# 7

# Corporate Governance and Market Value: Preliminary Evidence from Indian Companies

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## 1.    Introduction

If asked whether good corporate governance (CG) creates value, a majority of the responses would indicate that the link is not well-defined. But if asked whether bad corporate governance destroys value, the answer would invariably be in the affirmative. And this was once again demonstrated by the Satyam scandal in India in 2008–2009[1] (the Enron (2001) and WorldCom (2002) scandals had earlier proved this point). It would appear that weakness in corporate governance is a risk that neither the investors nor the government/regulators can ignore.

CG initiatives in India began in 1998 with the Desirable Code of Corporate Governance, a voluntary code published by the Confederation of Indian Industry (CII). In February 2000, the Securities and Exchange Board of India (SEBI) established the first formal regulatory framework for listed companies on CG (Clause 49 of the Listing Agreements) based on the recommendations of the Kumar Mangalam Birla Committee Report, 1999. In October 2004, these were revised following the recommendations of the Narayana Murthy Committee Report, 2003. More recently, in December 2009, the Ministry of Corporate Affairs, Government of India put forward guidelines on CG for voluntary adoption by the corporate sector in India.

According to the Cadbury Report, CG is defined as the "system by which businesses are directed and controlled" (Cadbury, 1992). In other

words, CG is a general set of customs, regulations, habits, and laws that determine how a firm should be run. In a broader sense, "Corporate governance is maximising the shareholder value in a corporation while ensuring fairness to all stakeholders, customers, employees, investors, vendors, the government and the society-at-large. Corporate governance is about transparency and raising the trust and confidence of stakeholders in the way the company is run. It is about owners and the managers operating as the trustees on behalf of every shareholder—large or small".[2]

As the *term corporate governance* lends itself to both broad and narrow interpretations, the appropriate management and control structures needed to bring about more transparency in a company's functionality are still unresolved issues. It is believed that good CG contributes towards a company's overall performance and sustainability, besides enhancing its access to outside capital. It has also been contended that CG serves a number of public policy objectives as it reduces vulnerability to financial crises, reinforces property rights, reduces transaction costs and cost of capital, and leads to capital market development (Javed & Iqbal, 2007).

Does the market then reward firms that practise good CG? In this paper we attempt to answer this question. In other words, our goal here is to test the hypothesis that firms with better CG practices receive better market valuations.

## 2.    Review of literature

A number of studies have examined the relationship between corporate governance and firm performance (see Becht et al., 2003; Denis & McConnell, 2003; Gugler et al., 2004; Hermalin & Weisbach, 1991; Holderness, 2003; John & Senbet, 1998; Shleifer & Vishny, 1997, among others). Mitton (2001) in a cross-country study of the Asia-Pacific region found that firm-level differences in CG had significantly influenced firm performance during the East Asian crisis. The study also showed that higher price performance is related to higher disclosure quality, higher outside ownership concentration, and to firms that are focused rather than diversified. In a similar study Brown and Caylor (2004) looked at

2327 firms in the U.S. and found that better governed firms are also more profitable, more valuable, and pay higher dividends. Similarly Gompers et al. (2003) found that firms that have strong shareholders' rights have higher firm value, higher profits, and higher sales growth.

The number of independent directors is also often cited as proxy for good CG. Baysinger and Butler (1985) and Rosenstein and Wyatt (1990) found that the market rewards firms for the appointment of independent directors. In a similar manner Anderson et al. (2004) found that bond yield spreads—used as proxy for cost of debt—are inversely related to board independence. On the other hand Fosberg (1989) found no relation between the proportion of independent directors and various firm-level performance measures. Hermalin and Weisbach (1991) and Bhagat and Black (2002) also found no link between the proportion of independent directors and value of the firm as measured by Tobin's Q.[3]

Thus, the evidence relating to board independence and firm value varies. The evidence pertaining to audit-related governance factors and firm performance is also mixed. However Yermack (1996) and Brown and Caylor (2004) found that the separation of the CEO's and the Chairman's positions in a company makes the firm more valuable.

## 3.   Data and methodology

To examine the relationship between corporate governance and firm-level performance, we used the CG score obtained from the S&P ESG India Index[4] as proxy for firm level governance quality, and select financial indicators/ratios and Tobin's Q as measures of firm-level performance.

For our data analysis, we adopted two approaches. In the first approach, the firms were categorised on the basis of their CG scores, and their financial indicators/ratios were compared. The indicators/ratios that we compared were return on net worth, return on capital employed, profitability ratio (PAT/Income), and interest coverage ratio.

In the second approach, we used the fixed effect regression technique to empirically test the nature of the relationship between governance score

and market value as measured by Tobin's Q. In Tobin's Q measure, the market value of equity reflects the discounted present value of a company's expected future income stream. Therefore, Tobin's Q ratio takes into account the future prospects of the firm, and provides a measure of the management's ability to generate future income stream from an asset base (Short & Keasey, 1999). Since stock prices move in accordance with changes in expectations about future cash flows and the cost of capital, this is a forward-looking measure of a firm's performance. Thus a higher Tobin's Q indicates higher valuation by the market.

Despite several weaknesses in both financial and market-based measures, an increasing number of studies now rely on market-based measures. For instance, Demsetz and Lehn (1985) used accounting measures, but Demsetz and Villalonga (2001) shifted to market-based measures. As a result, we believe that the higher reliance on market-based measures is justifiable for two reasons. First, market-based measures are less prone to accounting variations and secondly, they reflect investor perceptions about the firm's future prospects.

The functional form of the model is as follows:

$Q = \beta_0 + \beta_1 \ (Gscore) + \beta_2 \ln \ (sales) + \beta_2 \ln \ (age) + \beta_4 (Debt \ / \ Equity) + \varepsilon$

where $Q$ = Tobin's Q; *Gscore* = CG Score; *sales* = gross sales of the firm; *age* = year of observation minus year of incorporation; and *Debt/ Equity* = total debt of the firm divided by the total paid-up capital of the firm.

In this model Gscore is the key explanatory variable and the other variables are the additional explanatory variables. This model also includes sector specific dummies to control for any idiosyncratic industry specific effects.

## 4. Empirical analysis and results

The distribution of the corporate governance scores is presented in Table 1. The minimum CG score in the sample is 33.7 and the maximum is 79.6. The coefficient of variation, which shows the spread in relation

to mean value, is 0.12. This means that the scores in the sample are distributed fairly symmetrically. The percentile distribution illustrates that approximately 25% of the firms have a CG score higher than 55, the scores of around 50% of the firms are between 46.9 and 54.7, and the remaining 25% of the firms have their CG scores less than 46.9. This percentile distribution is shown in Figure 1. Using this percentile distribution we divided the firms into three categories—Category 1 consists of the firms that have CG scores equal to or less than 45; Category 2 consists of the firms with a CG score greater than 45 but less than 55; and Category 3 consists of the firms with a CG score greater than or equal to 55.

**Table 1: Summary statistics of corporate governance scores**

| Percentiles | Values | Smallest | Obs | 1156 |
|---|---|---|---|---|
| 1% | 37.57 | 33.7 | **Mean** | 51 |
| 5% | 41.99 | 35.36 | **Std. Dev.** | 6.2 |
| 10% | 43.65 | 35.91 | **Variance** | 38.9 |
| 25% | 46.96 | 35.91 | **Skewness** | 0.8 |
| 50% | 50.3 | **Largest** | **Kurtosis** | 5.0 |
| 75% | 54.7 | 77.35 | | |
| 90% | 58.6 | 78.45 | | |
| 95% | 61.3 | 78.5 | | |
| 99% | 73.48 | 79.6 | | |

**Figure 1: Percentile distribution of governance scores**
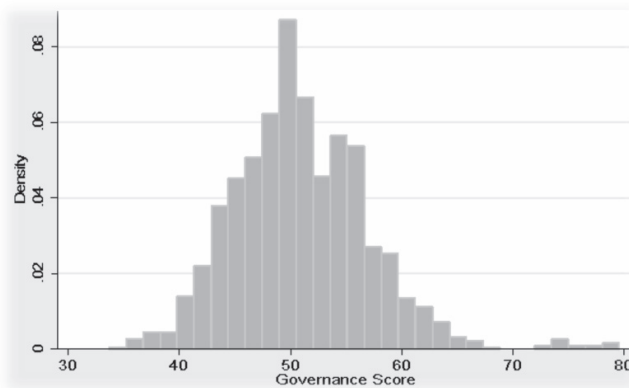


The summary statistics for the categories of firms mentioned earlier for the select financial indicators are presented in Table 2. The first indicator,

VARGP is the variance of the gross profit margin for the 12 quarters (FY 2005–06 to 2007–08). This indicates that the higher the variance, the less stable is the company's profit. Here we find that the firms belonging to Category 3 have the lowest volatility in the profit margin. The second indicator—the average profit margin (APROFIT)—is PAT divided by sales. Here also the performance of Category 3 firms is better than that of Category 2 firms, and is comparable to Category 1 firms. Besides these indicators, we calculated two more proxies of profit margins, RONW (PAT/Average Net worth) and ROCE (PAT/ Average capital employed). For this set also, Category 3 firms performed better than Category 1 and 2 firms.

**Table 2: Summary statistics for three categories of firms for select financial indicators**

| Indicators | Category | Mean | Median |
|---|---|---|---|
| VARGP | 1 | 52.8 | 16.4 |
| | 2 | 131.8 | 17.5 |
| | 3 | 45.3 | 23.8 |
| APROFIT | 1 | 12.2 | 10.3 |
| | 2 | 11.0 | 9.8 |
| | 3 | 12.1 | 10.4 |
| RONW | 1 | 18.9 | 18.5 |
| | 2 | 20.2 | 19.3 |
| | 3 | 25.4 | 20.2 |
| ROCE | 1 | 13.2 | 11.5 |
| | 2 | 15.0 | 12.6 |
| | 3 | 19.5 | 14.0 |
| Debt/Equity | 1 | 1.1 | 0.6 |
| | 2 | 1.0 | 0.6 |
| | 3 | 0.7 | 0.5 |
| Interest Coverage Ratio | 1 | 189.6 | 4.0 |
| | 2 | 165.7 | 6.9 |
| | 3 | 386.4 | 8.2 |
| P/E | 1 | 18.4 | 13.6 |
| | 2 | 21.3 | 18.7 |
| | 3 | 24.2 | 18.1 |
| Yield | 1 | 1.7 | 1.2 |
| | 2 | 1.7 | 1.1 |
| | 3 | 1.9 | 1.4 |

Debt/Equity Ratio is a measure of the indebtedness of the firm over its equity or base capital. Although there is no conclusive evidence to suggest that *less leveraged* firms are superior to *more leveraged* firms, our results show that firms with a higher governance score are less leveraged when compared to firms with a lower governance score. Interest coverage ratio is defined as PBIT/Interest payments. It measures how much interest payments can be covered by a company's profit, and indicates the financial soundness of the company[5]. Once again we find that firms having a higher governance score show a higher interest coverage ratio. In the case of Price-Earnings Ratio (P/E)[6] and yield, which is the return earned by the shareholders by way of dividends, we find that firms that have a higher governance score perform better than firms that have a lower governance score.

Table 3 shows the fixed effect regression results. There are industry specific effects[7] which have been controlled using the fixed effects estimation methodology. The model is highly significant as confirmed by the F-statistics. The coefficient of Gscore has a positive sign and is statistically significant, as was expected. This means that better governed firms do command a higher market valuation. *Ceteris paribus*, our regression results show that as the governance score goes up by a unit, the firm's value increases by 0.03 units.

**Table 3: Fixed effect regression results**

| Tobin's Q | = 2.88 | +0.03 x (G score) | -0.13 x (Log Sales) | -0.34 x (Log Age) | -0.06 x (Debt/Equity) |
|---|---|---|---|---|---|
| t-stat | (4.04) | (3.26)* | (-2.79)* | (-3.10)* | (-2.29)* |

* Significant at 5% level; F-statistics = 7.80.

Other explanatory variables also turn out to be significant but are negatively related to firm performance. Although firm size—as measured by sales revenue—should have a positive relationship with a firm's value due to the advantages of economies of scale (Baumol, 1959), organisational inefficiency—called x-inefficiency (Leibenstein, 1966)—leads to loss of profit, a likely situation in larger firms. A firm's age could work either way. Old firms have the advantage of reputation, but they tend to be prone

to inertia and bureaucratic rigidities. We found the coefficient of Age to be negative, which means that younger firms (typically new age firms) command higher market valuation. In a Modigliani-Miller framework (1958), the market value of any firm is independent of its capital structure. If tax shields are precious, then the firm value should increase with the amount of leverage. However a high level of indebtedness may negatively impact investors' psychology. If the firm fails to credibly project its investment decisions leading to a positive NPV, then a higher amount of debt may drive down the value of the firm. We found a negative association between firm value and leverage.

To take a look at a more disaggregated relationship between Gscore and a firm's value, we considered Category 3 firms (CG score $\geq$ 55) as the reference category and regressed the Tobin's Q on two dummy variables[8] for Category 1 and 2 firms along with other explanatory variables.The result is presented in Table 4. The coefficients of Category 1 and 2 firms are negative. This means that the value of Category 1 and 2 firms is lower than that of Category 3 firms.

Further the coefficient of Category 1 firms is statistically insignificant. This means that the governance practices of firms having a Gscore less than 45 have no bearing on the firms' value.

**Table 4: Disaggregated regression results**

| | | | | | |
|---|---|---|---|---|---|
| Tobin's Q = 5.08 | -0.40 x (Cat 1) | -0.38 x (Cat2) | -0.34 x (Log Age) | -0.12 x (Log Sales) | -0.07 x (Debt/Equity) |
| t-stat (9.41) | (-1.62) | (-2.20)* | (-3.05)* | (-2.47)* | (-2.39)* |

* Significant at 5% level; F-statistics = 5.10.

To arrive at a more precise relationship between Gscore and firm value we subjected the relationship to a non-linearity test. If a firm's value increases as the Gscore increases then the relationship between the two would be considered linear, and if it changes after a threshold then the relationship would be considered non-linear. We used the square of Gscore to examine the non-linearity relationship between Gscore and firm value. The results of this examination are summarised in Table 5. The coefficient of Gscore is negative while that of Gscore$^2$ is positive. Both coefficients

are statistically significant. This implies that there is a threshold beyond which a firm's value increases with an increase in governance score. This suggests that investors assign a premium on the firm's value when the governance score crosses a threshold.

**Table 5: Regression results of non-linearity test**

| Tobin's Q | = 11.01 | -0.26 x (G score) | +0.002 x (G score2) | -0.16 x (Log Sales) | -0.35 x (Log Age) | -0.07 x (Debt/Equity) |
|---|---|---|---|---|---|---|
| t-stat | (3.88) | (-2.55)* | (2.96)* | (-3.20)* | (-3.18)* | (-2.42)* |

* Significant at 5% level; F-statistics = 8.03.

## 5.    Conclusions

Although corporate governance has gained substantial ground in developed economies, it has begun to make an impact in emerging markets like India only relatively recently. Corporate governance formally became a part of the regulatory framework for Indian listed companies with the introduction of Clause 49 of the Listing Agreements in February 2000. However very limited evidence exists as to how CG practices have impacted firm-level performance or valuations within the Indian context. This study attempts to fill this gap.

To examine CG practices and their impact on firm-level performance we used the CG score obtained from the S&P ESG India Index as proxy for firm-level governance quality. Our results show a positive and significant relationship between CG score and firm-level performance after controlling for a number of firm-specific and time-specific factors. Better governed firms not only command a higher market valuation but are also less leveraged and have higher interest coverage ratios. Further they provide a higher return on net worth and capital employed, and additionally their profit margins are relatively more stable. Finally their Price-Earnings Ratio (P/E) and yield—the return earned by the shareholders by way of dividend—are also higher in comparison to the firms whose CG score is lower.

Though preliminary, these results are significant in at least three ways. First they suggest that investors are actually using the information

available from companies on their governance practices to differentiate between companies. This would imply that companies had an interest in improving their corporate governance practices as well as in publicising the measures that they take since this would contribute to an improvement in their market valuations.

Second the existence of a threshold effect indicates that only those companies that are above a certain threshold of governance levels receive the premium which provides a rough benchmark for the mandatory disclosure requirements that the regulator sets. A closer examination of the scores received across specific governance indicator categories would help to identify the kinds of behaviour and disclosures that investors put the highest premium on.

Third the Indian market, like most emerging markets, is a mix of domestic and foreign investors. To the extent that global investors put a premium on the governance of the companies they invest in, their strategies may have some positive spillover effects on domestic investors who may be trying to replicate them. We cannot of course address this issue definitively in the Indian context based on our limited data, but there is an important implication in following this line of thinking—the more significant the presence of investors who value good governance, the more likely it is that good governance practices will spread across the broader community of investors. This aspect may support an argument for regulatory mechanisms that encourage such investors.

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**Notes :**

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**Notes**

[1] In one of the biggest corporate governance scandals in India's corporate history, B. Ramalinga Raju, founder and CEO of Satyam Computers (India's fourth-largest IT services firm), announced on January 7, 2009 that his company had been falsifying its accounts for years, overstating revenues and inflating profits by $1 billion. Raju was compelled to admit to the fraud following an aborted attempt to have Satyam invest $1.6 billion in Maytas Properties and Maytas Infrastructure—two firms promoted and controlled by his family members. On December 16, 2008 Satyam's board cleared the proposed acquisition, sparking negative reactions from investors and Satyam's stock plummeted on the New York Stock Exchange and NASDAQ. The board hurriedly reconvened the same day and called off the proposed investment.

[2] N. R. Narayana Murthy, Chief Mentor, Infosys Limited (http://www.nfcgindia.org/aboutus.htm)

[3]

$$\text{Tobin's } Q = \frac{\text{MV of Equity + BV of Debt}}{\text{BV of Total Assets}}$$

[4] The universe for the S&P ESG India Index comprises the NSE listed top 500 Indian firms as per market cap on the last working day of each financial year. These firms are evaluated against a screen comprised of corporate governance, environment, and social parameters for their disclosure pattern and performance. For this study, we have used the data relating to the corporate governance screen only. The corporate governance screen consists of 127 parameters, of which 27 are extra point parameters. The screen covers various facets of corporate governance such as shareholder capital, shareholder rights, financial information, operational information, board and management information, board and management remuneration, corruption, leadership and business ethics, etc. A firm gets a score of 1 for disclosure on a parameter of the screen and zero otherwise. For the extra point parameters, a firm gets a score of 3 for disclosure and zero otherwise. The total scores obtained by the firms indicate their relative corporate governance quality. The maximum score that a firm can get is 100 and the minimum score is zero. Currently these scores are available for four years (2005, 2006, 2007, and 2008) and the common set (our sample) consists of 279 firms.

[5] If some of the borrowed funds are invested in projects where the gestation period is long with a greater probability of higher return, then this static measure will not capture that.

[6] Price-Earnings Ratio (P/E) is a forward looking measure. It shows the premium paid by the investors to own a share on the basis of the anticipated cash flow of a company.

[7] This is confirmed by the F-test where the null hypothesis of no fixed effects is rejected.

[8] The dummy variables have been created in the following manner: Cat 1 = 1 if Gscore < 45, otherwise = 0; Cat 2 = 1 if Gscore ≥ 45 and < 55, otherwise = 0; Cat 3 = 1 if G score ≥ 55, otherwise = 0