

GOVERNANCE STRUCTURE AND ACCOUNTING RETURNS: STUDY OF NIFTY500 CORPORATES

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ABSTRACT

The paper attempts to examine the relationship between various aspects of governance structure and return on assets as well as return on equity. For the purpose, the study makes use of some pertinent provisions such as size of board, board diversity in terms of gender, proportion of executive directors, proportion of independent directors, Chief risk officer (CRO), risk management committee, mandatory committees, voluntary committees and existence/non-existence of whistle blower policy. The sample consists of Nifty500 corporates and covers a 10 year period from 2005-2015. Pooled OLS regression has been used to gauge the relationship. To ensure robustness of results year and industry effects, among other control variables, have been controlled for and results are similar across all models used. On a descriptive level, some non-compliance with certain mandatory provisions (e.g.: proportion of independent directors to be maintained) has been observed. Regression results indicate that larger boards and constitution of compulsory committees tend to be negatively related to return on assets (ROA) and return on equity (ROE). This calls for a review of provisions related to compulsory committees. Further, presence of non-executive directors, constitution of a risk management committee and formulation of a whistle blower policy has a significant positive impact on ROA and ROE. The results of the study are expected to be of immense utility to regulators, practitioners and academicians.

KEYWORDS: Corporate governance, governance structure, return on assets, return on equity

INTRODUCTION

In the wake of worldwide debacles such as that of Enron, corporate governance has been gaining widespread attention. Corporate governance is primarily viewed as a mechanism that facilitates effective and efficient monitoring and control of business. Good governance structures are expected to lead to better firm performance, higher market valuations, quality decision making, etc. Of late, a number of legal provisions have been put forth to strengthen the corporate governance framework of companies. However, which aspects of governance structure have a significant impact on firm performance, is still a puzzle. Therefore, research on the relationship

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between various aspects of governance structure and firm performance is extremely important. This study explores the relationship between governance structure and accounting returns in Indian setting. India, in recent times, has witnessed a wave of corporate governance reforms in the form of revision of Clause 49 of Listing agreement, enactment of Companies Act, 2013, to name a few.

At present, research providing empirical evidence on relationship between corporate governance and firm performance has been largely based on construction of corporate governance index. Governance provisions on standalone basis have been often neglected. Further, most studies have considered corporate governance as a mechanism to protect shareholders' rights, very few studies have explicitly focussed on corporate governance structures. In view of the above, the study attempts to examine the relationship between governance structure and accounting returns. The study is based on non-financial companies (429) of Nifty500 index and covers a ten year period from April 1, 2005 to March 31, 2015.

Findings indicate larger boards and constitution of compulsory committees tend to have an adverse impact both on return on assets (ROA) and return on equity (ROE). Further, presence of non-executive directors, constitution of a risk management committee and formulation of a whistle blower policy has a significant positive impact on ROA and ROE.

The study contributes to literature by considering some of the often neglected components of governance structures like appointment of Chief Risk officer (CRO), formulation of whistle blower policy, etc. Also, in light of recent amendments in provisions related to corporate governance, the findings of study are believed to have important implications for regulators, practitioners and academicians.

For better exposition, the paper has been divided into six sections. Section 2 provides a brief outline of relevant literature. Section 3 highlights the sample used. Section 4 presents methodology used in the study. Section 5 contains the findings and their analysis. In the end Section 6 provides concluding observations.

REVIEW OF LITERATURE

Literature is rife with studies on various aspects of corporate governance. Gompers, et al. (2003), constructed a governance index, Gompers, Ishii, Metric index (GIM index), using the provisions listed by Investor Responsibility Research Centre (IRRC) (comprising of anti-takeover measures focusing on external governance) for firms in corporate takeover defences. These provisions were classified into five categories: delay, voting, protection, status and other, consist of 24 corporate governance provisions. For every firm, one point was added for every provision that increased managerial power. A strong correlation was observed between GIM index and stock returns.

Taking cue from the work of Gompers et.al (2003), Brown and Caylor (2006) came up with summary governance measured referred to as Gov-score. It is based on 51 firm specific

provisions, including both internal and external governance provisions. They argue that only a few corporate governance provisions have an impact on firm value. The argument is proved, as by using only 14 per cent of the governance measures (as used in GIM index), Gov-score could fully drive the relation between Gov-score and Tobin's Q.

Following the work of Gompers et al. (2003) and Brown and Caylor (2006), Bebchuk et al. (2008) came up with a condensed measure of corporate governance called entrenchment index. It consists of six provisions: staggered boards, limits to shareholder bylaw amendments, poison pills, golden parachutes, and supermajority requirements for mergers and charter amendments. They note that increase in index significantly reduces firm valuation and abnormal negative returns. The remaining 18 provisions of IRRC (out of 24, as used in GIM index) are found to be insignificant. In other words, only 25 per cent of the anti-takeover measures used to create GIM index, fully drives the relation between GIM index and Tobin's Q. Using the above mentioned indices, many researchers have attempted to examine the relationship between quality of corporate governance and firm value (as measured by equity prices especially).

Bhagat and Bolton (2008a) observed that the rationale behind index construction is to provide a readily comparable measure of governance quality. But, establishing a relationship between governance and performance is difficult as the two variables are possibly endogenous. In Indian context, Balasubramniam et al. (2008) surveyed 370 Indian firms on issues like board composition, board practices and processes, Directors' background, compensation of executives and non-executives directors, shareholders' rights, disclosure practices, etc. They corroborated their findings by establishing relation between governance and firm value. They conclude that large firms exhibit stronger relationship between governance index and market value of firm.

Raithatha and Bapat (2012) noted that corporate governance score had no significant influence on different measures of financial performance. Sarkar et al. (2012) constructed a governance index for 500 largest Indian companies, by using data from 2003 to 2008. They used four dimensions to construct the index, namely, the board of directors, the ownership structure, the audit committee and the external auditor. The authors have observed a rising trend in corporate governance index of Indian corporates. They conclude that Indian investors seem to reward better governed companies, as there is a strong association between market performance and corporate governance index.

Prasana (2013) observe that reforms in corporate governance and implementation of clause 49 by SEBI have made a significant impact on volatility of stock market in India. Halder et al (2013) reported that the presence of majority independent directors on board have a positive impact on the return on equity. But board size has a negative correlation with ROE and EVA. Das and Dey (2016) investigated the moderating role of corporate governance practices in large Indian corporations on firm performance, post introduction of Companies' Act 2013. They focussed on, board's diversity, CEO duality, board compensation, and promoters' involvement in company affairs.

Similarly, Arora and Sharma (2016) consider Indian manufacturing sector and observe that relationship between corporate governance and performance is not very strong in India. They further state that larger boards have a negative impact on firm performance and board meetings are positively associated with ROA.

It is noteworthy that most of the studies in Indian as well as in international context have made use of governance index to examine the relationship between governance and firm performance and very few studies have individually considered the governance provisions. Also, most of the governance indices have been constructed around parameters that may affect shareholders' rights; there is a limited evidence on studies focussing on governance structure per se. In addition, important governance parameters like voluntary companies, constitution of risk management committee and appointment of Chief risk officer (CRO), are still missing from majority of empirical studies. In view of the above, the present study attempts to examine the impact of a longer number important governance parameters (12) on firm performance.

SAMPLE AND METHODOLOGY

The sample consists of non-financial companies (429) that constituted Nifty500 index as on March 31, 2014. The study covers a period of 10 years from April 1, 2005 to March, 31, 2015. Data has been collected from company annual reports and Bloomberg database.

The primary objective of the paper is to examine the impact of various governance variables on firm performance. Therefore, the study makes use of 12 important parameters that are considered pre-requisites of good governance structure. The parameters include size of board, number of women on board, proportion of women on board, number of independent directors, proportion of independent directors, number of non-executive directors, proportion of non-executive directors, appointment of chief risk officer, constitution of risk management committee, compliance regarding constitution of compulsory committees, and number of voluntary committees. The rationale for each of the variables has been discussed below.

Number of board of directors: It is widely argued that smaller boards are more effective and tend to reduce buck passing, leading to better firm performance, (Lipton and Lorsch, 1992; Yermack, 1996; Eisenberg et al., 1998). On the other hand larger boards often suffer from coordination problems, thereby hampering the decision making process (Anderson and Reeb, 2003; Coles et al., 2008). Further, Chen et al. (2007) state that Boards that are below the minimum legal requirement in terms of size are inappropriate and Lipton and Lorsch (1992) suggest that limiting the number of directors to ten people, with an ideal of eight or nine members might be the optimum solution.

Board diversity in terms of gender: Smith et al. (2006) contend that heterogeneity at various organisational levels, particularly board level may have significant impact on firm performance. They further state that female directors bring fresh perspective to board, along with unique and

valuable resources and relationships. Deszo and Ross (2012) have expressed concerns about inadequate representation of women in top management positions. Therefore, authors believe that not only is the absolute number of women on Board, but also the proportion of women on Board, an important variable to be considered in studies dealing with corporate governance structures. With effect from April 1, 2015, Companies Act 2013 has made a minimum of one woman Director on Board mandatory.

Presence of independent directors: The presence of Independent directors is considered to be instrumental in reducing the possibility of collusion among officials, preventing the abuse of company resources and improving the supervisory function of Board (Chiang and Chia 2005). In the same vein, agency theory suggests a greater proportion of outside directors will be able to monitor any self-interested actions by managers and so will minimize the agency costs (Fama and Jensen 1983; Fama 1980). Whereas, stewardship theory suggests that superior corporate performance is linked to a majority of inside directors as they work to maximize profit for shareholders (Donaldson and Davis. 1991; Donaldson 1990). In addition, the consideration of proportion is consistent with the fact that Companies Act 2013 requires that every Board shall have at least one-third of the total directors as independent directors. Further, the SEBI requirements are where the chairman of the board is a non-executive director, at least one-third of the board should comprise of independent directors and in the case of an executive Chairman at least one-half of the board of the company shall consist of independent directors. Therefore, not only number of independent directors, but also, the proportion of independent directors on Board has been considered in the study.

Presence of non- executive directors: Existence of non-executive directors on Board ensures independent judgement in times of potential conflict of interest. They are appointed to bring to Board: independence, impartiality, wide experience, special knowledge and personal qualities (Financial Stability Board, 2013). Further, Clause 49 of Listing agreement stipulates that at least 50 per cent of directors should be Non- Executive Directors; therefore both, the number of non-executive directors and proportion of non-executive directors have been considered in the study. This approach is consistent with the provision of clause 49.

Appointment of Chief risk officer (CRO): In today's turbulent times, with increasing emphasis on Enterprise-wide risk management (ERM), appointment of a CRO is virtually an essential component of a good governance structure. Presence of a CRO is believed to lead to better risk management, resulting in improved firm performance.

Constitution of a whistle blower policy: There is, growing concern about incidence of frauds and corrupt practices as well as operational risks. This has generated the need for having a vigil mechanism in place in corporates. Accordingly, revised clause 49 of the listing agreement makes the formulation of a whistle blower policy mandatory (w.e.f. 1.10.2014). As per provisions of this clause a vigil mechanism is required to report about unethical behaviour, actual or suspected fraud, and violation of company's code.

Constitution of risk management committee: Risk management committee (RMC) is a committee that is entrusted with responsibility of managing organisational risk, defining risk appetite of firm, outline future risk management policies of firm, and implementing the risk strategy (FSB, 2013). It is noteworthy that revised clause 49 of the listing agreement wide circular no. CIR/CFD/POLICY CELL/2/2014 dated April 17, 2014 w.e.f. October 01, 2014, requires companies to constitute a risk management committee. Such committee is not required under Companies Act 2013.

Compulsory committees: Some sub-committees of Board have been made compulsory to provide special attention to some important areas. These committees are expected to promote fairness in dealings, transparency, accountability and speed up the decision making process. As per Companies Act 1956, only audit committee and investor grievance committee were required. But, as per Companies Act, 2013, mandatory status has been accorded to audit committee, nomination and remuneration committee, Stakeholder relationship committee and Corporate Social responsibility Committee. These provisions are in force since April 1, 2014. In addition, in revised clause 49 of the listing agreement risk management committee has also been made mandatory.

Voluntary committees: A company is free to constitute as many committees as it considers relevant and manageable. Based on a perusal of 4,033 Annual reports, 33 committees were identified as existing in practice. A number of companies had different names but had the same functions and role. Therefore, for the purpose of the study, the committees have been organised into five categories namely, Shares related committees (includes committees like, share transfer , ESOP, etc.); Finance related committees (includes the ones like Borrowing committee, Financial management committee, etc.); Human resource (HR) related committees (e.g.: Screening committee, Conflict resolution committee, etc.); Management related committees (like, Compliance committee, Corporate management committee, etc.); Miscellaneous category with committees like Information security committee, Innovation committee etc.

Dependent variables

It is noteworthy that only accounting returns have been considered for the purpose of the study as market based measures of returns, as such equity returns are affected by multitude of factors. Market returns, to a great extent, depend on general economic conditions in the country as well investors' perception. Therefore, to gauge real contribution of governance structures towards firm performance, it seems reasonable to consider accounting returns only. The study makes use of two most popular measures of returns, ROA and ROE.

(i). Return on assets (ROA) : It helps to understand how efficiently the funds have been applied. Though, it measures profitability of total funds, it throws no light on profitability of different sources of funds. The use of ROA as a proxy for firm performance is quite prevalent in context of studies dealing with governance aspects (Brown and Caylor, 2005).

(ii). Return on Equity (ROE): It helps to gauge profitability from owners/ equity shareholders' point of view. ROE is a widely accepted measure of performance (Johnson and Greening, 1999).

Control variables

(i). Age: As firms grow older, their performance deteriorates. Among other things, ROA goes down, costs go up, and market size shrinks (Loderer & Waelchli, 2011). Therefore, it seems pertinent to control for firm age. It has been proxied by the number of years a firm has been in existence.

(ii). Firm size : Firm size has been found to have a significant impact on the composition of the board, the audit process, the structure of the board committees, and the independences of directors. Thus, it seems reasonable to control for firm size. Natural log of average total assets has been used to proxy firm size.

(iii). Leverage: Traditionally, financing pattern of a company has been viewed as a significant determinant of firm performance. Pecking order theory suggests a negative relation between corporate profitability and debt ratios (Fama and French, 2002). Leverage has been measured as ratio of long term debt to equity shareholders' funds.

(iv). Recession dummy: The period of study is of particular importance as it includes the recession period, which impacted the world economy towards second half of 2008. As per the United Nations Council on Trade and Development (UNCTAD), investment brief (November 1, 2009), the year 2008 marked the end of a growth cycle in global foreign direct investment. Worldwide flows came down by more than 20 per cent. This global financial crisis reduced access to financial resources internally as well as externally (Singh et al., 2012). Thus, the study considers, two phases, Phase I (pre- recession period) April 1, 2005 to March 31, 2008 (2006-2008) and April 1, 2008 to March, 31, 2015 (2009-2015) as Phase II (post-recession period). A dummy variable has been used for the purpose.

Further, dummy variables have been used to control for year specific effects. Also, industry effects have been controlled for by using industry dummies. For the purpose, the sample companies have been classified into 15 industry groups, namely, agriculture, capital goods, chemical, diversified, fast moving consumer goods (FMCG), healthcare, housing, information and communication technology (ICT), media, metal, miscellaneous, oil and gas, power, textile and transport.

Based on above mentioned variables, the following regression model has been used to examine the relationship between firm performance and governance structure. Pooled Ordinary Least Square (OLS) regression has been used to estimate the model.

Regression model:

$$\begin{aligned}
 ROA_{it} = & \alpha + Board\ size_{it} + Number\ of\ women\ on\ board_{it} + Proportion\ of\ women\ directors_{it} + \\
 & Number\ of\ independent\ directors_{it} + Proportion\ of\ independent\ directors_{it} + Number\ of\ non - \\
 & executive\ directors_{it} + Proportion\ of\ non - executive\ directors_{it} + CRO_{it} + \\
 & Compulsory\ committees_{it} + Voluntary\ committees_{it} + Risk\ management\ committee_{it} + \\
 & Whistle\ blower\ policy_{it} + Control\ variables_{it} + \varepsilon_{it}
 \end{aligned}
 \tag{Eq.1}$$

$$\begin{aligned}
 ROE_{it} = & \alpha + \text{Board size}_{it} + \text{Number of women on board}_{it} + \text{Proportion of women directors}_{it} + \\
 & \text{Number of independent directors}_{it} + \text{Proportion of independent directors}_{it} + \text{Number of non -} \\
 & \text{executive directors}_{it} + \text{Proportion of non - executive directors}_{it} + CRO_{it} + \\
 & \text{Compulsory committees}_{it} + \text{Voluntary committees}_{it} + \text{Risk management committee}_{it} + \\
 & \text{Whistle blower policy}_{it} + \text{Control variables}_{it} + \varepsilon_{it}
 \end{aligned}
 \tag{Eq.2}$$

It may be noted that the study employs four variants of the above-mentioned base model. The models vary in terms of control variables used. Model 1 among other things, control for year effects. Model 2 controls for industry-effects, model 3 controls for recession effect and model 4 controls for both recession and industry effects.

EMPIRICAL EVIDENCE

Descriptive statistics

It is evident from Table 1 that mean ROE for the sample companies for the period under study was about 14 per cent. Considering the fact that the period of study includes the recessionary phase, the sample companies appear to be providing adequate returns to their owners, adhering to the primary objective of maximizing the wealth of its shareholders. The standard deviation is indicative of the volatility available in the ROE of the sample companies. This could perhaps be attributable to the varying nature of the sectors represented in the sample. Further, the mean ROA of sample companies was about 15 per cent but was markedly less dispersed than ROE.

The average debt-equity ratio of firms is about 0.61 which signifies heavy reliance on equity funds with about two-thirds of the funds being provided by equity-shareholders. The average board size is about ten, this seems to be in line with recommended board size in international literature (Lipton and Lorsch, 1992). It is noteworthy that the average number of women on Board is less than 1. In view of this, SEBI's move, to make mandatory the appointment of a women director, seems to be the need of the hour. In addition, the average number of independent directors is 5 and average number of non-executive directors is 7. It is noteworthy that Table 1 shows that there are companies which did not have even a single independent and/or non-executive director on their board. The finding is startling as there are legal provisions regarding minimum number of independent and non-executive directors that must be appointed on Board. On close perusal, it was found that only one company defaulted on this parameter.

Even in terms of constitution of compulsory committees, some non-compliance has been observed. But, the mean score of 4.92 indicates that by and large, most of the companies constituted all the compulsory committees. Further, out of 5 categories of voluntary committees, most companies seem to have constituted committees in only 2 categories.

Table 2 presents correlations among variables of interest. It indicates, that most of variables have a correlation of less than 0.5 with other variables. This finding is pertinent to avert the possibility of multi collinearly amongst variables.

Table 2: Correlation coefficients among variables of study

Variables	Age	Lever-age	Firm size	Board size	Number of women on board	Whistle blower policy	Voluntary committees	Compulsory committees	Number of independent directors	Number of non-executive directors	CR O	RM C	Proportion of independent directors	Proportion of non-executive directors	Proportion of women directors	
Age	1.00															
Leverage	-0.02	1.00														
Firm size	0.09	0.10	1.00													
Board size	0.09	0.05	0.39	1.00												
Number of women on board	0.00	0.04	0.06	0.20	1.00											
Whistle blower policy	0.00	-0.05	0.16	-0.01	0.14	1.00										
Voluntary committees	-0.02	0.00	0.24	0.11	0.02	0.08	1.00									
Compulsory committees	0.00	0.01	-0.01	-0.03	-0.04	0.01	0.07	1.00								
Number of independent directors	0.12	0.07	0.28	0.78	0.19	-0.04	0.13	0.01	1.00							
Number of non-executive directors	0.09	0.03	0.28	0.81	0.19	0.01	0.14	-0.03	0.74	1.00						
Chief risk officer	0.05	-0.01	0.15	0.08	-0.06	0.00	0.02	0.00	0.04	0.03	1.00					
Risk management committee	0.10	-0.01	0.18	0.06	0.14	0.13	0.04	0.01	0.07	0.05	0.04	1.00				
Proportion of independent directors	0.06	0.04	-0.06	-0.09	0.02	-0.03	0.03	0.03	0.53	0.08	-	0.01	1.00			
Proportion of non-executive directors	0.03	-0.04	-0.10	-0.11	-0.01	0.04	0.07	-0.01	0.09	0.47	-	0.08	0.30	1.00		
Proportion of women directors	-0.04	0.03	-0.03	-0.03	0.93	0.15	0.01	-0.03	0.00	-0.01	-	0.07	0.02	0.00	1.00	

Regression results

Table 3 depicts impact of governance variables on return on assets (ROA). Age of firms appears to be significant determinant of ROA in 3 out of 4 models. A positive coefficient on age shows that older firms are able to better utilise their assets. Whereas, leverage is negatively related with ROA, i.e. as the level of debt increases in capital structure, firms tend to generate lower returns on assets (Arora and Sharma, 2016). Similarly, larger firms tend to have significantly lower returns than smaller firms. Further, recession has had a significant and negative impact on Indian firms' ability to generate returns on assets (Model 3 and Model 4).

It is pertinent to note that as the board size gets larger, firms' ability to generate ROA tends to deteriorate. In view of this the provision in Companies Act, 2013 that limits the number of Directors to a maximum of 15, seems to be a pertinent provision, to deter firms from having unmanageable boards. The literature on corporate governance is largely of the view that larger boards face co-ordination issues and are impediment in process of effective and efficient decision making. Surprisingly, number of women has no impact. It is only in model 2, where industry effects have been controlled, that number of women directors is positively and significantly related with ROA. Similarly, it is only in model 2 that proportion of women is positively associated. These findings may be due to the fact that most companies for most years under the study did not have even a single women director. In tune with previous studies, the number of independent directors is significantly and positively associated with ROA. Contrary to this, the agency theory suggests that a greater proportion of outside directors will be able to monitor any self-interested actions by managers and so will minimize the agency costs (Fama and Jensen 1983; Fama 1980). It is interesting to note that though coefficient of number of independent directors is significant in all four models, but coefficient of proportion of independent directors on Board is significant in only in case of 2 models, - model 2 and model 4. Both these models consider control for industry effects. This implies that industry in which a company operates plays an important role in context of corporate governance. The findings are also useful from the perspective that the legal provisions are regarding proportion and not number of directors.

Surprisingly, neither number nor proportion of executive directors on Board has any significant impact on ROA. The findings are surprising as non-executive directors are supposed to bring independence, impartiality, and wide experience to Board. As a matter of fact many companies have stated in their annual reports that they are unable to find experienced and qualified directors to fill in the positions of non-executive directors; this seems a plausible explanation for the startling finding. Similarly, whether a company has appointed a Chief Risk Officer or not does not affect ROA.

It is revealing to note that constitution of mandatory committees is in fact negatively associated with ROA. Perhaps, they hamper the organisational structure or companies are mere complying with the provisions and the intent and purpose of making these committees mandatory, seems to have just fallen through the cracks. It is noteworthy that the constitution of a risk management committee as well as formulation of a whistle blower policy is having a positive impact on ROA. The results are encouraging in view of the fact that these provisions have been made mandatory by SEBI.

Table 3: OLS regression results of governance variables with ROA as dependent variable

	(Model 1)	(Model 2)	(Model 3)	(Model 4)
Variable	Coefficient	Coefficient	Coefficient	Coefficient
Intercept	0.3294***	0.3349***	0.3413***	0.3402***
	0.0437	0.0436	0.0434	0.0436
Age	0.0001*	0.0002***	0.0001	0.0002***
	0.0001	0.0001	0.0001	0.0001
Leverage	-0.0157***	-0.0136***	-0.0155***	-0.0139***
	0.0015	0.0015	0.0015	0.0015
Size of firms	-0.0127***	-0.0133***	-0.0129***	-0.0124***
	0.0015	0.0016	0.0015	0.0016
Board size	-0.0075*	-0.0065*	-0.0074*	-0.0070*
	0.0040	0.0039	0.0040	0.0039
Number of women on board	0.0108	0.0144*	0.0110	0.0135
	0.0086	0.0084	0.0086	0.0084
Proportion of women directors	0.1162	0.1402*	0.1194	0.1366*
	0.0834	0.0816	0.0827	0.0815
Number of independent directors	0.0130**	0.0146**	0.0124*	0.0151**
	0.0064	0.0063	0.0064	0.0063
Proportion of independent directors	0.0915	0.1051*	0.0874	0.1096*
	0.0607	0.0596	0.0606	0.0596
Number of non-executive directors	0.0073	0.0051	0.0076	0.0052
	0.0051	0.0050	0.0051	0.0050
Proportion of non-executive directors	-0.0671	-0.0554	-0.0702	-0.0560
	0.0506	0.0497	0.0505	0.0496
Chief risk officer	0.0005	0.0015	0.0005	0.0016
	0.0021	0.0021	0.0021	0.0021
Compulsory committees	-0.0079**	-0.0074**	-0.0079**	-0.0075**
	0.0031	0.0030	0.0031	0.0030
Voluntary committees	0.0016	0.0022	0.0014	0.0023
	0.0018	0.0018	0.0018	0.0018
Risk management committee	0.0027**	0.0036***	0.0029**	0.0038***
	0.0013	0.0012	0.0012	0.0012
Whistle blower policy	0.0033***	0.0015	0.0034***	0.0017*
	0.0010	0.0009	0.0009	0.0009
Recession dummy			-0.0123***	-0.0117***
			0.0045	0.0044
Year dummies	Yes	No	No	No
Industry dummies	No	Yes	No	Yes
Number of observations	2427	2426	2427	2426
Adjusted R-squared	0.0954	0.1429	0.0962	0.1450
S.E. of regression	0.0858	0.0836	0.0858	0.0835
F-statistic	11.6609	14.9437	17.1326	14.7119

Prob(F-statistic)	0.0000	0.0000	0.0000	0.0000
Durbin-Watson stat	2.0055	2.1051	2.0002	2.1127

***Significant at 1% level, ** significant at 5% level, *significant at 10% level.

Table 4 depicts impact of governance variables on return on assets (ROE). Age of firms appears to be significant determinant of ROE in only 1 out of 4 models. The results are contrary to that of most studies. Whereas, leverage is negatively related with ROA, i.e. as the level of debt increases in capital structure, firms tend to generate lower returns on assets. Similarly, larger firms tend to have significantly lower returns than smaller firms. Further, recession has had a significant and negative impact on Indian firms' ability to generate returns on equity (Model 3 and Model 4).

Surprisingly, board size has no significant impact on return on equity of Indian corporates. Similarly, neither number of women on Board nor proportion of women Board affects return of equity. This may be attributed to the fact that it is only a recent provision and may be firms have not yet been able to uphold the intention of the law in its entirety. In tune with previous studies, the number of independent directors (in Model 2 and Model 4) is significantly and positively associated with ROE. This implies that industry in which a company operates plays an important role in the context of corporate governance. Independent directors are supposed to enhance objectivity, transparency and accountability in the decision making process. Therefore, it is interesting to note that though coefficient of number of independent directors is significant in only two models, coefficient of proportion of independent directors on Board is significant in all 4 models. Both these models have control for industry effects.

In contrast to results on ROA, both, the number and proportion of executive directors on Board have a significant and positive impact on ROE. It may be noted that CRO, compulsory committees and voluntary committees do not have a significant impact on ROE. In parity with the results on ROA, constitution of a RMC and formulation of a whistle blower policy, both have a significant and positive impact on ROE as well.

It is pertinent to note that variables considered in the study explain more than half the variation in ROE, whereas the same variables explain only about 10-15 per cent variation in ROA. On one hand, the results (based on ROE) clearly support the intent behind corporate governance provisions; on the other hand, the results in context of ROA remain a puzzle.

Table 4: OLS regression results of governance variables with ROE as dependent variable

	(Model 1)	(Model 2)	(Model 3)	(Model 4)
Variable	Coefficient	Coefficient	Coefficient	Coefficient
Intercept	0.5312*	0.4435	0.6483**	0.5239
	0.3019	0.3113	0.3022	0.3096
Age	0.0002	-0.0005	0.0002***	-0.0005
	0.0005	0.0005	0.0005	0.0005

Continued...

Leverage	-0.5891***	-0.5876***	-0.5860***	-0.5915***
	0.0102	0.0104	0.0103	0.0103
Size of firms	0.0314***	0.0155	0.0263***	0.0298***
	0.0102	0.0112	0.0102	0.0115
Board size	-0.0064	0.0088	-0.0059	0.0014
	0.0276	0.0281	0.0278	0.0280
Number of women on board	0.0020	-0.0456	-0.0152	-0.0316
	0.0593	0.0603	0.0596	0.0600
Proportion of women directors	-0.1191	0.3287	0.1053	0.2736
	0.5757	0.5827	0.5754	0.5791
Number of independent directors	0.0530	0.0863*	0.0594	0.0798*
	0.0443	0.0451	0.0446	0.0449
Proportion of independent directors	0.7257*	0.9805**	0.7543*	0.9137**
	0.4191	0.4256	0.4217	0.4231
Number of non-executive directors	0.0606*	0.0744**	0.0676*	0.0749**
	0.0350	0.0355	0.0352	0.0353
Proportion of non-executive directors	0.9047***	1.0006***	0.9762***	1.0106***
	0.3496	0.3546	0.3512	0.3524
Chief risk officer	-0.0131	-0.0223	-0.0144	-0.0202
	0.0148	0.0152	0.0149	0.0151
Compulsory committees	0.0098	0.0136	0.0065	0.0128
	0.0214	0.0216	0.0215	0.0215
Voluntary committees	0.0146	0.0069	0.0029	0.0095
	0.0127	0.0127	0.0125	0.0126
Risk management committee	0.0011	0.0086***	0.0100	0.0120
	0.0090	0.0086	0.0085	0.0086
Whistle blower policy	0.0345***	0.0327***	0.0282***	0.0301***
	0.0068	0.0066	0.0065	0.0066
Recession dummy			-0.1777***	-0.1768***
			0.0315	0.0315
Year dummies	Yes	No	No	No
Industry dummies	No	Yes	No	Yes
Number of observations	2427	2426	2427	2426
Adjusted R-squared	0.5820	0.5769	0.5761	0.5822
S.E. of regression	0.5927	0.5964	0.5969	0.5927
F-statistic	141.7460	115.0138	858.5238	113.6447
Prob(F-statistic)	0.0000	0.0000	0.0000	0.0000
Durbin-Watson stat	2.2475	2.2138	2.2181	2.2343

***Significant at 1% level, ** significant at 5% level, *significant at 10% level.

CONCLUDING OBSERVATIONS

Recent years have witnessed phenomenal reforms in the arena of governance in Indian context. Some of them include making mandatory the appointment of a woman director on board, constitution of risk management committee, etc. Motivated by this and the fact there has been a scarcity of studies that have considered 'governance structures' per se, this study attempts to examine the relationship between various variables important to governance structures and firm performance. For the purpose, 12 governance variables and two measures of firm performance, namely, ROA and ROE have been considered. It is noteworthy that the study makes use of one of the largest dataset, till date, to be used in a corporate governance study in Indian context.

The results indicate that larger boards tend to hamper firms' ability to generate ROA. Similarly, constitution of mandatory committees, seem to have a negative impact on ROA. These findings call for a review of measures (related to compulsory committees) by SEBI. Further, number of independent directors on Board has been found to be positively associated with ROA. Likewise, constitution of a RMC and formulation of a whistle blower policy have been found to have a positive impact on ROA. The results are encouraging in view of the fact that constitution of a RMC and formulation of a whistle blower policy have been recently made mandatory. SEBI and MCA can take pride in coming up with such pertinent provisions.

It is noteworthy that formulation of whistle blower policy has been found to have positive impact on ROE as well, and the results are robust across all four models. This clearly highlights the importance of vigil mechanisms in Indian corporates. Further, proportion of independent directors and non-executive directors has a significant and positive impact on ROE. The results corroborate with the findings of other studies that have highlighted the importance of independent and non-executive directors on Board.

It is worth mentioning that leverage has been found to have a negative impact on both ROA and ROE. Also, Indian firms' ROA and ROE have significantly reduced in the post-recession phase.

The study is expected to be of immense usefulness to practitioners, regulators and researchers. The negative impact of constituting compulsory committees needs to be investigated in detail. Further, the finding that the number and proportion of women on Board (by and large) does not have any significant impact on firm performance, calls for a review of qualification, knowledge, and expertise of women directors that have been appointed since the time this provision has been made mandatory.

The study contributes to the existing literature by focussing on an important yet neglected aspect of corporate governance- governance structure. Future research may focus on cross country comparisons of effectiveness of various provisions related to governance structures.

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