the various performance parameters broadly classified into accounting measures and market-based measures, and the governance practices in the form of Board's quality. The analysis of this extensive study of the top Indian publicly listed companies updates the current debate about corporate governance and its implication towards performance measures. For the purpose, we used a self-developed index to measure the quality of the board with the subcategories in the form of Board composition, shareholding compensation, shareholder rights and disclosure practices with respect to governance. For the independent variables, we used both the accounting measure in the form of ROE, EPS, PBV, MSR, Tobin's Q and the market-based measure in the form EVA, MVA and CFROTA along with the control variables of Size, leverage, inclusion in NIFTY50 list and the financial dummy (FD).

Taking implications from the agency theory, the quality of the board is supposed to be an important aspect in governing the corporate to support shareholder's interest. Previous research has studied various aspect of the board and its overall quality with that of the firm performance with inconclusive results, while this research confirms positive association amid the governance practices and performances with more robust result for all the market-based measures.

The mean total score for the board's quality remaining at 74.78 with the median being 77.50 clearly indicates the efficiency of the governance practices in India, reinforcing the idea that the corporate governance practices in India does provides an encouraging atmosphere for the investors. While also underlying the fact that the practice of governance still not very similar to that of its western counterparts, for example shareholding compensation is still not the general practice is clearly demonstrated by the descriptive statistics.

The regression clearly demonstrated the association amid the governance practices and the overall performance measures. Nevertheless, the very core of the research to identify the primary base (accounting or market based) of measure, which is having a direct association with the governance practices, is also established. The governance practices showed association with only 40% of the accounting performance measures, while it has showed direct association with 100% of the market-based performance measurement. Moreover, the power to explain the regression is very well positioned for the market-based measures compared to that of the accounting-based measures. Within the accounting measures, the negative association amid the governance practices and the Tobin's Q is consistent with the previous studies (Kiel and Nicholson, 2003).

Surprisingly, among the control variables the size of the firm proxy by the total assets of the firm do not have very encouraging relation with the performances. A result that could be attributed partially to the simple mathematics of using larger denominator, implying the necessity of greater profit through the numerators for return. Thus, contributing to our understanding that the companies that desire to achieve greater strong profitability in an

accounting sense must have larger revenues on a lower asset base.

Drawing on agency theory literature, this paper contributes in several ways towards the studies pertaining to corporate governance and more specifically its link towards the firm performances. The paper provides the self-developed board quality index for top line publicly listed Indian companies, an approach or benchmark that can be used for all the future research pertaining to Indian corporate governance analysis. This is the first paper on Indian companies that establishes the link amid the performance measures and the board quality for both accounting and market-based value measures. While the variable of liquid performance in the form of CFROTA, along with its counterpart EVA and MVA is tested for the first time. The derived result do make an inferences with respect to the market based measures vis a vis the governance practices seemed more crucial and practical compared to accounting measures at least from the shareholders point of view.

Another important implication of this study is that it provides the board quality specifically its composition emerges to be an important from stock market perception rather than the accounting-based performances, a finding reinforced despite the addition of the control variables. A finding consistent with the previous literatures (Kiel and Nicholson, 2003, Adjoaud et al, 2007) although in advanced manner with respect to its scope and variability. In addition, in this paper it differentiates for the fact that accounting measures still go long way with the market-based measures to support the governance practices a thread was not evidenced in the past analysis that combines both the form (Adjoaud et al, 2007).

The research could be further improved in number of ways, since this study implies only one-year data of the financial year 2011-12 as with the previous research. The future studies could increase the scope of the data for a larger number of years and thus be able to generalize the conclusions. Secondly, the index created could also be developed further in terms of additional subcategories and tested on larger sample sizes. Nevertheless, this paper provides suggestions to help and guide the future research. Considering its direct demonstration towards evolutionary yet interesting link amid the research of Corporate Governance.

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APPENDIX A. Index Creation and Score Allotment

Board Composition		Shareholding Compensation		Disclosure		Shareholder Rights	
Female board Member	4	Directors own stocks	6	Attendance records		Re-election	
Board Size	5	Directors in option plan	3	of directors	6	of directors	4
Independent Directors	9	Loans to director	5	Multiple Directorship	4	Stock options dilutive	6
Audit committee	5			Board members		Option re-priced,	
Risk Management Committee	3			biographies	4	extended, exchanged	4
Compensation Committee	3			Governance practices	6	Voting shares	6
Nominating Committee	3						
Board meeting	4						
Number of committee Meetings	5						
Role Separation of CEO and Chairman	5						
Maximum score	46	Maximum score	14	Maximum score	20	Maximum score	20