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Corporate Governance and its Impact on Market Value of Firms: An Empirical Study of Companies Listed In NSE CNX 100 Index



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Abstract

Corporate governance is considered to have important implications for the extension and projections of an economy. Good corporate governance practices are always observed as essential in reduction of risk for the investors, drawing investment capital and enhancing the performance of companies. This study analyzes the effect of corporate governance variables namely Board size, Board composition, Board Committees, Board activity, Institutional Ownership and Leverage on the firm value Tobin's Q.(TQ.) of the Indian Companies listed on CNX 100 index. Multiple regression analysis was conducted to identify the factors that affect firm value on the sample firms over the period from 2008-09 to 2012-13. ANOVA results, Adjusted R² is estimated and Correlation Matrix is made to evaluate the effectiveness of corporate governance on TQ. The empirical results revealed that only Board Activity and Board Committees had significant and negative impact on TQ, while Board Independence and Board size did not show any affect on TQ. This study found that corporate governance has still a long way to go, to influence the firm's value; and it has no significant influence on firm's profitability.

Keywords: Corporate Governance, Financial Performance, Market Value, Tobin's Q.

Introduction

Corporate governance is considered to have important implications for the extension projections of an economy. Good corporate governance practices are always observed as essential in reduction of risk for the investors, drawing investment capital and enhancing the performance of companies. The means in which corporate governance is planned differs from country to country which depends on social, political and economic contexts. Issues of Corporate Governance (CG) have attracted a reasonable public interest because of their evident importance for the economic strength of corporations and society in, especially after the superfluity of corporate scandals and debacles in recent times. A major part of the discussion on corporate governance centers around composition of the board especially size of the board and independence of the board.

Conceptual Framework of Corporate Governance

System of corporate governance (CG) in a country is a part of wider structure for institution which controls the relationship between executives they control the activities and resources in an organization and economic and social stakeholders who have a legal vested interest in the activities of the company. CG is a socially formed force which identifies the strategic and activities behavior of companies. It was recognized there are three groups in CG. The first group describes CG in terms of supervision and governance policy. The second group concentrates on the parties relationships balancing their interests. The final group concentrates on the enterprise's mission and its results. CG is described as a structure in which managers at the apex of organization were controlled by board of directors, executive incentive, its associated structures and other schemes namely bonding and monitoring.

Critical Literature Review

The need to study corporate governance would not have been

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necessary if economic theories, accounting standards, and legislations had been effective in mitigating conflicts of interest and enhancing firm's value in public corporations.

Karpagam, Selvam and Babu (2013) carried out a research to analyze the impact of ownership structure on companies' performance with special reference to BSE listed companies. The ownership pattern of the companies affects some key market performance and accounting indicators. This study explores the relationship between the companies' performance and the ownership structure. BSE Sensex index was gathered and analyzed for a period of five years. The policy makers, investors and stake holders are to be educated about the relationship between the performance and ownership structure of the firms.

According to Bijalwan and Madan (2013) this research primarily concentrates on investigating the relationship between the ownership structure and the firm's performance. Ownership structure provides a fair idea about the share percentages held by the public directors, promoters, private companies, government bodies, institutional investors, institutional investors and the foreign institutional investors in a company. Jackling and Johl (2009) provided that the size of the board is positively and significantly associated with the financial performance of the Indian companies. This showed that larger boards have greater intellectual knowledge and skills when compared to smaller boards and thus enhanced the decision-making and firm performance and also supports the theory of resource dependency. Jensen (2005) claims that when board sizes grow beyond 7 or 8 members, they cannot function effectively and it becomes easier for the chief executive officer to control.

Chugh et al (2010) refers that CEO-duality is described as both the board chairperson and CEO of the firm. It creates extra agency costs and impairs the performance. It is observed that CEO-duality will not create any synergies, and there is no support for the theory of stewardship. It is concluded that CEO-duality has a negative correlation with the firm's performance. Braun and Sharma (2007) argue that if the chairperson of the board and CEO is the same person then this will enhance the firm's performance as there is one accountable and responsible steward. This one person is empowered to make timely and effective decisions. This view is referred as the stewardship theory

Sarkar and Sarkar (2005) proved that the promoter shareholding has no effect on the firm value in case of low growth companies, whereas it has a positive effect on the firm value of high growth companies.

Aim of the Study

Considering the need and importance of Efficient and Effective Corporate Governance Mechanism in India in order to ensure high level of transparency, faith among the stakeholders reduction of risk for the investors, drawing investment capital

and enhancing the performance of companies, the present study aims to study the impact of Corporate Governance on Market Value of Indian Firms as measured by Tobin's Q.

Research Design and Methodology

The following research methodology has been used to achieve the aim of the study.

Sample Selection

The study is limited to the companies listed on the National Stock Exchange of India (NSE). For the purpose of the present study, companies constituting CNX 100 which is a diversified 100 stock index. CNX 100 is owned and managed by India Index Services & Products Ltd. (IISL). The CNX 100 Index represents about 81.78% of the free float market capitalization of the stocks listed on NSE as on December 31, 2013.

The composition of Nifty CNX 100 has undergone changes over time. Between April 1, 2008 and November 1, 2013, 38 companies were excluded from CNX 100. These 38 companies which were excluded have been added back to the initial set of 100 companies. From the 138 companies so selected, all banking companies have been excluded as they are governed by the Banking Regulation Act, 1949. Also excluded were companies which were common or which merged or got delisted from the stock exchange during the period 2008-09 and 2012-13. Further, Satyam Computer Services Limited has been excluded from the sample, for obvious reasons besides excluding 1 company for which data for all five years was not available. These screening criteria thus reduced the sample size to 102 companies.

The 102 sampled companies comprised of Automobile (8%), Cement and Cement products (4%), Chemicals, Fertilizer and Pesticides(2%), Construction (8%), Consumer goods(11%), Electrical and Electrical EQ..quipment(3%), Industrial Manufacturing (5%), IT (8%), Metals (10%), Oil, Gas and Petrochemicals (12%), Pharmaceuticals (14%), Power (4%), Services (7%), Telecom (5%) and Textile Products (1%).

Selection of Time Period

Data relating to the sample has been collected for five years: 2008-09 and 2012-13.

Definitions and Measurements of the Variables

Board Independence

Board Independence is defined in this paper as separation of CEO-board chairman positions and a greater proportion of external board members. It was measured using a Likert scale of 1 to 5, in which 1 is the duality of CEO-board chairman position and < 50% external board members, 2 is the duality of CEO-board chairman position and = 50% external board members, 3 is the duality of CEO-board chairman position and > 50% external board members, 4 is the separation of CEO-board chairman position and <50% external board members and 5 is the separation of CEO and board chairman position with >=50% external board members.

Board Size

Board size index was created using eq..ual weighed approach by assigning 1 point to each board

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member. A board of 10 members was considered large and 10 points was assigned. Conversely, a small board size of seven members, for example, was assigned a score of 7 and so on.

Board Committees

Committees were measured by assigning one point to each independent committee a corporation has. For instance a corporation that has three committees namely audit, nominating, and compensation committees was assigned 3 points. Similarly, a corporation with 2 committees was assigned 2 points. Conversely, corporations with no independent committees were assigned 0 point. A maximum score depended on the number of independent committees a corporation has.

Board Activity

Board meetings were measured by assigning points on a using a Likert scale of 1 to 5, in which 1 is assigned if the meeting in a year held is < 4 , 2 is assigned if meetings held are = 4 , 3 is assigned if meetings held are >= 4 , 4 is assigned. If the board meetings is less than 4, the firm gets a score of 1 If the board meetings is 4 or 5, the firm gets a score of 2 If the board meetings is 6 or 7, the firm gets a score of 3 If the board meetings is 8 or 9, the firm gets a score of 4 If the board meetings is =>10, the firm gets a score of 5

Leverage

Leverage is defined as the total debt-financing in the capital structure and was measured by total debt ratio, [long-term debt + short-term debt] / total assets.

Shareholder Rights

Shareholder rights are considered to be strong if all shareholders actively participate in the decision making process and influence corporate decisions (Gompers et al. 2003; Jennifer, 2010; Kohli & Saha, 2008). Shareholders exercise their rights by having the power to vote in general meetings both formally and through proxy system. The presence of institutional shareholders helps influence decisions because of availability of resources thus promoting shareholder rights (Aglietta, 2008). Shareholder rights can be represented by institutional ownership structure..

Financial Performance

Financial performance is defined in this study as an increase in shareholder's wealth measured by market values, Tobin's Q, rate of returns on equity investment, ROE and company's profitability and the efficiency with which its capital is employed, ROCE. Tobin's Q is defined as the ratio of the market value of a firm to the replacement cost of its assets (Chung &

Pruitt, 1994, p. 70). It is approximately calculated as market value of common stock + Market value of preference shares + total debt less current assets) / Total value of assets.

Discussion and Implications of Results

The multiple regression equation for the model with approximate Tobin's Q as the dependent variable and the corporate governance mechanisms as independent variables is:

$$TOBIN'S Q.. = \alpha_0 + \beta_1 IND + \beta_2 SIZE + \beta_3 OWN + \beta_4 COM + \beta_5 LEV + \beta_6 ACT + \epsilon$$

Where

TOBIN'S Q = firm value,

α_0 = the intercept of the regression equation, IND = Board independence CEO Duality, Outside director)

SIZE = Number of people on board

OWN = Ownership structure

COM = Committees

LEV = Leverage

ACT = Board Activity, and ϵ = random error

The overall ability of the independent corporate governance mechanisms to explain Tobin's Q is tested using f distribution test and Analysis of Variance (ANOVA) at the alpha level of 5%. The null and alternative hypotheses are stated respectively as:

$$H_0: \beta_1 = \beta_2 = \beta_3 = \beta_4 = \beta_5 = \beta_6 = 0$$

$$H_1: \beta_1 \neq \beta_2 \neq \beta_3 \neq \beta_4 \neq \beta_5 \neq \beta_6 \neq 0$$

T The analysis was performed using SPSS and the multiple regression results and computed ANOVA table for the f test are presented in Table 5.20 and Table 5.21. The overall multiple Regression equation with approximate Tobin's Q as the dependent variable is presented as:

The regression equation is:

$$TOBIN'S Q = 11.156 + 0.178 IND - 0.016 OWN - 0.559 COM - 0.260 LEV - 0.127 SIZE - 0.456 ACT + e$$

Table 1 ANOVA Table for the Multiple Regression of Independent Variables (N=102), y=Approximate Tobin's Q.

Model	Sum of Squares	df	ANOVA ^a		
			Mean Square	F	Sig.
Regression	287.991	6	47.999	1.116	.359 ^b
1 Residual	4086.426	95	43.015		
Total	4374.418	101			

1. Dependent Variable: TOBIN'SQ
2. Predictors:(Constant),LEV,OWN,ACT,IND,COM, SIZE

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Model Summary				
					R	Change in R	Change in F	df1	df2
1	.257 ^a	.066	.007	6.5585832	.066	1.116	6	95	.359

Predictors: (Constant), LEV, OWN, ACT, IND, COM, SIZE

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The f value (6, 95) = 1.16 is $< f$ critical region = 2.49, p value of 0.359 $>$ 0.05 alpha level, with multiple coefficient of determination R^2 of 0.066 and adjusted R^2 of 0.007. The adjusted R^2 value of 0.007 indicates that about 0.7 % of the variability in Tobin's Q is explained by the corporate governance

mechanisms. The decision therefore, is to accept the null hypothesis that all the coefficients are zero in favor of the alternative hypothesis. Thus there is some evidence to support a linear relationship between at the corporate governance mechanisms and approximate Tobin's Q

Table 2.
Multiple Regression Results for Independent Variables (N=102), y = Approximate Tobin's Q Coefficients^a

Model	Unstandardized Coefficients		Standardized Beta	t	Sig.(p-value)
	B	Std. Error			
1 (Constant)	11.156	3.689		3.024	.003
IND	.178	.487	.037	.366	.715
OWN	-.016	.048	-.033	-.337	.737
COM	-.559	.303	-.187	-1.844	.068
SIZE	-.127	.230	-.056	-.553	.582
ACT	-.456	.297	-.153	-1.534	.128
LEV	-.260	1.392	-.019	-.187	.852

Dependent Variable: TOBIN'S Q

A hypothesis test for the individual variables of the regression model would determine which of the slope coefficients are different from zero. A t test is conducted to help explain the variation in approximate Tobin's Q and which variables have no explanatory power so they are eliminated from the regression model.

The Impact of Board Size on Financial Performance Is Inconclusive.

For Board size the hypothesis is:

$H_0: \beta_1 = 0$

$H_1: \beta_1 \neq 0$

The multiple regression results in table 5.21 shows that the p value for board size ($SIZE$) is 0.582, which is $>$ 0.05 alpha level of significance. Using two-tailed test, the critical points of t distribution with 95 degrees of freedom at $\pm = 0.05$ is 1.671. The rejection region at 95% level of confidence indicates that the computed t test statistic value of absolute 0.53 is $<$ the critical t of 1.671 so I cannot reject the null hypothesis that β_1 is 0. Thus, board size is statistically insignificant and cannot be used to explain and predict approximate Tobin's Q .

It is Expected that Board Independence will Increase Financial Performance.

For board independence the hypothesis is:

$H_0: \beta_2 = 0$

$H_1: \beta_2 > 0$

Using one-tailed test, the critical points of t distribution with 95 degrees of freedom at $\alpha = 0.05$ is 1.671. Computed t statistic of 0.366 is $<$ critical t of 1.671. The p value of 0.715 is $>$ 0.05 significant level. Therefore I cannot reject the null hypothesis, H_0 that the beta coefficient is zero. Thus the coefficient of independence is statistically insignificant and cannot be used to explain approximate Tobin's Q .

I Believe that the Larger the Concentration of Shareholding in the Hands of Few Large Institutional Shareholders ,the Less the Shareholder Rights of Other Minority Shareholders and the Lower the

Financial Performance.

For ownership structure the hypothesis is:

$H_0: \beta_3 = 0$

$H_1: \beta_3 < 0$

Using one-tailed test, the critical points of t distribution with 95 degrees of freedom at $\alpha = 0.05$ is 1.671. Computed t statistic of absolute 0.337 is $<$ critical t of 1.671. The p value of 0.737 is $>$ 0.05 significant level. Thus, coefficient of ownership structure is insignificant and cannot be used to explain approximate Tobin's Q . Therefore I cannot reject the null hypothesis in favour of H_0 .

The Impact of Number of Committees a Firm has on its Financial Performance is not Clearly Known.

For committees the hypothesis is:

$H_0: \beta_4 = 0$

$H_1: \beta_4 \neq 0$

Using two-tailed test, the critical points of t distribution with 95 degrees of freedom at $\alpha = 0.05$ is 1.671. Computed t statistic of absolute value of 1.844 $>$ critical t of 1.671. The p value of 0.068 is $>$ 0.05 so I can reject H_0 . Therefore the beta coefficient of committee is statistically significant and can be used to explain Tobin's Q .

I Believe that the Greater the Leverage in a Firm Capital Structure the Lower the Financial Performance.

For leverage the hypothesis is:

$H_0: \beta_5 = 0$

$H_1: \beta_5 < 0$

Using one-tailed test, the critical points of t distribution with 95 degrees of freedom at $\alpha = 0.05$ is 1.671. Computed t statistic of absolute value of 0.187 is $<$ critical t of 1.671. The p value of 0.852 is $>$ 0.05 significant level confirming that the coefficient of leverage is statistically insignificant and makes a insignificant contribution to the model in explaining Tobin's Q . Therefore I accept H_0 in favour of the H_1 .

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I Believe that the Greater the Board Activity the Greater the Financial Performance.

For board activity the hypothesis is:

$$H_0: \beta_6 = 0$$

$$H_1: \beta_6 > 0$$

Using one-tailed test, the critical points of *t* distribution with 96 degrees of freedom at $\alpha = 0.05$ is 1.671. Computed *t* statistic of absolute value of 1.534 is $<$ critical *t* of 1.671. Similarly, the *p* value of 0.128 is $>$ 0.05 significant level so I cannot reject H_0 ; therefore coefficient of Board Activity is statistically insignificant and cannot be used to explain Tobin's *Q*.

Concerning the relationship between approximate Tobin's *Q* and corporate governance mechanisms I used stepwise regression method with alternative forward and backward criteria with the probability to remove set at a specified level of 0.10 with the alpha level set at 0.05. The results showed that leverage, committee and Board Activity have a significant negative relationship with Tobin's *Q*. The summary results of stepwise method in Table 5.22 show that the adjusted R^2 with all the independent variables (model 1) in the model was 0.68 while the R^2 was 6.58. In the next equation (Model 2) the stepwise method removed ownership from the model and the adjusted R^2 increased to 1.60 while the R^2 decreased by 6.58 to 1.60. Although the R^2 continued to decrease with the removal of any independent variable, the adjusted R^2 is maximized at 3.11 when board size, board independence and Ownership were removed from the model (Model 4). Thus leverage, committee and Board Activity (Model 4) account for the most variation in Approximate Tobin's *Q*. These three corporate governance mechanisms account for 6.0% of the variation in Tobin's *Q* with the minimum standard error estimate of 6.477.

This finding is expected because investors consider excessive leverage in the capital structure as very risky and tend to penalize market values of companies with higher debts. Similarly, the negative relationship between Committee, Board Activity and approximate Tobin's *Q* indicates that investors are not much interested in many committees perhaps because of overlapping of duties and lack of proper coordination that can lead to inefficiencies. Similarly too often of occurrence of board meetings are also not good as often though if a reason for some less than optimal boards is that they meet too often. When there just is enough real governing work to do in the actual board meeting, you can end up with board

meetings where there isn't meaningful work and whether or not members show up doesn't matter, leading to difficulty getting quorums. It is rather recommended that working one on one to unleash member capabilities and connections for the organization, than force members to monthly meetings that don't need to be. The result suggests a fully functioning Board doesn't need to meet monthly too often.

Table 3. Model Summary of Stepwise Regression Results

Model	R	R ²	Adjusted R ²	S.E
1	43.294	6.58	0.68	6.56
2	41.8609	6.47	1.60	6.53
3	40.1956	6.34	2.48	6.50
4	35.8801	5.99	3.11	6.48
5	14.2884	3.78	1.84	6.52
6	0.0004	0.02	0.0	6.61

Model 1: Predictors: (Constant), Board Activity, Board independence, Leverage, Committee, Board Size, Ownership

Model 2: Predictors: (Constant), Board Activity, Board independence, Leverage, Committee, Board Size

Model 3: Predictors: (Constant), Board Activity, Leverage, Committee, Board Size

Model 4: Predictors: (Constant), Board Activity, Leverage, Committee

Model 5: Predictors: (Constant), Leverage, Committee

Model 6: Predictors: (Constant), Leverage

Dependent Variable: Tobin's *Q*

Table 4 and Table 5 present the regression and ANOVA Table of the statistical results respectively. The stepwise regression model with the highest predictive power with Tobin's *Q* as a dependent variable is:

The regression equation is

$$\text{TOBIN'S } Q = 10.089 - 0.445 \text{ ACT} - 0.365 \text{ LEV} - 0.559 \text{ COM} + \epsilon \quad (5.2)$$

Table 4. Stepwise Regression Results for

Model	Unstandardized Coefficients		Standardized	t	Sig. (p-value)
	Coefficients				
	B	Std. Error	Beta		
1 (Constant)	10.089	2.069		4.877	.000
ACT	-.445	.293	-.149	-1.519	.132
LEV	-.365	1.344	-.027	-.272	.786
COM	-.559	.295	-.187	-1.900	.060

Independent Variables vs. TOBIN'S *Q*

(N=102) Coefficient^a

Dependent Variable: TOBIN'S *Q*

Table 5. ANOVA Table for Stepwise Regression

Results –Independent Variables vs. TOBIN'S *Q*

(N=102) ANOVA^a

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	262.111	3	87.370	2.80	.108 ^b
Residual	3057.95	98	31.2035		
Total	4374.418	101			

Dependent Variable: TOBIN

Predictors: (Constant), COM, ACT, LEV

Model Summary

Model	R	R Square	Adjusted	Std. Error
			R Square of the Estimate	
1	.245 ^a	.060	.031	6.4778327

Predictors: (Constant), COM, ACT, LEV

With the stepwise method I developed a parsimonious regression equation with, committees

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(COM), leverage (LEV), and Board Activity (ACT) as the independent explanatory variables. The regression results indicate that all the explanatory variables are negatively related to approximate Tobin's Q

Correlation Matrix of Independent Variables

Table 6 displays a correlation matrix of all the independent variables for the multiple regression models to check for multicollinearity among the variables. The correlation matrix shows that multicollinearity is not a problem in the study. The highest pairwise correlation that existed among the variables is positive 17.6% between Leverage and board independence. The pairwise correlations among the remaining variables are all less than 17.6%. For instance the pairwise correlation between board size and committees is 7.8%.

The correlation matrix indicates that including all the independent variables in the model would not cause multicollinearity problem.

Table 6 Correlation Matrix of Corporate Governance Mechanisms

	SIZE	IND	OWN	COM	LEV	ACT
SIZE	1	-.067	.018	.078	.176	.009
IND	-.067	1	.004	.140	.074	.065
OWN	.018	.004	1	.000	.015	.050
COM	.078	.140	.000	1	-.091	.049
LEV	.176	.074	.015	-.091	1	.024
ACT	.009	.065	-.050	.049	.024	1

Results and Interpretations

The stepwise regression results showed a greater *f* value of 2.80 than *f* critical of 2.70 I rejected the null hypothesis that there is significant statistical relationship between corporate governance and firm value. This was confirmed by the *p* value of 0.108 which was higher than the significant level of 0.05. Therefore a significant linear relationship was found to exist between approximate Tobin's Q and corporate governance. The following relationships were found in the study:

1. Statistically insignificant relationship was found to exist between board size and approximate Tobin's Q.
2. Statistically insignificant relationship was found to exist between board independence and approximate Tobin's Q.
3. No significant relationship was found to exist between ownership structure and approximate Tobin's Q.
4. A negative relationship was found to exist between leverage and approximate Tobin's Q.
5. A negative relationship was found to exist between committees and approximate Tobin's Q.
6. A negative relationship was found to exist between board activity and approximate Tobin's Q.

Conclusions and Recommendations

1. Leverage: It is negatively related to firm value. The impact of leverage on firm value in the literature is mixed depending on the size of debt in the capital structure. Excessive use of

leverage can restrict corporate managers from spending on profitable investments.

2. Committees: It is also negatively related to firm value. Too many committees within a corporation may bring about duplication, lack of proper coordination, increased costs, and inefficiency thereby lowering firm value.
3. Board Activity: Excessive number of board meetings was found to reduce a firm value, as measured by approximate Tobin's Q. As higher frequency of board meetings when there is sufficient governing work to be done in the board meeting, could be ended up with less significant work and therefore leads to getting difficult scheduling quorums and wastage of time.
4. Board Size and Ownership Structure: Board size and Ownership structure are statistically insignificant and cannot be used to measure approximate Tobin's Q.
5. The results indicated that board size; board independence and ownership structure has no direct relationship with market values of corporations in CNX 100 market index. However, reducing number of advisory committees, optimizing leverage, and decreasing number of board meetings have direct positive relationship with firm values.
6. The study provides very useful information for investors, regulators, and researchers to improve firm values and reduce corporate failures. The findings of the study can help investors change their portfolio selection strategy and invest in corporations that promote good corporate governance practices.
7. Managers of the firm should try to implement the governance code with true spirit. Good governed companies are able to attract more capital from foreign institutional investors. Hence, it will affect the profitability in a positive manner.

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