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Corporate Governance Index and Firm Performance: Empirical Study from India

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Abstract

In this paper, a Corporate Governance Index in Indian context with comprehensive variables has been developed. The paper has used previously unused dataset of 168 FMCG companies listed on BSE over the period from 2011 to 2013 to investigate the results. Based on a set of 53 individual governance attributes after review of extant literature and changes in corporate governance rules in Indian landscape, a corporate governance index has been developed. It was observed that for all the three years the correlations between Corporate Governance Index and performance measure were statistically significant showing compliance with the norms has positive relationship with the performance of companies. Further, OLS estimates for all the three years taking Tobin's Q and ROA as performance measures provide empirical evidence that compliance with the norms has a positive relationship with both market-based (Q) and accounting- based measure (ROA). A further investigation regarding the impact of corporate governance on firm performance showed that for all the three years it was found that there is statistically significant difference between high compliance and low compliance firms in performance using Independent sample t-test. The mean difference for both the performance measures (Q and ROA) were significant for all the three years indicating that better corporate governance leads to better market performance.

Keywords: *Corporate Governance, Firm Value, India, Q, ROA.*

INTRODUCTION

Ever since 1991, when the global economy has gained momentum, business world has become more complex and dynamic in its nature that has changed the entire fabric of corporate governance dramatically. The business today looks beyond the domestic capital and the prime benefit of corporate governance is that it enhances the prospects of attracting long-term capital. The suppliers of finance are assured of their return if the business is governed properly.

The issue of compliance with corporate governance norms becomes imperative amidst the recent scams that have brought corporate

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governance into limelight. India has also had its share of scams with the Satyam debacle as the prominent one to highlight the need for better corporate governance in an emerging economy. The New Companies Act has tried to cater to the need and has come up with major changes in management and administration of Indian companies. India was having its own set of codes and recommendations of various committees, but changes with respect to governance of companies as mandated will bring about a positive change in coming years. This paper makes an attempt to develop a corporate governance index in the Indian context and try to evaluate whether compliance to the index has a relationship with the firm performance.

OBJECTIVES OF THE STUDY

i. To construct a Corporate Governance Index in the Indian context

ii. To provide recommendations to the firms based on the empirical work.

REVIEW OF LITERATURE AND HYPOTHESES FORMATION

The study aims to ascertain any relationship of the corporate governance index as a whole with the firm performance. Various hypotheses were developed after thorough literature review. This section focuses on how these hypotheses were delineated from the review of literature.

Governance Index and Performance

An impressive set of recent papers have considered alternative measures of corporate governance, and studied the impact of these governance measures on firm performance. An overall corporate governance index captures various dimensions in a collective manner. Researches in the past have used this overall measure to test the performance of firms. There have been studies across the globe, which have used ratings provided by corporate governance scores to decide upon the performance efficiency of firms. Of the notable Corporate Governance indices that have been formulated are the following: the Corporate Governance index developed by Black, Jang and Kim (2003a and 2003b), the Gompers, Ishii and Metrick (2003) index, the Corporate Governance Index developed by Khanna et al., (2001), and by Klapper and Love (2002), Brown and Caylor (2006), Black Love and Rachinsky (2006), Bauer et al., (2008) to name a few.

Balasubramanian, Black and Khanna (2010) and Sarkar, Sarkar and Sen (2012) have developed corporate governance indices specifically for India. Generally the earlier indices have focused on developed countries.

Overall the Corporate Governance Indices have some common elements: Shareholder Rights are important in all cases and almost all the authors have it as a sub-index (Khanna et al., 2001, Black et al., 2003, Gompers et al., 2003, Balasubramanian et al., 2010).

Another major focus is on the board of directors of a firm. This is shown in two ways – the emphasis on responsibilities of the board of directors (Black et al., 2003, Khanna et al., 2001, Klapper and Love 2002) and the emphasis on the structure of the board (Black et al., 2003, Khanna et al., 2001, Balasubramanian et al., 2010, Sarkar et al., 2012)

Another major element of Corporate Governance is that of the audit committee's performance. It has gained importance after the crash of the Arthur Andersen accounting firm. The index constructed by Black et al., (2003) includes a sub-index on the audit committee and the FTSE ISS Index also includes a sub-index on the audit committee while Klapper and Love (2002) have a component entitled 'accountability'. Both Balasubramanian et al., (2010) and Sarkar et al., (2012) have also audit committee sub-index in their corporate governance indices. The literature points to these aspects of governance as the most important to the proper functioning of a firm. These components were also important in the construction of the Corporate Governance Index for the present study.

The studies have found that corporate governance index is positively associated with financial performance measures like Tobin's Q.To assess the effect of the corporate governance index as constructed by the researcher, the following null hypothesis is set:

$H_0$1: There is no significant relationship between Corporate Governance Index (CGI) and firm performance.

The next objective considered in the study is to find the impact of compliance with the corporate governance norms on firm performance. This examination is carried on the proposition that firms with higher compliance scores perform better than the lower complying firms. The reason for such proposition is evident from the literature review showing positive linkages between corporate governance index and better performance.

So, the firms in the sample were divided into two groups viz. high compliance firms (HC) and low- compliance firms (LC) based on the governance scores. The firms with higher than average score were grouped as HC firms and the ones with less than average scores as LC firms. To find out the difference in two groups the null hypothesis is set as:

$H_0$2: There is no significant difference in performance of High Compliance and Low Compliance firms.

KEY VARIABLES

Performance Variables

The main aim of the study is to explore the performance implications as to compliance with corporate governance norms. The performance measures taken in the study relate to both the market-based and the accounting based methods. Tobin's q is used as market based performance measures in the study. ROA as supported in the finance and accounting literature is chosen as the accounting based measure in the analysis. These measures are supported by market to book ratio (MBR) also. Both the measures have their own inherent strengths and weaknesses. They vary in two major aspects. Accounting profit is based on historical performance of the firm, and so it is a backward looking measure whereas market based measure reflects investors' expectation so they are forward-looking measures. Further, accounting profit is distorted by accounting principles, concepts and standards whereas Q and MBR are market based values, and are therefore affected by investors' expectations about future events which are subject to manipulations, signaling, group behavior and mistakes (Kapopolous and Lazaretou, 2007). To explore the diverse performance implications both the measures are employed alternatively in the analysis.

Tobin's Q: In studies relating to find out the impact of corporate governance on firm performance researchers in the past have relied on Tobin's Q as the prime market based measure to measure firm performance. Tobin (1968) and Brainard (1969) designed a measurement of corporate performance, which is equal to market value of equity and debt divided by the replacement costs of total assets. This market value exhibits the discounted present value of its expected future income stream whereas book value shows the investment in assets by shareholders utilized to generate that income. Therefore, Q taking into account the future prospects of the firm provides a measure of the management's ability to generate a certain income stream from an asset base.It is an important measure of firm performance in the sense that it represents the value investors put in the assets of the firm above or below the total value of firms assets thus representing investor confidence, which is one of the signs of effectiveness of corporate governance mechanisms of the firm.

The value of Tobin's Q greater than one is considered to be a good indicator showing that companies are using scarce resources effectively, whereas those companies having Q value as less than one show the company is using resources poorly. Tobin's Q has been computed using the following formula in the study:

(Market Value of Equity+ Book Value of Preference Shares+

Book value of Debt) / Total Assets

This specification of Tobin's Q is extensively used in number of studies in India and abroad. This varies from the actual Tobin's Q which uses market value of debt and replacement cost of assets. However, in India since debt is not freely traded in the market and assets are recorded at historical cost, therefore, Book value of Debt and Book Value of Total Assets has been taken.

Return on Assets (ROA): This accounting variable is calculated as ratio of operating income (EBIT) to Total Assets. Total assets include value of fixed assets, investments and current assets. This measure is independent of company's tax structure and hence used in many corporate governance studies.

One more market based measure is used to support the results is:

MBR (Market to Book Ratio) which is calculated as:

Market Value of Equity/ Book Value of Equity+ Reserves

STATISTICAL TECHNIQUES

This section focuses on various statistical techniques used in the study to test the hypotheses of the study.

i) OLS Model: This model is used to test the hypotheses framed for corporate governance index and its relationship with performance. This Model along with the control variables as discussed is applied to analyses the results. The Model is specified as:

$$Y_i = \beta_1+\beta_2X_{2i}+\beta_3X_{3i}+\ldots\ldots\ldots\ldots..+\mu_i$$

Where

β_1= intercept

β_2 and β_3= partial regression co-efficient(s)

μ_i= stochastic disturbance term

i= i^{th} observation

ii) Independent sample t-test: The independent-samples t-test (or independent t-test, for short) compares the means between two unrelated groups on the same continuous, dependent variable. The sub-sample hypothesis of high compliance vs. low compliance firms is tested on the basis of t-test.

CONSTRUCTION OF CORPORATE GOVERNANCE INDEX

The corporate governance index was constructed to consolidate the data on various aspects of corporate governance and provide a better picture. It will provide a complete picture of how FMCG companies are complying with corporate governance norms as per the score based on Corporate Governance Index. The researcher has constructed the indices for three years for the period 2010-11 to 2012-13. The relative level of compliance is assessed on the basis of scores of Corporate Governance Index (CGI) for the 107 companies. The researcher has relied on extant literature and has used Clause 49 as the base to construct the Index.

Initially the corporate governance index of 58 items is constructed based on their desirability in enhancing corporate governance. The researcher has coded presence of the particular item in the index as 1 and its absence as 0. The researcher had to drop few variables because of unavailability of data. Finally the index consisted of 53 elements with a total score of 55 as two items were attached weightage. The detailed index along with the weights attached is given in Appendix.

Components of CGI

The Corporate Governance Index consisted of 53 elements grouped into 6 sub-indices. Broadly, the six sub-indices used to capture the overall level of compliance by a company are:

(a) Board Structure Index

(b) Board Procedure and Effectiveness Index

(c) Audit Committee Index

(d) Remuneration to Directors Index

(e) Shareholder Rights Index

(f) Disclosure Index

Corporate Governance Index and Firm Value: Results

The first type of empirical investigation conducted in the study relates to formation of corporate governance index and checking its relationship with firm performance.This section presents results of the same for the three years investigated in the study.

In order to get a consolidated yet comprehensive view of compliance with corporate governance norms, the researcher has tried to develop a Corporate Governance Index not only taking mandatory requirements as per Clause 49 in the Indian context but also the non-mandatory provisions into account. The corporate governance index has potentially taken into account progress on wide boardroom diversity in listed companies of gender,formation of a Remuneration Committee, movement to an unqualified audit regime, related party transactions, focus on corporate social responsibility to name a few. The purpose of creating an index was to substantiate the existing literature with a new scorecard having number of variables that define good governance. An attempt has been made to include a range of variables so as to decide upon the compliance with stricter control.The corporate governance index will help firms to differentiate themselves in the market. In further analysis firms having higher compliance score are differentiated from firms with lower compliance score and it is seen how well the high compliance firms perform in the market.

Corporate Governance Index –Descriptive Statistics

A corporate governance index is constructed for three years taken in the study. The descriptive statistics is presented in the following section.

Table 1: Descriptive Statistics of CGI for 2012-13

	Minimum	Maximum	Mean	Std. Deviation	Max. Possible
Board Structure Index	.00	5.00	3.24	1.10	6.00
Board Effectiveness Index	2.00	8.00	4.35	1.20	8.00
AC Index	4.00	8.00	6.81	1.01	8.00
Rem_to_dir Index	.00	7.00	4.31	2.05	7.00
Shhol_rights Index	3.00	7.00	5.06	.98	7.00
Disclosure Index	12.00	19.00	15.50	1.64	19.00
CGI	28.00	52.00	39.29	5.29	55.00
N	107				

Table 1 presents the descriptive statistics of the Corporate Governance Index along with its components for the year 2013. The mean value of the Corporate Governance Index is 39.29. The minimum value of the Index is 28 while the maximum value is 52. In particular, the remuneration to directors' index exhibits much more variation than other sub-indices.

Table 2 presents the descriptive statistics of the Corporate Governance Index along with its components for the year 2012. The mean value of the Corporate Governance Index is 38.57. The minimum value of the Index is 27 while the maximum value is 52. There is greater variation in the remuneration to directors' index showing there is huge difference as to compliance to this particular index.

Table 2: Descriptive Statistics of CGI for 2011-12

	Minimum	Maximum	Mean	Std. Deviation	Max. Possible
Board Structure Index	.00	5.00	3.19	1.11	6.00
Board Effectiveness Index	1.00	8.00	4.36	1.18	8.00
AC Index	3.00	7.00	6.25	.75	8.00
Rem_to_dir Index	.00	7.00	4.33	2.02	7.00
Shhol_rights Index	2.00	7.00	5.00	1.04	7.00
Disclosure Index	12.00	19.00	15.41	1.74	19.00
CGI	27.00	52.00	38.57	5.01	55.00
N	107				

Table 3: Descriptive Statistics of CGI for 2010-11

	Minimum	Maximum	Mean	Std. Deviation	Max. Possible
Board Structure Index	.00	5.00	3.09	1.09	6.00
Board Effectiveness Index	1.00	8.00	4.37	1.16	8.00
AC Index	3.00	8.00	6.20	1.16	8.00
Rem_to_dir Index	.00	7.00	4.30	2.03	7.00
Shhol_rights Index	2.00	7.00	5.00	1.04	7.00
Disclosure Index	12.00	19.00	15.32	1.77	19.00
CGI	26.00	51.00	38.30	5.29	55.00
N	107				

Table 3 presents the descriptive statistics of the Corporate Governance Index along with its components for the year 2010-11. The mean value of the Corporate Governance Index is 38.30. The minimum value of the Index is 26 while the maximum value is 51.

Comparing the descriptive for the three years, it is clear that overall corporate governance index has shown an improvement with an increase in mean from 38.3 in 2011 to 39.29 in 2013. The minimum value has increased from 26 to 28 showing an improvement of 7.69 percent. The shareholder rights Index has shown greatest improvement as the standard deviation has reduced from 1.04 in 2010-11 to 0.98 in 2012-13. The improvement is not substantial as the mandatory norms prescribed by Clause 49 have already been adopted and firms are still reluctant to adopt non-mandatory provisions.

Correlations and OLS Results-2013

Table 4 presents the correlation between the Corporate Governance Index and its components and the performance measure. The Pearson's correlation coefficient isstatistically significant for all pairs except for the correlation between the Board Effectiveness Index andBoard Structure Index; Board Effectiveness and Remuneration to Directors' Index. The positive correlations imply that companies in general strive to have better governance structures with respect to each mechanism. All the sub-indices are significantly correlated with Q, but not significantly related with ROA.

Table 4: Correlations CGI, Components of Index and Performance for 2013

Correlations

		Board_ Struc-ture	Board_ effecti-veness	AC	Rem_ to_dir	Shhol_ Rights	Discl-osure	CGI	Q	ROA
Board_Structure	Pearson Correlation	1	.154	.227*	.310**	.202*	.290**	.535**	.254**	-.006
	Sig. (2-tailed)		.114	.019	.001	.037	.002	.000	.008	.951
Board_effectiveness	Pearson Correlation	.154	1	.372**	.079	.306**	.218*	.486**	.431**	.182
	Sig. (2-tailed)	.114		.000	.416	.001	.024	.000	.000	.060
AC	Pearson Correlation	.227*	.372**	1	.505**	.458**	.347**	.712**	.229*	.054
	Sig. (2-tailed)	.019	.000		.000	.000	.000	.000	.018	.579
Rem_to_dir	Pearson Correlation	.310**	.079	.505**	1	.376**	.351**	.747**	.032	-.004
	Sig. (2-tailed)	.001	.416	.000		.000	.000	.000	.741	.965
Shhol_rights	Pearson Correlation	.202*	.306**	.458**	.376**	1	.510**	.690**	.299**	.141
	Sig. (2-tailed)	.037	.001	.000	.000		.000	.000	.002	.148
Disclosure	Pearson Correlation	.290**	.218*	.347**	.351**	.510**	1	.718**	.254**	.148
	Sig. (2-tailed)	.002	.024	.000	.000	.000		.000	.008	.129
CGI	Pearson Correlation	.535**	.486**	.712**	.747**	.690**	.718**	1	.342**	.121
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000		.000	.214
Q	Pearson Correlation	.254**	.431**	.229*	.032	.299**	.254**	.342**	1	.255**
	Sig. (2-tailed)	.008	.000	.018	.741	.002	.008	.000		.008
ROA	Pearson Correlation	-.006	.182	.054	-.004	.141	.148	.121	.255**	1
	Sig. (2-tailed)	.951	.060	.579	.965	.148	.129	.214	.008	

*. Correlation is significant at the 0.05 level (2-tailed). **. Correlation is significant at the 0.01 level (2-tailed).

Table 5: OLS Results for CGI and Performance Measured by Q

		Standardized Coefficients		
Model		**Beta**	**T**	**Sig.**
1	(Constant)		-2.600	.011
	CGI	.319	3.427	.001
	p-value	.001	F value	11.745
	R square	.101	Adj. R square	.093
2	(Constant)		-2.960	.004
	CGI	.299	2.771	.007
	LN_TA	-.072	-.662	.510
	LN_Age	.135	1.586	.116
	LN_Leverage	-.385	-4.420	.000
	Busgroup_dummy	-.094	-1.065	.289
	p-value	0.000	F value	8.382
	R square	0.295	Adj. R square	0.260

Dependent variable:Q

Further the relationship between corporate governance index and performance has been empirically analysed using the following model:

$$\text{Performance} = \beta_1 + \beta_2 (CGI)_i + \beta_3 (LN\_TA)_i + \beta_4 (LN\_Age)_i + \beta_5 (LN\_Leverage)_i + \beta_6 (Busgroup\_dummy)_i + \mu_i$$

In Table 5, both the models show significant positive relationship between CGI and Performance as measured by Q. The base Model is significant at p-value of 0.001 and Model 2 having a p-value of 0.007 is also significant. Point estimates of CGI are also significant.

To check heteroskedasticity, an initial examination is carried out by using Normal P-plot of standardised residuals and scatter plot of regression standardised predicted Q and regression standardised residuals. It is found that Q is not normally distributed as Normal P-Plot of standardised residuals deviated from normal distribution and scatter plot of regression standardised predicted Q and regression standardised residuals also showed a negative slope. So, the natural log of Q is taken as the performance measure as previously done by studies to overcome this problem.

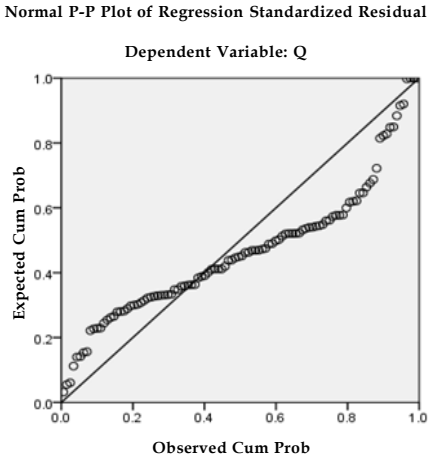

Figure 1: Normal P-Plot of Standardized Residuals Deviated from Normal Distribution of Q

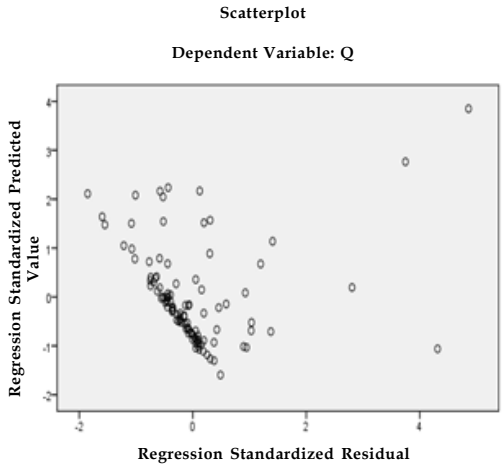

Figure 2: Scatter Plot of Regression Standardized Predicted Q and Regression Standardised Residuals

The problem of hetroskedasticity has been taken care of by using natural log of Q. The Normal P-Plot of standardised residuals show that there is a greater alignment between the observed and expected residuals of LN_Q and further the scatter plot of regression standardised predicted LN_Q and regression standardised residuals show no predictable relationship between predicted and regression standardised residuals.

The VIF quantify the severity of multicollineraity in the regression models. When VIF was checked for the independent variables, all VIF scores were less than 2. Generally, a VIF score of less than 10 can be considered as a good indicator of non-multicollinerairty[5]. So the problem of multicollinearity does not exist.

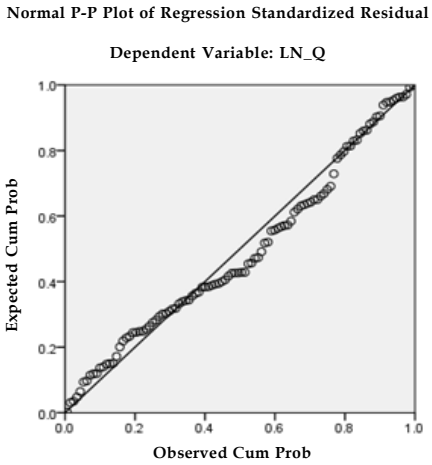

Figure 3: Normal P-Plot of Standardized Residuals Deviated from Normal Distribution of LN_Q

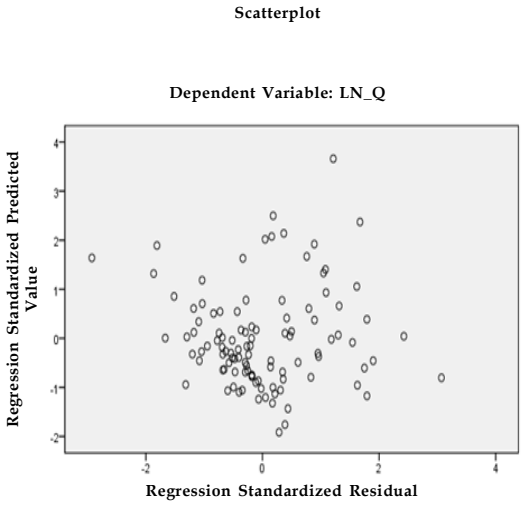

Figure 4: Scatter Plot of Regression Standardized Predicted LN_Q and Regression Standardised Residuals

Table 6: OLS Results for CGI and Performance measured by LN_Q

		Standardized Coefficients		
Model		**Beta**	**T**	**Sig.**
1	(Constant)		-3.010	.003
	CGI	.340	3.692	.000
	p-value	.000	F value	13.631
	R square	.116	Adj. R square	.107
2	(Constant)		-2.566	.012
	CGI	.357	3.180	.002
	LN_TA	-.098	-.871	.386
	LN_Age	.017	.188	.851
	LN_Leverage	-.316	-3.490	.001
	Busgroup_dummy	-.074	-.806	.422
	p-value	0.000	F value	6.368
	R square	0.242	Adj. R square	0.204

Dependent Variable: LN_Q

Table 7: OLS Results for CGI and Performance measured by ROA

		Standardized Coefficients		
Model		**Beta**	**T**	**Sig.**
1	(Constant)		-2.657	.009
	CGI	.321	3.456	.001
	p-value	.001	F value	11.945
	R square	.103	Adj. R square	.094
2	(Constant)		-1.806	.074
	CGI	.141	2.409	.064
	LN_TA	.406	4.006	.000
	LN_age	.092	1.159	.249
	LN_leverage	-.409	-5.046	.000
	Busgroup_dummy	-.221	-2.685	.008
	p-value	0.000	F value	12.853
	R square	0.391	Adj. R square	0.361

Table 7 shows the regression estimates as analysed through two models. The first model analyses the corporate governance index alone with the performance measures. The first model shows a significant positive relationship between CGI and ROA. In the second model, when the control variables were introduced the p-value improved at 0.002 and .06 in case of ROA. The size of the firm and leverage were having significant coefficients implying

they are having significant relationship with the operating performance of the firm. Both the Models, the base Model and the Model when control variables were introduced were significant in all the three years under study. Thus we reject the null of there is no significant relationship between CGI and operating performance as measured by ROA.

And also reject the null of there is no significant relationship between CGI and market performance as measured by Ln_Q.

Sub Sample Results: Independent Sample t-test: Results for 2012-13

In order to examine the performance implications of corporate governance compliance, the sample is divided into two sub-samples as high compliance firms and low compliance firms based on the overall index value. Based on the mean compliance score the firms were categorised in these sub-samples. The firms having a score of more than mean score is considered as high compliance firm and vice versa.The aim of the analysis is to find whether high compliance of corporate governance norms improves the financial performance of the firms in the FMCG sector.

Table 8: Group Statistics for 2012-13

Particulars	N	Mean	Std. Deviation	Std. Error Mean
LN_Q >=39.29	48	0.9656	1.213	0.1752
<39.29	59	0.1509	0.943	0.1233
ROA >=39.29	48	0.2486	0.3961	0.0572
<39.29	59	0.1571	0.4407	0.0573

Table 8 shows the mean for high compliance firms is 0.9656 and for low compliance firms is 0.1509 in case of LN_Q. According to the criteria the number of high compliance firms in the sample is 48 and the low compliance firms are 59 in number. The magnitude of difference is clear from the means of the two sub-samples. High compliance firms' mean is quite high at 0.9656.Further, Levene's Test for Equality of Means[6] shows an F value 9.192 at a significance of 0.003, showing the variability in the two conditions is not the same.

Even in case of ROA the mean of High Compliance firm is higher than that of low compliance firms. Levene's Test for Equality of Means shows an F value 0.197 at a significance of 0.658.

Table 9: Results of t-test on Performance and Index Scores: 2013

Performance and Index	T	DF	P-value	Mean Difference	Std. Error difference
LN_Q	3.798	87.671	0.000	0.8146	0.2145
ROA	1.117	105	0.056	0.0915	0.08190

The p-values of 0.000 from Table 9 in case of market-based performance measures show that we can infer that there is statistically significant difference between high compliance and low compliance firms in performance.The mean difference of LN_Q is positive and is statistically significant (p value-0.000). Similarly mean difference is statistically significant in case of ROA. This provides robust evidence that compliance to corporate governance best practices has a significant positive relationship with performance. The results are consistent with previous researches. Thus we reject the null stating that there is no significant difference between high compliance and low compliance firms in performance.

CG Index and Performance for year 2012

The comprehensive CGI of 2012 is regressed to its performance during 2011-12 to analyse the results. The following section provides the OLS results of the same.

Table 10: CGI and Performance Measured by LN_Q for 2012

		Standardized Coefficients		
Model		**Beta**	**T**	**Sig.**
1	(Constant)		-.914	.363
	CGI	.161	1.666	.099
	p-value	.099	F value	2.777
	R square	.026	Adj. R square	.016
2	(Constant)		-2.392	.019
	CGI	.444	3.895	.000
	LN_TA	-.407	-3.462	.001
	LN_age	.300	3.247	.002
	LN_leverage	.075	.824	.412
	Busgroup_dummy	-.061	-.644	.521
	p-value	0.000	F value	4.974
	R square	0.198	Adj. R square	0.158

Table 11: OLS Results for CGI and Performance Measured by ROA for 2012

		Standardized Coefficients		
Model		**Beta**	**T**	**Sig.**
1	(Constant)		-1.556	.123
	CGI	.252	2.671	.009
	p-value	.009	F value	7.137
	R square	.064	Adj. R square	.055
2	(Constant)		-1.949	.054
	CGI	.278	2.306	.023
	Ln_TA	-.019	-.156	.876
	LN_Age	.056	.572	.568
	LN_leverage	.118	1.223	.224
	Busgroup_dummy	-.148	-1.484	.141
	p-value	0.050	F value	2.307
	R square	0.103	Adj. R square	0.058

Table 10 and Table 11 show the regression estimates as analysed through two Models for the year 2011-12. The first Model analyses the corporate governance index alone with the performance measures. The first Model shows a significant positive relationship between CGI and LN_Q at a p-value of 0.099. In the second Model, when the control variables were introduced the p-values improved at 0.000. So it leads to the rejection of null hypothesis of no relationship between corporate governance index and firm performance for year 2012. Further, the point estimates for CGI in both the Models (even in case of ROA) are significant.

Sub Sample Results: Independent Sample t-test: Results for 2011-12

Table 12 shows the mean for high compliance firms is 0.8941 and for low compliance firms' is 0.4763.The number of high compliance firms in the sample is 55 and the low compliance firms are 52 in number. The magnitude of difference is clear from the means of the two sub-samples. High compliance firms' mean is quite high at 0.8941.Similar difference in mean values is observed in case of ROA as performance measure.

Table 12: Group Statistics for 2011-12

Particulars	N	Mean	Std. Deviation	Std. Error Mean
LN_Q >=38.57	55	0.8941	1.1558	0.1558
<38.57	52	0.4763	1.3234	0.1834
ROA >=38.57	55	0.2338	0.2612	0.0352
<38.57	52	0.1454	0.2044	0.2835

Table 13: Results of t-test on Performance and Index Scores for 2012

Performance and Index	T	DF	P-value	Mean Difference	Std. Error difference
LN_Q	1.742	105	0.084	0.4177	0.2398
ROA	1.944	105	0.055	.08846	.04551

The p-values of 0.084 in case of LN_Q and further 0.055 in case of ROA show that there is statistically significant difference between high compliance and low compliance firms in performance. The mean differences of LN_Q, LN_MBR and ROA are positive and are statistically significant. The means of high compliance firms are greater than means of low compliance firms in both the cases.Thus we reject the null stating that there is no significant difference between high compliance and low compliance firms in performance.

Corporate Governance and Firm Performance-Results for 2011

This section presents results for corporate governance index for the year 2010-11.Table 14 shows results as measured by LN_Q.

Table 14 and 15 show the regression estimates as analysed through two Models. The first Model analyses the corporate governance index alone with the performance measures. The first Model shows a significant positive relationship between CGI and LN_Q at a p-value of 0.002.

Table 14: CGI and Performance measured by LN_Q for 2011

		Standardized Coefficients		
Model		**Beta**	**T**	**Sig.**
1	(Constant)		-2.612	.010
	CGI	.304	3.257	.002
	p-value	.002	F value	10.606
	R square	.093	Adj. R square	.084
2	(Constant)		-2.691	.008
	CGI	.477	4.067	.000
	LN_TA	-.398	-3.264	.002
	LN_Age	.246	2.612	.010
	LN_Leverage	.060	.647	.519
	Busgroup_dummy	-.042	-.435	.665
	p-value	0.005	F value	3.620
	R square	0.153	Adj. R square	0.110

Table 15: CGI and Performance Measured by ROA for 2011

		Standardized Coefficients		
Model		**Beta**	**T**	**Sig.**
1	(Constant)		-1.951	.054
	CGI	.297	3.173	.002
	p-value	.002	F value	10.066
	R square	0.088	Adj. R square	.079
2	(Constant)		-1.513	.133
	CGI	.198	1.732	.086
	Ln_TA	.198	1.544	.126
	LN_Age	-.302	-3.405	.001
	LN_Leverage	.012	.121	.904
	Busgroup_dummy	-.282	-3.033	.003
	p-value	0.000	F value	6.917
	R square	0.257	Adj. R square	0.220

In the second Model, when the control variables were introduced the Model is still significant at p-value of 0.005. When the performance was measured by ROA still the p-values for both the Models were significant at 0.002 for the base Model and 0.086 for the second Model. So it leads to the rejection of null hypothesis of no relationship between corporate governance index and firm performance for year 2011. Further, the point

estimates for CGI in both the Models are significant

Sub Sample Results: Independent Sample t-test: Results for 2010-11

Table 16 clearly indicates the mean for high compliance firms is 0.6308 and for low compliance firms' is 0.2216 for LN_Q. The magnitude of difference is clear from the means of the two sub-samples with high compliance firms' mean being almost three times the mean of low compliance firms' mean. Difference in mean value is also found in case of ROA. Further, Levene's Test for Equality of Means shows an F value 5.801 at a significance of 0.018 in case of LN_Q. In case of ROA F value is 2.030 at a significance level of 0.157.

Table 16: Group Statistics for 2010-11

	CGI	N	Mean	Std. Deviation	Std. Error Mean
LN_Q	>= 38.30	53	.6308	1.111	.15261
	< 38.30	54	.2216	.8452	.11502
ROA	>=38.30	53	0.2261	0.2727	0.0374
	<38.30	54	0.1431	0.1611	0.0219

Table 17: Results of t-test on Performance and Index Scores for 2011

Performance and Index	T	DF	P-value	Mean Deviation	Std. Error difference
LN_Q	2.141	97.11	0.035	0.4092	0.1911
ROA	1.919	105	0.058	0.0829	0.0432

The p-values of 0.035 and 0.006 respectively for LN_Q is less than 0.05. Similarly for ROA p-value is 0.058. Hence, it can be concluded that there isa statistically significant difference between high compliance and low compliance firms. The means of high compliance firms are greater than means of low compliance firms in both the cases.Thus we reject the null stating that there is no significant difference between high compliance and low compliance firms in performance.

An attempt has been made to develop a Corporate Governance Index covering wider dimensions for all the three years in the study. The results show that compliance with the norms does affect the market based performance measure and the operating performance measure in a positive significant manner. Further, the impact of compliance was gauged by splitting the firms in two independent groups' viz. high compliance firms and low compliance firms. In all the Models, the VIF was less than 10 which can be considered as a good indicator of non-multicollinerairty. Further, hetroskedasticity has been taken care of by taking natural log of Q and MBR at the relevant places.

Corporate Governance Index and Firm Performance: Conclusion and Implications

Good governance is a blend of various elements taken together. Various mandatory and non-mandatory provisions are provided by Clause 49 of Listing Agreement to adopt for good corporate governance. The study has focussed on prior research studies and clause 49 to develop a Corporate Governance Index for all the three years taken in the study viz. 2010-11 to 2012-13. Further the impact of this Index on performance measures is gauged for all the three years.

A corporate governance index is constructed for three years taken in the study. When the descriptive statistics were compared it was found that the mean compliance rate for the sector has improved from 38.3 in 2011 to 39.29 in 2013. The improvement in the mean is not substantial as the companies are complying well with the mandatory requirements for the fear of penal action, and they are reluctant to adopt the voluntary measures to improve corporate governance. The index having a maximum score of 55 with 53 elements has attempted to measure the compliance not only on the mandatory requirements, but also the voluntary requirements and guidelines which are believed to enhance governance. Taking the case of a non-mandatory requirement, i.e. formation of a remuneration committee, sub-index remuneration to directors was formed. This index has shown greatest variation in all the three years index showing there is huge difference as to compliance by companies with this particular index. Over the years, the shareholder rights Index has shown greatest improvement as the standard deviation has reduced from 1.04 in 2010-11 to 0.98 in 2012-13 which is a good sign as the elements in this sub-index measures elements which enhance their rights and protect them too. The improvement shows that the difference as to the compliance is narrowing down between companies.

It was also observed that for all the three years the correlations between CGI and performance measure were statistically significant showing compliance with the norms has positive relationship with the performance of companies. Further, OLS estimates for all the three years taking Tobin's Q and ROA as performance measures provide empirical evidence that compliance with the norms has a positive relationship with both market-based Q and accounting- based measure (ROA).

High Compliance vs. Low Compliance Firms

The impact of compliance with corporate governance practices on firm's performance was assessed by analysing sub-sample results. The firms were identified and grouped into high-compliance firms and low-compliance firms on the basis of average score of CGI for the three respective years. The firms scoring more than average score in a particular year are identified as high-compliance firms and vice-versa.

The impact of corporate governance on firm performance showed that for all the three years it was found that there is statistically significant difference between high compliance and low compliance firms in performance using Independent sample t-test. The mean difference for all the performance measures (Q and ROA) were significant for all the three years indicating that better corporate governance leads to better market performance. The results are consistent with studies like Klapper and Love (2002), Brown and Gorgens (2009)[7] which showed that better corporate governance is highly correlated with better financial performance of firms.

The results of the study highlight the benefits of compliance with the norms as it enhanced both financial and operating performance of firms. High compliance firms were commanding greater value in the market. The results should act as motivator for the companies to strive for better compliance for better results.

Scope for Further Research

The study has attempted to empirically analyse relationship between compliance with corporate governance norms and its financial implications. It has provided insights on nature of compliance by FMCG sector, the level of compliance using Corporate Governance Index and impact of compliance on financial performance. The outcomes from these analyses provide broader framework for future research. Following are such areas:

i) The study was limited to firms listed on BSE. FMCG sector in India though has unlisted companies in abundance. An attempt can be made to compare the nature, level and performance implications of listed vs. unlisted firms in the sector.

ii) The study focuses on Indian FMCG sector. With the opening of retail sector, many foreign brands will enter Indian markets. A sector specific study comparing India (an emerging economy) and developed economies can be taken up.

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