DOES CORPORATE GOVERNANCE INCREASE FIRM PERFORMANCE AND VALUE AMONG SPECIFIC SECTORS IN INDIAN CONTEXT? AN EMPIRICAL ANALYSIS*

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Corporate governance is all about doing right actions for the betterment of the companies' performance by the right people on board as well as company. In recent times, corporate governance has attracted much attention both in academic literature and corporate sector, especially in the wake of failure of some of world's most respected corporations. The aim of this research paper is to analyze whether there exists a relationship between corporate governance and firm performance. We tested this relationship for four important sectors of the economy namely – Fast Moving Consumer Goods (FMCG), Automobile, Pharmaceuticals and Information Technology (IT). The basic idea is whether compliance of norms of Clause 49 of listing agreement is enhancing the performance of the companies in the above said sectors or not. The companies included in the NSE sectoral indices are taken up for the study. The time period taken is from the financial years 2002-2003 to 2011-2012. Panel data pooled regression is used for analyzing the results. Besides this, Event study methodology is used to check whether there are abnormal returns associated to the announcement of adoption of Clause 49.

The overall results for performance measures – ROE, ROA and Tobin's Q are quite similar for all the sectors. Board size, Audit committee independence and number of audit meetings are important variables which are improving the performance of the companies under study. To our surprise, the presence of independent directors on the board has significantly declined the firm performance. We suggest that the autonomy of independent directors should be increased so that they have more participation in the system. It is also found that apart from the corporate governance variables, some of the control variables have also played an important role in boosting the firm performance. Advertising expenditure done in IT and FMCG sector has significantly contributed towards the increase in performance measures. Further, it is observed that large amount

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of assets are not significant enough to alter the performance. The investor community is not interested in investing in companies with high asset base but in those which are able to churn the assets efficiently. Companies performing corporate social responsibility activities have been repaid off with the augmentation in their performance measures. The result of Event study methodology reveal that the investors' community had appreciated the adoption of Clause 49 and that's why there were abnormal returns on announcement.

Key words: Corporate Governance, Corporate Social Responsibility, Firm Performance, Event Study.

1   INTRODUCTION

Corporate Governance is a topic of great interest in today's financial world. Corporate Governance is essentially all about how corporations are directed, managed, controlled and held accountable to their shareholders. Corporate governance in India gained prominence in the wake of liberalization during the 1990s and was introduced, by the industry association Confederation of Indian Industry (CII), as a voluntary measure to be adopted by Indian companies. It soon acquired a mandatory status in early 2000s through the introduction of Clause 49 of the Listing Agreement. In late 2009, the ministry of Corporate Affairs has released a set of voluntary guidelines for corporate governance, which address a myriad corporate governance issues. Now, the Companies Act, 2013 which has been enacted recently, corporate governance norms in the country would be further strengthened.

The objective of any corporate governance system is to simultaneously improve corporate performance and accountability as a means of attracting financial and human resources on the best possible terms and of preventing corporate failure. The adequacy and quality of corporate governance shapes the growth and future of emerging markets and economy. The adoption of good corporate governance practices enhances transparency of company's operations, ensures accountability and improves firm's profitability. It also helps to protect the interest of the shareholders by aligning their interest with that of the managers. The success of any business firm mainly depends upon the good and effective corporate governance.

Corporate governance has become a contemporary issue because of its vast contribution to the economic growth and development of nations. The absence of good corporate governance is a major cause of failure of many well performing companies.

The purpose of the present research study is to analyse the relationship between firm performance and corporate governance in respect of four main sectors namely, Automobile, Information Technology (IT), Fast Moving Consumer Goods (FMCG) and Pharmaceuticals. The companies included in the sectoral indices of NSE have been considered for the analysis. Also, it has been checked whether there is an existence of abnormal returns of the stocks of the above sample companies on account of announcement of Clause 49 of Listing agreement in India.

Various financial measures for firm performance are used by researchers. The key performance indicators chosen to measure performance of companies depend on the interest and justification of the analyst. Performance indicators normally include profitability, efficiency, leverage and liquidity. According to Bourne and Franco (2003) a good performance measure must have the fundamental characteristic of being a broad based measure, structured understanding of strategy, provide feedback and take action on results. The study is focus on those measures that are strategically important for the success of the company. The performance measures can be grouped into two broad classes: the accounting-based measures (such as PAT/Total Assets (ROA), PAT/Equity (ROE), EVA, etc.) and the market-based measures (such as market capitalization, MVA, Tobin's Q, etc.).

In this research study, we have considered two accounting measures, namely, ROA and ROE; and one market based measure, namely, Tobin's Q as dependent variables or proxy for the firm's performance. The Tobin's Q is calculated as the market value of a company divided by the replacement cost of the firm's assets. The market value of the firm is taken as the sum of the market value of equity and preference share capital and book value of debt, since debt is not traded in India. Again Indian companies report asset values at historical costs rather than at replacement costs. Hence, we have calculated a proxy for Tobin's Q which is defined as the ratio of market value of the firm to the book value of Total assets. This measure of firm performance is important in the sense that it represents the value that investors put on the firm's shares above the total value of the assets of the firm and thus represents investor confidence, which in turn is an indicator of the effectiveness of corporate governance mechanisms of the firm. Moreover, it is a long-term measure of performance in so far as it indicates the future growth potential of the firm and also a measure of intellectual capital or the intangibles, which govern the variability of firm's future cash flows.

The present study takes into account ten corporate governance variables namely, Board

size, Board meetings, Independent directors, Non-executive directors, CEO-chairman duality, Size of Audit Committee, Number of Independent directors in Audit Committee, Number of Audit Committee meetings, Institutional and Promoters shareholding. Also, Corporate Social Responsibility (CSR) expenditure (Employees Expenses, Social Expenses and Environment Expenses) is taken as one of the explanatory variable. Apart from the governance characteristics, the performance of a firm is influenced by other factors, which operate through the product and the capital market. In the empirical literature it is customary to control for the effect of these external factors to avoid any spurious relationship with the variables of interest and to single out the specific impact of promoter family control and corporate governance characteristic only on the firm value by including them as control variables. Accordingly, variables such as firm's size proxied by total assets, firm's age since its inception and firm's leverage proxied by debt-equity ratio are considered as exogenous variables in this study, to explain for the variation in dependent variables, unexplained by the governance variables. We have also included the advertising and marketing intensity of the sample firms.

Table 1: Operational Definitions

Category	Variables used	Definition	Symbol used
Firm's Performance	Return on Equity	Net profit as a percentage of shareholder's equity	ROE
	Return on Assets	Net profit as a percentage of total assets	ROA
	Tobin's Q	The market value of equity plus the book value of long-term debt and preference share capital divided by total assets	Tobin's Q
Corporate Governance Variables	Board Size	Number of directors on Board	BS
	Board Meetings	Number of meetings of the board of directors	BM
	Non-Executive Directors	Proportion of non-executive directors sitting on the board	NE
	Independent Directors	Proportion of non-executive directors who are independent	ID
	CEO-Chairman Duality	A binary that equal one if the CEO is Chairman of the board and 0 otherwise	CEOD
	Size of Audit committee	Numbers of members and Affiliates of audit committee	AC
	Audit Committee meetings	Number of meetings of audit committee	ACM

	Independent directors of audit committee	Proportion of independent directors in audit committee	ACID
	Institutional ownership	Percentage of shares held by institutions	INSH
	Promoter ownership	Percentage of shares held by promoters	PROH
Corporate Social Responsibility Variables	Corporate Social Responsibility Expenditure	It contains aggregate of Employee expenses, Social expenses and Environmental expenses.	Log CSR
	Age	Number of years between Observation year and year of incorporation.	AGE
	Leverage (Debt Equity Ratio)	Ratio of long term debt to equity	DE
Control Variables	Size (Total Assets)	Firm size in terms of total assets owned	Log TA
	Advertising and Marketing expenditure	It includes the sum of advertising, marketing and distribution expenses.	Log Adv

Our second research objective deals with the issue whether the announcement of Clause 49 of listing agreement generated abnormal returns for the sample companies under study. For checking this, we have used event study methodology.

There was a wave to reform corporate governance norms of the Indian corporate in 1990s. In the wake of that Clause 49 of listing agreement was thought of. The idea was initiated by CII (Confederation of Indian Industry) in 1998 which was supported by Indian government. In 1999, Kumar Mangalam Committee was formed to set the corporate governance norms. By 31ˢᵗ Dec, 2005, all the listed companies had to comply by this clause.

As per Clause 49, for a company with an Executive Chairman, at least 50 per cent of the board should comprise independent directors. In the case of a company with a non-executive Chairman, at least one-third of the board should be independent directors. It would be necessary for chief executives and chief financial officers to establish and maintain internal controls and implement remediation and risk mitigation towards deficiencies in internal controls, among others. Clause VI (ii) of Clause 49 requires all companies to submit a quarterly compliance report to stock exchange in the prescribed form. The clause also requires that there be a separate section on corporate governance in the annual report with a detailed compliance report. A company is also required to obtain

a certificate either from auditors or practicing company secretaries regarding compliance of conditions as stipulated, and annex the same to the director's report. The clause mandates composition of an audit committee; one of the directors is required to be "financially literate".

Clause 49 of listing agreement is somewhat similar to the Sarbanes-Oxley measures of the United States. The requirements of Clause 49 were applied in the first instance to the companies in the BSE 200 and S&P C&X NIFTY stock indices, and all newly listed companies, on March 31, 2001. These rules were applied to companies with a paid up capital of INR 100 million or with a net worth of INR 250 million at any time in the past five years on March 31, 2002, and to other listed companies with a paid up capital of over INR 30 million on March 31, 2003. The Narayana Murthy Committee worked on further changing the rules, and Clause 49 was amended in 2004.

The rest of the paper is arranged as follows – in Section 2 we present a brief review of literature. Section 3 presents research objectives and hypotheses. Data and methodology are described in Section 4. Empirical results are discussed in Section 5. Finally Section 6 provides the conclusion and implications of research findings.

2   LITERATURE REVIEW

Several studies conducted in the developed countries have confirmed the positive relationship between good corporate governance and organisational performance, (Coase, 1937, Jensen and Meckling, 1976, Fama and Jensen, 1983, Harris and Raviv, 1988, Shleifer and Vishny, 1997, OECD, 2009, Rajan and Zingale, 1998; Brickly et al., 1994; Williams, 2000; Drobetz et al., 2003; Byrd and Hickman,1992; Hossain et al., 2000; Rosenstein and Wyatt, 1990; Gemmill and Thomas, 2004; Weisbach, 1988). Black et. al. (2006) concluded that firms having high governance score have a high market value.

Gompers et al. (2003) maintained that good corporate governance increases valuations and boost the profitability of the firm. According to Claessen et al. (2002) better corporate frameworks benefit firms through greater access to financing, lower cost of capital, better performance and more favourable treatment of all stakeholders. Donaldson (2003) posit that good corporate governance is important for increasing investor confidence and market liquidity. According to Frost et al. (2002), improvements in corporate governance practices that contribute to better disclosures in business reporting in-turn can facilitate greater market liquidity and capital formation in

emerging markets.

However, other studies (Bathala and Rao, 1995) have established negative relationship. While, some other researchers (Park and Shin, 2003; Singh and Davidson, 2003) could not establish any relationship. The inconsistencies in the research findings could be attributed to the restrictive nature of data. Despite these conflicting results, the literature generally attests that there is no doubt as to the importance of good corporate governance in enhancing firm performance.

Arora A. (2012) empirically examines the impact of corporate governance on performance of Indian firms during 2001-2010. The study uses both accounting and market-based indicators as a measure of firm performance. The panel least square and simultaneous equation method are employed for empirical analysis. Results of the analysis suggest that corporate governance has a strong influence on performance in the Indian context. Further, the results report that when boards are dominated by executive directors and frequency of board meetings is high, it enhances firm performance. Furthermore, board size; institutional ownership and CEO-duality have significant influence on firm performance.

Dwivedi, N. and Jain, A. (2005) paper reviews international literature on corporate governance and firm performance and investigates the relationship in the Indian context, taking into account the endogeneity in the relationship. Governance parameters include board size, directors' shareholding, institutional and foreign shareholding, while the fragmentation in shareholding is captured by public shareholding. A simultaneous equation regression model for Tobin's Q, as a measure of firm performance, is attempted using these variables, while controlling for industry effects and other non-governance variables. The data corresponds to a panel of 340 large, listed Indian firms for the period 1997–2001 spread across 24 industry groups. The results provide evidence that a higher proportion of foreign shareholding is associated with increase in market value of the firm, while the Indian institutional shareholders' association is not statistically significant. A weak positive association is also found between board size and firm value. Directors' shareholding has a non-linear negative relationship with firm value, while the public shareholding has a linear negative association. Endogeneity in the variables was not found.

Varshney et al. (2012) investigate the relationship between corporate governance and firm performance in the Indian context by constructing a corporate governance index based on internal and external corporate governance mechanisms. Further, we use value-

based performance measure - Economic Value Added (EVA), as the primary metrics to measure firm performance. Besides EVA, traditional measures such as Return on Networth, Return on Capital employed and Tobin's Q have also been used to evaluate the linkage between corporate governance and firm performance.

Using various econometric techniques, we conclude that there is a positive relationship exists between corporate governance based on the corporate governance index and firm performance, when the performance is measured in terms of the value-based performance tool – Economic Value Added (EVA). The relationship could not be validated for the traditional performance tools – RONW, ROCE or Tobin's Q.

Wu Ming-Cheng et al. (2005) examine the impact of the corporate governance mechanism on firm performance for listed and over the counter firms in Taiwan over the period from 2001-2008. The variables, employed in this study to measure firm performance, include return on assets, stock return and Tobin's Q. The empirical results indicate that firm performance is in negative and significant relation to board size, CEO duality, stock pledge ratio and deviation between voting right and cash flow right. On the other hand, firm performance is in positive and significant relation to board independence and insider ownership.

Kumar, N. and Singh, J.P. (2012) examines the efficacy of outside directors on the corporate boards of 157 non-financial Indian companies for the year 2008. The research particularly investigates if the monitoring by grey director (non-executive non-independent) and independent director influences firm performance. Research finding reveals that while the proportion of grey directors on board has marginally deteriorated effect, the independent director's proportion has an insignificant positive effect on firm value.

A lot of research has been done on event studies on account of various kinds of announcements on macro and micro level in past. The literature on the relationship between firm value and announcement corporate governance reforms is very less. Black and Khanna (2007) in their research found that large firms gain 4.5% on average, relative to small firms over a three trading day event window beginning on the announcement date of Clause 49 of listing agreement(7th May, 1999). They also observed that the faster growing firms and cross listed firms gain more than other firms.

Black and Kim (2007) also found that the large firms in Korea gain more market returns as compared to smaller firms on account of application of Korean board reforms. Litvak

(2007) studied the impact of SOX act on cross listed firms and found that these firms got negative returns compared to non cross listed firms and cross listed firms on which SOX wasn't applicable.

Bhattacharyya and Rao (2005) examined whether adoption of Clause 49 predicts lower volatility and returns for large Indian firms. They compared a one-year period after adoption (starting June 1, 2001) to a similar period before adoption (starting June 1, 1998). The authors got insignificant results for volatility and mixed results for returns.

3   RESEARCH OBJECTIVES AND HYPOTHESES

In this research work, an attempt has been made:

To examine the relationship between firm performance and corporate governance in respect of four main sectors namely, Automobile, Information Technology (IT), Fast Moving Consumer Goods (FMCG) and Pharmaceutical. The companies included in the sectoral indices of NSE have been considered for the analysis.

- To check whether there is an existence of abnormal returns of the stocks of the above sample companies on account of announcement of Clause 49 of Listing agreement in India.
- To ascertain if the type of industry and companies' asset base affects the abnormal returns on announcement.
- To find out whether there are differences in the abnormal returns in pre-announcement and post-announcement periods.

Accordingly, the research hypotheses are formulated as follows:

Board Size

In the economic and strategic management literature, boards are considered as the institutions to mitigate the effects of agency problem existent in the organizations. As boards are considered to be large decision-making groups, size can affect the decision-making process and effectiveness of the board. There is mixed evidence in the empirical literature linking board size to corporate performance. The number of directors constituting the board of a company can influence its performance positively or negatively. Lipton and Lorsch (1992) argue that, an optimal board size should be between seven and nine directors to ensure better coordination, accountability, reduce free riding problem and faster decision making which enhances firm performance. This view is supported by other studies (Yermack, 1996; Sanda et al., 2005; Eisenberg et al.,

1998) which indicated that the financial market value firms with relatively small board sizes. On the other hand, larger boards would offer the company the opportunity of pool of talents and wide range of expertise to help make better decision and difficult for powerful CEOs to dominate. However, Jensen (1993), and Lipton and Lorsch (1992) disagree and suggested that larger boards are less effective and easier for powerful CEOs to control. This view is also based on the social psychological research and group dynamics. As larger boards suffer from the problem of diffusion of responsibility or social loafing, wherein individual members of the board discount the likelihood that others will detect their poor contributions. Larger board size may also make it difficult for the members to use their knowledge and skills effectively due to problems of coordinating the contributions. The discussion leads to the first and second hypothesis:

H_1: *The size of the board of directors is negatively related to firm performance.*

H_2: *Higher number of Board meetings has positive relationship with corporate performance.*

Number of Non-Executive Directors and Independent Directors on the Board

The mix of executive and non-executive directors constituting a firm's board is very important for its performance. The proportion of the directors would to a large extent determine the quality of decisions taken since objectivity would play a crucial role and whether the board can actually monitor and control the management. A board is seen to be more independent if it has more non-executive or external directors (John and Senbet, 1998). Fama and Jensen (1983) detect that executive or internal directors, by virtue of their positions, possess much more information, are likely to collude with managers and make decisions against shareholders. By comparison, external directors in neutral position, acting as supervisor, are good for eliminating principal-agency problem. Non-executive directors may act as "professional referees" to ensure that competition among executive directors stimulates actions consistent with shareholder value maximization (Fama, 1980). Independent directors are those non-executive directors who do not have any material or peculiar interest either in the company or any of its members except for withdrawing their managerial remuneration. Cadbury Committee (1992) states that independent directors are in the best position to monitor the performance of a company.

This leads to the third and fourth hypothesis:

H_3: *Non-executive directors have positive relationship with firm performance.*

H_4: *Independent directors have positive relationship with firm performance.*

CEO-Chairman Duality

CEO duality occurs when the two most powerful positions in the company, the chairman of the board and that of the CEO are combined and held by one person. Such situations concentrate too much power in the hands of one person leading to decisions that would not promote the interest of shareholders. The empirical evidence on CEO duality is mix. According to Agency Theory, when a chairman assume the role of CEO, namely acting as decision maker and supervisor at the same time, the function of the board to minimize agency cost could be weaken tremendously; in the end, corporate performance goes down (Jensen and Meckling, 1976, Fama and Jensen, 1983, Patton and Baker, 1987) On the other hand, Rechner and Dalton (1991) found positive relationship between combining the two positions because it speeds up the decision making process and remove unnecessary bureaucracy and hence stronger financial performance. Further, Daily and Dalton (1992) found no link between CEO duality and corporate performance. This leads to the fifth hypothesis:

H_5: *The separation of CEO and board chairman positions has positive relationship with firm performance.*

Audit Committee

Audit committees are sub-committee of the board of the company. It is a very important corporate governance mechanism with the objective of enhancing the credibility and integrity of financial information produced by the company and to increase public confidence in the financial statements. Audit committee is one of the committees recommended by the Cadbury committee to have oversight responsibility over management in the preparation of the financial statements. In order to ensure the independence of the audit committee, the committee must consist of only non executive directors and with a membership of not less than three members. The establishment of audit committee would lead to better corporate performance. This leads to the sixth, seventh and eight hypotheses:

H_6: *The size of audit committee has positive relationship with corporate performance.*

H_7: *More non-executive directors on audit committees have positive relationship with corporate performance.*

H_8: *Higher number of AC meetings has positive relationship with corporate performance.*

Institutional Ownership

The nature of a company's ownership structure plays a significant role in influencing its performance. This indicates the proportion of equity shareholding of Mutual Funds (MFs) and Foreign Institutional Investors (FIIs) to the total equity. Higher shareholding by such investors indicates higher possibility of shareholder activism, hence improves corporate governance. According to Kyereboah-Coleman (2007) depending on the involvement and influence, institutional shareholding is a key signal to other investors of the potential profitability of the firm which could lead to increase demand for the firm's shares and improve its market valuation. From the former, we expect positive relationship between institutional shareholding and firm performance. Hence, we test the following hypothesis:

H_9: There is positive relationship between institutional shareholding and firm performance.

Promoter's Ownership

This variable is the proportion of equity shareholding of the promoters to the total equity of the company. Higher the ratio of promoter equity to total equity means concentrated shareholding pattern of the promoters. The presence of large share of promoter's holding is expected to negatively affect the firm's performance as it will lead to concentration of power in few hands and the other shareholders would have little say in the company management. Hence, the hypothesis is formulated as:

H_{10}: There is negative relationship between promoter shareholding and firm performance.

In relation to CSR and control variables, we have formulated the following hypotheses:

H_{11}: There is a positive relationship between CSR and firm performance.

H_{12}: Age of a firm is positively related with its performance.

H_{13}: There is a negative relationship between leverage (debt equity ratio) and firm performance.

H_{14}: There is a positive relationship between size (total assets) and firm performance.

H_{15}: There is a positive relationship between advertising intensity and firm performance.

The Hypotheses for Event study methodology are:

H_{16}: There are no significant abnormal returns on announcement of Clause 49 of listing

agreement.

H_{17}: *The type of industry is insignificant to determine the abnormal returns on announcement.*

H_{18}: *There are no significant differences in the abnormal returns in pre – announcement periods and post announcement periods.*

4   DATA AND METHODOLOGY

For our study, we have taken four important sectors which contribute towards economy's GDP. These sectors are namely Fast moving consumer goods (FMCG), Automobile, Pharmaceuticals and Information Technology (IT). NSE sectoral Indices have been used as proxies for these sectors. The total number of companies in these four indices is 60. The time period of the study is from financial years 2002-03 to 2011-12. The basic assumption behind taking financial year 2002-03 is that it was on 31ˢᵗ March, 2003 that, all the listed companies had to comply by the norms of Clause 49 of listing agreement. Therefore, the companies have been reduced to 49 as some of the companies were not listed by 31ˢᵗ March 2003 and therefore, their corporate governance reports were not available. The data has been collected from the official websites of NSE, BSE, corporate governance and annual reports of companies considered in the study and CMIE's (Centre for monitoring Indian Economy) PROWESS database on Indian corporates.

We suggest the following regression equation for our research:

Firm Performance = f(CG variables, CSR variables, Control variables)

The independent variables are under the heads of following:

- Corporate Governance variables - Board Size, Number of Independent directors in board, Non-Executive Directors, Number of Board meetings, Chairman Duality, Size of Audit Committee, Independent directors in Audit committee, Number of Audit committee meetings, Promoters' Holding, Institutional ownership.

Chairman Duality has been used as a dummy variable in our model. If chairman and managing director are different, $D_1 = 0$, otherwise 1.

- Corporate Social Responsibility variables – Employees expenses, Social Expenses and Environment Expenses.
- Control Variables – Age of the company since inception, Size of the company (Log of Total Assets), Debt Equity Ratio (Leverage), Advertising (Log of Advertising).

Under the employee expenses we have taken contribution of companies towards to Employee Stock Option Plan, Wages & Salaries and Staff welfare and training expenses. Similarly under Social Expenses we have included Social Community Expenses, Research & Development Expenses and Donations. The size of the company has been proxied by Total Assets of the company. For both the CSR variables, the size variable and the advertising variable, we have taken the log values so as facilitate smoothening of the data, to remove heteroskedasticity and to correct for the skewness of firm size.

We have used pooled least square regression model using White Period test to check for heteroskedasticity, if it is present in the data and we found that heteroskedasticity wasn't present in our sample set. The regression has been applied on an aggregate basis including all the four sectors in toto. We have also checked the results on disaggregated sectoral basis to facilitate comparisons of performances across different sectors. We have thus developed fifteen separate regression equations.

Further, we have applied an Event study methodology to check the announcement impact of Clause 49 of listing agreement on the same companies.

We have taken the adjusted closing prices of National Stock Exchange of the securities in the sample under consideration. But the number was reduced to 36 companies to 60 companies initially due to non availability of stock returns data.

We have identified the date of announcement as 7th May, 1999. There are several reasons behind this. It was in April 1998 that CII (Confederation of Indian Industry) proposed a code of conduct of corporate governance. It was announced on 7th May, 1999 by Securities Exchange Board of India announced its plans to adopt corporate governance reforms. The SEBI proposed to formulate the creation of Kumar Mangalam   .   Birla Committee and the Indian government too supported the need for corporate governance reforms. (See Black and Khanna, 2007)

Although it was required that all the listed companies should comply with the clause 49 by the 31st December, 2005 but it was announced in 1999. It became mandate after several modifications and came into operation on 1st January, 2006.

Therefore 7th May, 1999 is the day 0. We have applied event study methodology on an event window of 21 days i.e. -10 days to 10 days from the date of announcement.

The estimation period for calculation of beta and alpha was -127 days to -11 days from the announcement date. We have applied t-test for checking the significance of the

results. The market model approach has been used to calculate the return of a security using the return of a market portfolio as follows:

$$R_{it} = \alpha_i + \beta_i R_{mt} + \varepsilon_{it} \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots (1)$$

Where ε_{it} has an expected value of zero and a constant variance of $\sigma^2 (\varepsilon_i)$

The parameters estimated from the market model are then used in the calculation of abnormal returns for each day in the event window. The daily excess return of firm j for the day t (AR_{jt}) is estimated by:

$$AR_{jt} = Rit - (\alpha i + \beta_i R_{mt}) \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots (2)$$

The cumulative average abnormal return (CAAR) for a given security is simply the sum of daily returns over the event window.

5 EMPIRICAL RESULTS

5.1 Regression results – Aggregate Basis

Table 2: Pooled White Period Regression Results on an Aggregate basis

Independent Variables	Dependent Variables					
	ROE		Tobin's Q		ROA	
	Coefficients	P-value	Coefficients	P-value	Coefficients	P-value
Intercept	98.29428	0.0976	3.947405	0.3887	18.999	0.2455
Board Size	1.383865	0.0811	0.215842	0.0272	0.79766	0.0275
Independent Directors	-1.60017	0.163	-0.20535	0.1414	-0.34233	0.4763
Non-Executive Directors	-2.31322	0.0882	-0.35067	0.0008	-1.17526	0.0133
Board Meetings	-0.0723	0.9192	0.008081	0.9124	-0.07307	0.739
Chairman Duality	-2.66333	0.4776	0.168012	0.6789	-0.08903	0.9479
Audit Committee Size	-1.46116	0.5643	0.066404	0.783	-0.00991	0.9907
Independent Directors in Audit Committee	6.806858	0.0399	0.778584	0.0128	1.898132	0.0473
Audit Committee Meetings	1.647025	0.0349	0.086459	0.4984	0.510062	0.2238
Promoters' Holdings	0.095697	0.2278	0.010398	0.2154	0.042557	0.074
Institutional Ownership	0.064134	0.6252	0.021926	0.2453	0.033807	0.4425
Log CSR	7.478273	0.0925	1.182849	0.0131	3.696985	0.0896
Age	0.166553	0.2481	0.007769	0.3632	0.018578	0.6268
Debt-Equity	-1.2454	0.4556	-0.19204	0.091	-2.09702	0.0486
Log Total Assets	-17.8354	0.0187	-1.59507	0.0099	-5.12412	0.0552
Log Advertising	2.076215	0.0101	0.134758	0.1066	0.377869	0.1519
R-squared	0.171313		0.166816		0.216656	

Table 2 shows the regression results on an aggregate basis. The above results show that the Board Size has a significant and positive association in improving the all the performance measures, where it is significant at 10 % for ROE and for Tobin's Q and ROA, it significant at 5%. Thus we are accepting our null hypothesis. This result means that larger boards are better, therefore the larger the board, the better the performance of the company. These results are consistent with research findings of Yawson (2006) and Pearce and Zahra (1992). This position is premised on the assumption that larger boards are constituted with members from different backgrounds that brings to the board different skills and professional expertise. This would facilitate better decision making and place the board in a better position to monitor the activities of management. The results indicate negative relationship between board independence and performance even though not statistically significant. On the other hand, we found having non-executive directors in the board contributes to a significant decline in all the performance measures. Thus our null hypothesis is rejected in this case. Non executive directors may not have total commitment to the cause of the company because of other commitments. As a result, they may not be on top of issues affecting the company and this would limit their contribution to performance of the company. According to Baysinger and Hoskisson (1990) non executive directors are limited in scope and understanding when it comes to complexities involve in decision making because of their temporal position.

The presence of independent directors in audit committee has a positive as well as significant impact in altering the performance measures at 5%. Thus we accept our null hypothesis in this case also. This result should be expected because due to the sensitive nature of the committee's functions, it is important that, it is highly independent of management to ensure transparency and to be an effective monitor (Klein 1998). The independence of the audit committee would ensure that management would not engage in inappropriate methods of financial reporting. Likewise, number of audit committees meetings has also a positive but insignificant relationship with the performance variables. To ensure the total independence of the committee, it should be composed entirely of non executive directors. Audit committee meetings also increase the ROE significantly at 5% level.

Here promoters' holding increases the ROA significantly at 10% whereas there is an insignificant but a very miniscule increase in Tobin's Q and ROA. This result is premised on the assumption that higher promoters' holdings leads to better performance and as a result firm value also increases and agency problem decreases. But this can result in

increase of self-seeking behavior by promoters. Higher promoters' holdings also results in a lower chance of any hostile takeovers or other acquisition threat. Thus internal control mechanism should be highly effective and efficient. The presence of institutional ownership brings about an improvement in performance as indicated by the result of our study which shows a positive relationship but an insignificant relationship between institutional ownership and performance. Institutional investors have the incentive to monitor the performance of management because of their economic interest and thereby reducing the information asymmetry associated with the separation of ownership and control. Institutional investors are also better informed when it comes to decision making because they are able to access information from different sources independent of the company. Institutional investors through their activities are able to increase the performance of the firm (Shleifer and Vishny, 1986; Barucci, 2005).

If the firms are discharging their corporate social responsibility diligently, performance improves. The regression results show that the Log of CSR has a positive impact on measures of performance as well as significant. For Tobin's Q the results are significant at 5% whereas for other measures they are significant at 10% level. Thus our null hypothesis is accepted. An instrumental orientation towards CSR suggests that alignment of social goal with business goal where CSR is considered as a strategic tool to promote the economic objective of the firm. The experience of the firm proxied by Age in our results has a positive and an insignificant role in improving the performance. This means that, the older the firm the better the performance. This is as a result of resources and experiences accumulated over the years. Older companies may also be enjoying economic of scale which would improve their performance. The investor confidence and customer goodwill of older companies would be much higher than new companies. High leverage has a negative effect on the performance as it eats up the earnings of the shareholders. Our results in this study are consistent with the hypothesis. Here, the performance measures have diminished significantly on account of high leverage. Thus our null hypothesis is accepted. On the basis of size, it is hypothesized that the large amount of assets will improve the performance of the companies as it provides the company with the cushion to raise capital easily as well it enhances the reputation. The hypothesis also indicates that bigger firms perform better than smaller firms. This is because they have access to more resources and would be in a better position to take advantage of investment opportunities compare to smaller firms. Ironically, the size factor here has a negative and significant effect on the performance of the firm. All the performance measures have significantly declined due to high amount of assets.

If the firms spend more on advertising they get more revenues on account of visibility in the market as their products are sold easily. Here advertising expenditure has contributed towards significant improvement of ROE at 5% level but on disaggregated basis the results have got varied.

In totality, we found control variables namely debt to equity as well as Total Assets have a significant impact on both ROA and Tobin's Q. ROE has been significantly and highly affected by Audit committee size and audit meetings amongst all the CG variables. Further, the intercept is significant for ROE as the dependent variable which means that there are other variables besides the ones we considered in our model that explain ROE better. However, the intercept value for ROA and Tobin's Q is insignificant which means that the explanatory variables considered in our model are well explaining the variation in them.

The R-squared value is 17.13%, 16.68% and 21.67% for ROE, Tobin's Q and ROA respectively.

5.2 Regression results - Sectoral Index basis

In the following section, we have applied regression on performance variables of all the four sectors. The results are as follows:

Table 3: Sectoral Regression Results – ROE as dependent variable

Dependent Variable – ROE								
Independent Variables	Auto Sector		FMCG Sector		Pharma Sector		IT Sector	
	Coefficients	P-value	Coefficients	P-value	Coefficients	P-value	Coefficients	P-value
Intercept	16.56254	0.7427	284.5567	0.2122	132.0614	0.1764	-4.12023	0.6657
Board Size	1.040871	0.2409	-1.0939	0.6433	1.929743	0.0894	1.140251	0.0172
Independent Directors	0.830129	0.4812	1.137725	0.7821	1.532269	0.5542	-1.66503	0.0074
Non-Executive Directors	-0.95408	0.3788	-9.21224	0.0037	-0.84294	0.4227	-1.84935	0.1184
Board Meetings	-0.1634	0.6441	-3.0437	0.168	1.585053	0.1293	0.095496	0.7955
Chairman Duality	-2.45554	0.5567	-20.189	0.3754	-8.25476	0.1944	-4.49327	0.2149
Audit Committee Size	-1.89506	0.305	3.494804	0.3706	-2.06882	0.7307	-0.81832	0.6684
Independent Directors in Audit Committee	2.92093	0.3911	1.137725	0.7821	-0.60641	0.9053	0.374235	0.7878
Audit Committee Meetings	1.718547	0.0004	4.18206	0.0585	-1.17177	0.6563	-0.07772	0.9282

Promoters' Holdings	0.269227	0.027	0.015461	0.5816	0.380709	0.1618	0.003974	0.9485
Institutional Ownership	0.260414	0.0385	0.191665	0.7709	0.004018	0.9891	0.117505	0.2218
Log CSR	28.77753	0.0026	-8.58997	0.7103	-2.22939	0.9391	5.759854	0.0965
Age	-0.34876	0.0811	0.308117	0.0072	0.025617	0.8001	0.061424	0.8086
Debt-Equity	7.063459	0.1733	-0.95635	0.5159	-18.9651	0.1261	11.53126	0.0001
Log Total Assets	-26.8295	0	-51.6179	0.0693	4.818227	0.7658	-2.62288	0.5273
Log Advertising	-1.05389	0.797	37.37717	0.0303	-17.8824	0.4656	0.979492	0.0012
R-squared	0.348938		0.578485		0.319501		0.467123	

Our results for board size are similar for Pharma and IT sector whereby ROE has improved significantly at 10 % and 5% respectively. Presence of Independent directors in board has significantly declined the ROE of IT sector. Similarly, having non executive directors on board decreases the ROE but it was only found to be significant for FMCG at 1 % and almost significant for IT sector also at 11%.

The high number of audit committee meetings has managed to significantly improve the ROE of Auto sector as well as FMCG sector at 1% and 10% respectively.

Promoters' holdings are responsible for increasing the performance for all the sectors though not significant. Auto Sector's ROE has significantly improved due to promoters' shareholding at 5%. Our results for institutional ownership were mixed. The empirical literature states that it should help in increasing the performance. Though the coefficients of Institutional ownership are somewhat greater than the coefficients of Promoters' shareholding, but it was significant only for Auto Sector. Log of CSR has increased the ROE of Auto and IT sector at 1% and 10 % respectively. Experience of the firm signified by Age has a significant and negative relationship with ROE of Auto sector at 10 % whereas a positive and significant relationship with the ROE of FMCG sector at 1% level. ROE is significantly and negatively related to large asset base in case of all the sectors where it was significant only for Auto and FMCG sector. Log of Advertising has a significant and positive impact for FMCG sector at 5%. The coefficient of advertising is highest amongst all the other variables. Advertising is the essence of FMCG sector to promote their products. Log of Advertising also came out to be significantly and positive for the ROE of IT sector but in comparison to FMCG`, the coefficient is very low.

The intercept coefficients are insignificant for all the sectors that means, the explanatory variables taken up in our study that explain a good proportion of variation in ROE. These

results are consistent with the ones we obtained on an aggregate basis. Further, the R-squared value is 34.89%, 57.85 %, 31.95% and 46.71 %for Auto, FMCG, Pharma and IT sector respectively.

Table 4: Sectoral Regression Results – ROA as dependent variable

Independent Variables	Dependent Variable – ROA							
	Auto Sector		FMCG Sector		Pharma Sector		IT Sector	
	Coefficients	P-value	Coefficients	P-value	Coefficients	P-value	Coefficients	P-value
Intercept	-9.40773	0.5828	80.88031	0.0209	12.86976	0.6243	-18.6626	0.0614
Board Size	0.460984	0.2002	-0.22667	0.7029	0.787004	0.1194	1.24252	0.003
Independent Directors	0.215124	0.6848	0.558276	0.5527	0.756635	0.4828	-1.50548	0.0018
Non-Executive Directors	-0.41009	0.4685	-2.03039	0.0021	-0.6957	0.0083	-1.58535	0.1019
Board Meetings	-0.43757	0.0633	-0.74244	0.0128	0.482708	0.1447	0.138056	0.513
Chairman Duality	-0.28549	0.8746	-2.40811	0.5771	-3.32888	0.2723	-3.01863	0.2057
Audit Committee Size	-0.79333	0.4571	1.077573	0.2207	-1.09461	0.5673	-1.34644	0.1709
Independent Directors in Audit Committee	1.813895	0.1826	3.441248	0.0016	0.138063	0.9425	0.992773	0.2306
Audit Committee Meetings	0.596034	0.0433	1.710071	0.0029	-0.74556	0.5856	-0.55304	0.3203
Promoters' Holdings	0.096791	0.2349	0.01265	0.2214	0.247351	0.0556	-0.06149	0.2209
Institutional Ownership	-0.01699	0.8317	0.013767	0.9254	0.097879	0.3273	0.057452	0.4454
Log CSR	9.143327	0.0358	2.200442	0.7019	-10.3664	0.2969	2.825654	0.2537
Age	-0.16021	0.0316	0.089489	0.0149	-0.01271	0.6863	-0.24585	0.197
Debt-Equity	-1.80563	0.3381	-1.26467	0.0054	-9.59799	0.0001	-0.89943	0.5725
Log Total Assets	-5.89348	0.035	-15.249	0.0041	13.24386	0.1222	2.047067	0.4448
Log Advertising	-0.80011	0.736	6.450257	0.039	-5.84841	0.05	0.560986	0.0138
R-squared	0.416955		0.622474		0.431238		0.411248	

Here again, the board size has a significant influence on ROA of IT sector. The results of non executive directors and independent directors are somewhat similar to disaggregated sectoral results of ROE. The numbers of independent directors has a significant and negative effect on IT sector at 1% level. Similarly, the presence of non executive directors has declined the ROA and it was found to be highly significant for

FMCG and Pharma sector. It was almost significant for IT sector also. The association of board meetings is found to be significant and negative with ROA for Auto and FMCG sector at 10% and 5% level. Our disaggregated sectoral results for chairman duality go parallel with our overall aggregate result. ROA is positively related to the number of independent directors in Audit committee whereas it is in case of FMCG sector; ROA significantly improves due to this variable at 1% level. We observed that the audit committee meetings improve the ROA of Auto and FMCG sector at 5% and 1% levels respectively. On an overall basis there is a significant but a very miniscule improvement in ROA due to the promoters' holdings which is opposite to our hypothesis, the same results replicate for Pharma sector at 10% level of significance. Firms having institutional ownership are not able to improve the ROA significantly. This means institutional shareholders are not able to exercise their control rights effectively in Indian context. Log of CSR has a positive relation with ROA as per the hypothesis though insignificant. It was found to be significant and positive for determining the ROA of Auto Sector at 5% level of significance. We have got mixed results for the Age variable. As per studies, it is positively related to the performance. In our study, it has negative and significant impact on ROA of Auto sector at 5% level. This may be on account of stiff foreign competition for domestic players facing the issues of cost-efficiency, incompetent labor and trade unions. In contrast, the FMCG sector has a positive and significant relationship of ROA with firm's Age at 5% level of significance. This might be attributable to the reason that FMCG is a continuously running industry and their goods are more of a daily necessity which may add to incessant resources utilization and also, the Indian consumers prefer the same kind of durables over a long period of time. Leverage is found to be negatively related to ROA on aggregate basis. We found the same to be applicable for FMCG and Pharma Sector at 1% level. Size factor proxied using log of total assets is significantly declining the ROA of Auto and FMCG sector at 5% and 1% respectively. The reason for such a decline in FMCG could be existence of unorganized small manufacturers in FMCG which have got reach in nooks and corners of various towns which are not tapped by organized players. Again, the ROA of FMCG and IT sector are significantly and positively influenced by Log of Advertising at 5% and 1% levels of significance. The coefficient of log of advertising is highest amongst all the variables influencing the ROA of FMCG as well it is highest amongst all the sectors also.

The intercept coefficients are insignificant for Auto and Pharma sectors that means, the explanatory variables taken up in the study explain a good proportion of variation in

ROA. While, the intercept coefficients for IT and FMCG sectors is significant which indicates the presence of several other factors also that affects the firm performance besides the explanatory variables taken up in the study. These results are consistent with the ones we obtained on an aggregate basis. Further, the R-squared value is 41.69 %, 62.24%, 43.12% and 41.12 % for Auto, FMCG, Pharma and IT sector respectively.

Table 5: Sectoral Regression Results – Tobin's Q as dependent variable

Independent Variables	Dependent Variable - Tobin's Q							
	Auto Sector		FMCG Sector		Pharma Sector		IT Sector	
	Coefficients	P-value	Coefficients	P-value	Coefficients	P-value	Coefficients	P-value
Intercept	-0.49132	0.9266	3.194342	0.6512	2.85936	0.7864	1.439975	0.8887
Board Size	0.038956	0.6782	0.023184	0.904	0.248759	0.2021	0.219037	0.0421
Independent Directors	0.123968	0.3784	0.329489	0.1852	-0.12293	0.569	-0.932	0.0431
Non-Executive Directors	-0.0703	0.494	-0.33584	0.132	-0.18464	0.0512	-0.21349	0.288
Board Meetings	-0.08391	0.0798	-0.08266	0.3664	0.076506	0.0685	0.284426	0.0013
Chairman Duality	-0.38492	0.379	-0.39904	0.5293	1.196336	0.0226	-0.03558	0.9416
Audit Committee Size	0.169661	0.606	-0.02908	0.9012	0.638287	0.0783	-1.45105	0.1357
Independent Directors in Audit Committee	0.212501	0.6168	1.099072	0.0057	-0.63581	0.0922	2.112782	0.0133
Audit Committee Meetings	0.146671	0.0786	0.449532	0.0398	-0.0413	0.8053	-0.47153	0.2305
Promoters' Holdings	0.025833	0.1036	0.002157	0.6061	-0.00519	0.7781	0.004801	0.8375
Institutional Ownership	0.00438	0.7409	-0.00134	0.9725	0.015723	0.6597	0.079156	0.2195
Log CSR	1.675193	0.0661	1.174365	0.5455	0.59512	0.6936	1.41685	0.0446
Age	-0.01323	0.272	0.000775	0.9425	-0.00501	0.7152	-0.07762	0.1788
Debt-Equity	-0.38148	0.3405	-0.26162	0.0017	-0.27107	0.6108	1.029009	0.172
Log Total Assets	-0.45328	0.3482	-4.41278	0.0023	-0.28204	0.8763	-1.05011	0.24
Log Advertising	-1.22055	0.0049	3.222861	0	-0.41011	0.7233	0.178684	0.2796
R-squared	0.367449		0.571598		0.240728		0.206735	

Tobin's Q of IT sector is being significantly and positively affected by the board size at 5% level of significance. Again it is the IT sector where the presence of Independent directors has a significant and a negative relationship with the Tobin's Q. The number of Non executive directors on board significantly declines the Tobin's Q of pharma sector at 10%. This is similar to ROA's result. Board meetings should increase the performance measures. On an aggregate basis, the relationship is insignificant. But for the measure Tobin's Q the results are varied. On one hand, the number of board meetings

significantly decreases the Tobin's Q of Auto Sector at 10% it significantly improves the Tobin's Q of Pharma and IT sector at 10% and 1% respectively. However, chairman duality has a positive and significant impact on Tobin's Q of Pharma sector at 5% level. The size of Audit committee has a significant impact on Tobin's Q of Pharma sector at 10% level. The number of independent directors in audit committee should have a positive impact on Tobin's Q. It's in IT and FMCG sector; we observed that the number of independent directors improve the Tobin's Q significantly at 5% and 1% level. On the other hand Tobin's Q of Pharma sector has significantly declined at 10%. Tobin's Q should increase on account of more number of Audit Committee meetings. Disaggregated sectoral analyses show this variable significantly increases the Tobin's Q value of FMCG sector and Auto Sector at 5% and 10% level. Tobin's Q is not significantly impacted by the ownership pattern at all .Our results for Tobin's Q dependent on Log of CSR hold true for Auto Sector and IT sector at 10% and 5 % levels of significance respectively.. Experience of the company denoted by Age has an insignificant bearing on Tobin's Q. High leverage significantly decreases the Tobin's Q of FMCG sector at 1% level. Size of the company represented by the Total Assets doesn't affect the Tobin's Q significantly. Here again our results match for FMCG sector. The ROA of FMCG significantly declined due to the size factor. Tobin's Q has also has significantly declined for FMCG at 1% level. Log of Advertising has a high significant and positive effect on Tobin's Q for FMCG sector. This result quite matches with ROA and ROE in terms of high coefficient. On the other hand, log of advertising has a negative effect on Auto Sector's Tobin's Q.

The intercept coefficients are insignificant for all the sectors, which means, the explanatory variables taken up in our study explain a good proportion of variation in Tobin's Q. Further, the R-squared value is 36.75%, 57.15%, 24.07% and 20.67 % for Auto, FMCG, Pharma and IT sector respectively.

5.3 Empirical Results of Event Study

Table 6: Announcement period abnormal returns for days -10 to 10 of the Indian Companies

Days	Abnormal Returns	Positive Returns	Negative Returns	t –statistics
-10	0.0100	50.00%	50.00%	2.1411**
-9	0.0094	72.22%	27.78%	1.6567*
-8	0.0110	72.22%	27.78%	1.4284
-7	0.0093	61.11%	38.89%	1.1454
-6	0.0061	55.56%	44.44%	0.8174
-5	-0.0010	58.33%	41.67%	-0.1681
-4	0.0138	77.78%	22.22%	2.6419***
-3	0.0038	50.00%	50.00%	0.6312
-2	-0.0056	50.00%	50.00%	-0.9363
-1	0.0117	75.00%	25.00%	2.1347**
0	0.0109	63.89%	36.11%	2.1817**
1	0.0132	66.67%	33.33%	1.7702*
2	0.0066	61.11%	38.89%	1.0197
3	0.0158	72.22%	27.78%	2.5761**
4	0.0064	77.78%	22.22%	1.4776
5	0.0063	63.89%	36.11%	0.9894
6	0.0069	61.11%	38.89%	0.9953
7	0.0007	61.11%	38.89%	0.1135
8	0.0021	58.33%	41.67%	0.3425
9	-0.0004	47.22%	52.78%	-0.0864
10	0.0051	61.11%	38.89%	1.3240

*significant at 10% **significant at 5% ***significant at 1%*

We found that the abnormal returns were positive and significant for few days pre announcement (-10,-9, -4). But it was on day prior to announcement (-1), day of announcement (0) as well as on the next day of announcement the abnormal returns were positive and significant and comparatively higher. This shows that the investor community positively reacted to the announcement of corporate governance reforms.

The abnormal returns are positive and significant on the third day of announcement. After that the returns are positive but insignificant which shows that the investors have squeezed the abnormal returns in the initial time frame of announcement itself.

Table 7: Cumulative Abnormal Returns of Indian firms

Event Window	CAAR	t-statistics
(-1,1)	0.265334	10.46322***
(-3,3)	0.389242	7.797073***
(-5,5)	0.152168	9.714426***

***significant at 1%

We have calculated Cumulative abnormal average returns (CAAR) for the sample companies and tested it for windows of (-1, 1), (-3, 3) and (-5, 5). It was observed that the CAAR has come out to be positive and significant for all these windows. Also the returns in long window (-5, 5) are comparatively lower and higher in the short windows of (-1, 1) and (-3, 3).

We have also checked for impact of industry and the asset base held by sample companies on abnormal returns using dummy regression. For industries classification, we have used dummies and for assets we have taken log of total assets as on 31st March, 2009. The following regression equation is tested for this relationship:

$$AAR = \beta_1 + \beta_2 D_1 + \beta_3 D_2 + \beta_4 D_3 + Log Assets$$

AAR = Average Abnormal Returns of firms

β_1 = Returns of FMCG sector

$\beta_1 + \beta_2$ = Returns of Auto Sector

$\beta_1 + \beta_3$ = Returns of IT sector

$\beta_1 + \beta_4$ = Returns of Pharma Sector

D_1 = If sector is Auto, $D_1 = 1$, otherwise 0,

D_2 = If sector is IT, $D_1 = 1$, otherwise 0,

D_3 = If sector is Pharmaceuticals, $D_1 = 1$, otherwise 0

Log Assets = Log of Total Assets as on 31st March, 1999

The following regression equation was obtained:

$$AAR = 0.107 - 0.002D_1 - 0.004D_2 - 0.11D_3 - 0.009 Log Assets$$

S.E = (0.067) (0.009) (0.012) (0.011) (0.007)

t = (1.589) (-0.211) (-0.349) (-1.045) (-1.401)

It was found that the abnormal returns were positive only FMCG sector at 10% level but they were insignificant for all the sectors under study. The value of assets has got an insignificant role to play in determining the abnormal returns.

Besides this, we have also tested the effect of time on Mean abnormal returns. We have tried to find out in what time phase the abnormal returns are significant. The time phases are namely pre announcement and post announcement.

$$MAR = \beta_0 + \beta_1 D_1 + \beta_2 t + \beta_3 tD_1$$

Where,

MAR = Market Adjusted Returns of each firm

β_0 = Intercept for Pre-announcement

$\beta_0 + \beta_1$ = Intercept for Post-announcement

β_2 = Growth rate of Abnormal returns of Pre-announcement

$\beta_2 + \beta_3$ = Growth rate of Abnormal returns of Post-announcement

D_1 = 1, If announcement period is post announcement, otherwise 0

t = announcement days, t= 1 to 21

We got the following regression equation:

$$MAR = 0.009 + 0.018 D_1 - 0.004t - 0.008tD_1$$
$$S.E = (0.003) \quad (0.10) \quad (0.0005) \quad (0.001)$$
$$t = \quad (2.836) \quad (1.767) \quad (-0.732) \quad (-1.21)$$

It was found that the intercept for the pre announcement period has come out to be positive and significant at 5% level .But the post announcement returns are higher than the pre announcement period and significant at 10%. On the other hand, we noted that the growth rate of abnormal returns for both pre and post announcement periods are significantly negative. This means that in the post announcement period the investors are able to generate better returns.

6   CONCLUSION AND POLICY IMPLICATIONS

The results of our study clearly indicate that corporate governance is an important factor for increasing the performance of the companies. We found that all the 49 companies were complying with the norms of clause 49 of listing agreement. We have done a combined analysis of four important sectors as well as a disaggregated sectoral analysis too. The results of overall parameters match for the sectors also.

The board size is playing a conducive and significant role in enhancing the performance in case of IT sector. However, the effect of board size is positive for all other sectors but insignificant. Though the coefficients of Independent directors have come out to be negative and insignificant in our study but it came out to be negative and significant for IT sector. Presence of non executive directors has a negative and significant impact on all the performance measures. This indicates that investors might be indifferent to the idea of board independence. The reason could be that the Indian companies are more of family managed where mostly decisions are backed by family promoters. On the other hand, Independent directors though are knowledgeable and fair, but they have a lesser say in the corporate decisions. Also they hold directorships in many companies, so probably they are more interested in withdrawing their meeting fees rather than working towards the company's interest. It should be ensured that the internal control mechanisms should be highly effective and efficient even though it is family controlled. The performance is not only a function of the people on board but their actions which is again reflected in performance.

The size of Audit committee is not a significant variable for determining the performance of our companies. Rather, Audit committee independence and the frequency of their meetings is a significant factor, perhaps because the investors have become more aware of essence of the audit committee owing to recent financial reporting scams of companies like Satyam. In our study, ownership pattern has got an insignificant impact on the performance variables. But it was only in Auto sector that both the types of ownership – promoters and institutional are significant enough to improve ROE. This means that in Auto sector the institutional owners are also allowed to exercise their control rights. This also suggests that the auto companies can have more of institutional investors as their shareholders.

Corporate social responsibility has a significant and positive relationship with the performance measures. Auto sector has got the similar results as aggregate ones. Even the IT sector's ROE and Tobin's Q were significant and positive. The Auto sector consumes huge amount of resources as well as cause pollution. They are expected to contribute towards the society through performing CSR activities and that is paying them in the form of improvement in performance. The age of the firm has an insignificant relationship with the performance variables. But it is negatively and significantly affecting the performance of Auto Sector which could be on account of foreign players. Debt equity ratio significantly reduces the ROA and Tobin's Q which is the applicable in the case of FMCG and pharma too. ROE of IT sector is significantly

improved by the presence of debt in capital structure. Ironically, companies in IT sector in our sample have very less debt in their capital structure. The results indicate that they can have more debt in their capital structure to improve the performance.

Large amount of assets are contributing towards the significant reduction of the performance. The similar trend was prevalent for Auto and FMCG sector. Large asset base provides a back up for the firms for raising capital and to protect them in times of financial distress. Therefore, the hypotheses doesn't hold true for our results. The reason could be opening up of financial sector where even a small company after meeting few conditions too can raise finance easily through capital market and debt market. Advertising has a significantly positive impact in improving the ROE and ROA. For FMCG and IT sector the performance measures have came out to be significant and positive. Again, brand visibility works for the popularity of FMCG products and hence the positive relation is obvious. Our IT sector has flourished on account of outsourcing business. In IT sector, there is a plethora of companies of all the sizes now. This could be due to the fact that young fresh technical talent who want to start their ventures have got financial support from various sources-venture capitalists, banks, financial institutions, etc. Owing to this IT giants have to spend more on business development part of advertising expenditure to get more projects and contracts. And thus the relationship between advertising and ROE as well as ROA is coming out to be significant and positive.

The results of the event study are also significantly positive for the firms under study. The abnormal returns in the window (-1, 0, 1) have come out to be positive and significant. This clearly implies that investor community wholeheartedly welcomed the adoption of Clause 49 for improving the corporate governance standards of the companies. The abnormal returns were not dependent on the type of industry as well as the amount of assets a company. Also we found that in the post announcement window the abnormal returns were significantly higher than the pre announcement window. This means that the announcement news has been encashed in post announcement period.

We found that corporate governance mechanisms have a pivotal role for improving the performance but other factors like corporate social responsibility, debt equity ratio and advertising are also imperative to affect the performance.

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