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Is Corporate Governance Priced at Stock Market? An Evidence from Nepalese Listed Firms

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Abstract: *The study addresses the question whether 'good' corporate governance has a positive impact on firm valuation. Here, investigation is made using a broad sample of listed Nepalese firms. To provide a comprehensive analysis, the study use a broad corporate governance index and two additional governance mechanisms: ownership concentration and leverage. To avoid incorrect inferences due to possible endogenous relationships between the different governance mechanisms themselves as well as between the governance mechanisms and value, equations are estimated in a system of simultaneous equations using three-stage least square approach. The result supports the widespread hypothesis – a positive relationship between firm-specific corporate governance and firm value.*

I. BACKGROUND

The relationship between corporate governance and financial performance has become one of the most controversial issues faced by policymakers today (Maher and Anderson, 2000). Although the literature is large and expanding, there is no unified theory linking governance and performance (John and Senbet, 1998). Many studies show that good practice of corporate governance is essential to improve operating performance of the firm; the relationship of governance pattern of corporate enterprises with their financial performance is not so clear and precise. Whether the firm level governance mechanisms affect its market value; the issue is still under a continuing debate among scholars. Moreover if the governance affect the price, it may also be true that the firm having higher market value is likely to be governed well. If there is two-way causation

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between corporate governance and firm valuation, does this causation require attention of corporate decision makers and fund managers? This study explores answers to these questions with the help of comprehensive sample of Nepalese listed firms.

From a theoretical point of view, agency problems may affect the value of firms through the expected cash flows accruing to investors and/or the cost of capital. Numbers of empirical studies support this proposition. Good corporate governance decreases the cost of capital to the extent that it reduces shareholders' monitoring and auditing costs (Lombardo and Pagano, 2002). La Porta et al. (2002) document higher valuation of firms in countries with better protection of minority shareholders. Durnev and Kim (2005) use data on firm-level corporate governance rankings and find that companies with better governance and better disclosure standards exhibit higher Tobin's Q. Drobetz et al. (2004) construct a broad corporate governance rating related to the German Corporate Governance Code and document a positive relationship between governance practices and firm valuation for German public firms. Similarly, Bauer et al. (2004) use Deminor Corporate Governance Ratings for companies included in the FTSE Eurotop 300 index and find that higher ratings lead to higher common stock returns and enhance firm value. Gompers et al. (2003) construct a governance index based on takeover defences for a sample of US firms. They report that firms with better governance receive higher market valuations and have better operating performance and lower capital expenditures. However, most studies do not appropriately address the issue of e\ndogeneity, i.e., the results can only be interpreted as partial correlations without indication of causality. An exception is the study by Black et al. (2003), who also find a positive relation between their governance index and Tobin's Q for a sample of Korean companies. They apply a three-stage least squares (3SLS) approach and show that a 10-point increase (out of 100) in the governance index leads to a 19.4 percent increase in Tobin's Q.

An impressive set of recent papers have considered alternative measures of corporate governance, and studied the impact of these governance measures on firm performance. Most previous studies that estimate the impact of corporate governance on firm's performance and value, concentrate on specific aspects of corporate governance in isolation, for example, takeover defences, executive compensation, blockholdings, board size or board composition (Beiner, et al, 2006). However, the existence of alternative corporate governance mechanisms may lead to a missing variables bias and spurious correlations. Thus there is a remarkable deficiency of a literature which is comprehensive and econometrically defensible in analyzing the relation between corporate governance and performance. In this context, the study takes into account the endogenous nature of the relationship between governance and performance. Also, with the help of a simultaneous equations framework, the inter-relationships among corporate governance, performance, capital structure, and ownership structure are taken into account.

II. SAMPLE AND DATA

Nepal Stock Exchange (NEPSE) brings out the official annual report which contains the information relating to capital market performance of each of the listed companies.

Further, the official web site of NEPSE contains concise version of income statement and balance sheet of each firm along with some key financial ratios. The necessary data on financial performance and other related variables, used in this study, have been collected from this source. Besides, annual reports of corporate firms are the basic sources to construct corporate governance index. Furthermore, in case information are not available publicly, a visit is made to the corporate office of the firm.

The criterion employed to select samples is the firm size. Here, firm size is measured by the value of equity outstanding. The equity outstanding of listed firms ranges from Rs. 2.05 million to Rs. 839.06 million. Thus existence of these extreme value influence the average of the group mean of industry categories; hence they are excluded in the sample. Following the size criterion, 31 firms are selected for analysis which comprises nearly 23 percent of the firms listed at NEPSE.

Most studies on firm-level evidence on corporate governance practices gather their information using questionnaires filled by the companies themselves. This methodology has various potential problems, among others: a low response rate, especially from those companies whose corporate governance practices are poor (self-selection bias); and, for the firms that do respond to the questionnaire, there is a tendency to present themselves not as they are at the moment when the questionnaire is being completed, but as they want to see themselves in the future (self-report bias) (Leal and Carvalhal-da-Silva, 2005). Here, a different route is followed to construct corporate governance index (CGI). Following the spirit of Leal and Carvalhal-da-Silva (2005), answers to the questions have been obtained using publicly available information.

From Leal and Carvalhal-da-Silva (2005)'s 24 questions and Beiner S. et. al. (2006)'s 38 questions; the study considers 25 questions that are applicable to the Nepalese setting. Then these questions are grouped into five sub-indexes, namely: corporate governance commitment (4 questions), Shareholders' rights (5 questions), Transparency (5 questions), Board of directors and executive management (5 questions) and Reporting and auditing (6 questions). Each one of these 25 questions was answered using publicly available information first. If the required information is not available publicly, then only, the firm's staffs (management) are consulted.

The yes/no type question are used to assign value of corporate governance of selected firms. If the firm has the provision of governance, it is assigned 1 and 0 otherwise. The responses to these 25 questions are simply added up together for each firm and normalized to bring it between 0 and 100. The detail list of questions used to construct the index is presented at Annex 2.

III. MODEL SPECIFICATION

The brief review of the inter-relationships among corporate governance, management turnover, corporate performance, corporate capital structure, and corporate ownership structure suggests that, from an econometric viewpoint, to study the relationship between corporate governance and performance, one would need to formulate a system

of simultaneous equations that specifies the relationships among the abovementioned variables. Following Bhagat and Bolton (2006) system of four simultaneous equations are specified:

$$\text{Governance} = f_1(\text{Performance, Ownership, Capital Structure, } Z_1, \varepsilon_1) \quad (1)$$

$$\text{Ownership} = f_2(\text{Governance, Performance, Capital Structure, } Z_2, \varepsilon_2) \quad (2)$$

$$\text{Capital Structure} = f_3(\text{Governance, Performance, Ownership, } Z_3, \varepsilon_3) \quad (3)$$

$$\text{Performance} = f_4(\text{Ownership, Governance, Capital Structure, } Z_4, \varepsilon_4), \quad (4)$$

Where, the Zi are vectors of control variables and instruments influencing the dependent variables and the εi are the error terms associated with exogenous noise and the unobservable features of managerial behavior or ability that explain cross-sectional variation in performance, ownership capital structure and governance.

To avoid incorrect inferences due to possible endogenous relationships between the different governance mechanisms themselves as well as between the governance mechanisms and value, equations are estimated in a system of simultaneous equations using 3SLS. This procedure treats Q as endogenous along with the other governance mechanisms, allowing each of the mechanisms to affect Q, but also allowing Q to affect the choice of each mechanism. Using three-stage least square, the system of equation is estimated.

Corporate Governance Index (Cgi)

The dependent variable of the first equation of system is corporate governance index (CGI). The index depends on the other corporate governance mechanism, value of the firm and on exogenous control variables. Corporate performance is a non-uniformly defined, multifaceted construct, influenced by many determinants that interact in a complex and dynamic manner (Talaulicar and Werder 2008). To measure performance implications of corporate governance, the study uses Tobin's Q as a measure of financial performance. In general, Tobin's Q is one of the broadly accepted measures of firm performance in the finance literature (Morck and Yeung, 2005). The ratio is used to account for valuation impact of corporate governance and is fourth dependent variable of the system.

The measure of alternative corporate governance mechanism is the ownership concentration. To measure concentration, natural logarithm of the average shareholding is calculated and labelled as LN_CONC as a second independent variable of the system. The other alternative governance mechanism and dependent variable in the third equation of the system is leverage (LV). Following Zingales (1995), the variable is measured by the ratio of total (non-equity) liabilities to total assets.

Because larger firms face more severe agency problems and may voluntarily choose stricter governance rules (e.g., Jensen, 1986), the first exogenous variable is firm size, LN_ASSETS, measured by the natural logarithm of total assets. To capture a possible interrelation between operating experience and firm-specific corporate governance, the firm's age of listing, LN_AGE is included.

Finally, several dummy variables are included: (i) GROUP, a dummy variable which is equal to 1 if the firm is classified as A' class enterprises by NEPSE, or 0 other wise (ii) DIV, a dummy variable that is equal to 1 if a firm has paid dividend this year, or 0 otherwise, and (iii) INDUSTRY, which relates to dummy variables in eight industries according to the classification of Nepal Stock Exchange (NEPSE). Assuming that all relations are linear, the first equation of the specified system is:

$$CGI_i = \alpha_0 + \alpha_1 LN\_CONC + \alpha_2 LV + \alpha_3 Q_i + \alpha_4 LN\_ASSETS_i + \alpha_5 LN\_AGE + \alpha_6\, GROUP_i + \alpha_7\, DIV_I + \sum_{j=1}^{7} \alpha_{7+j}\, INDUSTRY_{ij} + \varepsilon_i$$

Ownership Concentration

Lemmon and Lins' (2002) study of Korean firms suggested that there is no statistically significant relationship between ownership and Tobin's *Q*. However, more significantly, the stock market can influence corporate governance indirectly through its allocative and disciplinary mechanisms. Experience from advanced countries suggests that the stock market may also encourage managers to pursue short-term profits at the expense of long-term investment since firms are obliged to meet quarterly or half-yearly earnings per share targets determined by market expectations (Singh A. 2003). IMF (1998) and the World Bank (1998) suggest that one of the main reasons for the shortcomings in corporate governance in emerging markets was their low level of development of the stock market. Corporations were therefore obliged to go to the banks for financing their investment needs. To account for stock market influence, the variables RETURN and VOLA are included in the system of equation which measure average monthly return on stock and standard deviation of monthly return respectively. Frequency of transaction affects the ownership concentration of the firm. Thus natural logarithm of number of buying and selling of stock on the year is labeled as LN_TRANS and included in the system.

The second equation of the system of equation is specified as:

$$LN\_CONC = \alpha_0 + \alpha_1 CGI_i + \alpha_2 LV + \alpha_3 Q_i + \alpha_4 RETURN + \alpha_5 VOLA + \alpha_6 LN\_TRANS_i + \alpha_4 GROUP_i + \sum_{j=1}^{7} \alpha_{7+j}\, INDUSTRY_{ij} + \varepsilon_i$$

Leverage

Jensen (1988), Stulz (1990), and Hart and Moore (1995), among others, suggest that debt helps to discourage overinvestment of free cash flow by self-serving managers. Debt can also create value by giving the management an opportunity to signal its willingness to distribute cash flows. Empirically, McConnell and Servaes (1995) find that book leverage is positively correlated with firm value when investment opportunities are scarce. However, Agrawal and Knoeber (1996) and Beiner et al. (2004) find no relationship

between leverage and firm performance and argue that leverage is employed optimally in conjunction with other governance mechanisms. The dependent variable in the third equation of the system is leverage (LV), as measured by the ratio of total (non-equity) liabilities to total assets (Rajan and Zingales, 1995).

Here, two variables are used: one is the firm age since listing and the other is the firm size. Firm age is referred to as LN_AGE and is used to proxy for the maturity of a firm, and firm size is denoted as LN_ASSETS. In addition, another dummy variable, denoted as DIV is included. Because the availability of internal funds provides an alternative to debt financing, there should be a negative relationship between Div and LV.

A measure of growth opportunities is used as another explanatory variable. Firms with growth opportunities need to raise external financing and may find it optimal to improve their governance standards to reduce their cost of capital. Following Klapper and Love (2004) the average annual sales growth over the past three years (2006–2008) is used, and is labelled as GROWTH. Finally, to capture a possible relationship between performance and leverage, the return on equity, ROE, is included in the equation of the system. Thus, the following equation is specified as a third equation of the system.

Firm Value

To examine the relationship between the governance mechanisms and firm value, the dependent variable in the last equation of the system is Tobin's Q. Following Yermack (1996), two variables: LN_ASSETS and GROWTH are included to control for growth opportunities. A positive influence of Growth on Q and a negative influence of LN_ASSETS on Q is expected. Based on simple valuation models, Q may depend on ROE and stock's risk. Stock's risk is measured in term of standard deviation of return for the year 2008/09 and labeled as VOLA. Therefore, the final equation in the system is:

$$LV = \alpha_0 + \alpha_1 CGI_i + \alpha_2 LN\_CONC_i + \alpha_3 Q_i + \alpha_4 LN\_ASSETS_i + \alpha_5 GROWTH_i + \alpha_6 ROE_i + \alpha_7 DIV_i + \sum_{j=1}^{7} \alpha_{7+j} \; INDUSTRY_{ij} + \varepsilon_i$$

IV. EMPIRICAL RESULTS

The above system of simultaneous equation is estimated using three-stage least square method. The result is presented in table 1.

The result shows that all the χ^2 values are statistically significant even at 1 percent level of significance. Thus, the relation between the dependent and explanatory variable, as postulated in the regression equation has statistical significance. The R^2 value of equation ranges from highest of 79 per cent to lowest of 19 per cent. It suggests sufficient joint explanatory power of independent variables to explain variation in dependent variables.

Table 1: Result from estimating the system of equation using three-stage least squares method

Independent variables	Dependent variables			
	CGI	LN_CONC	LV	Q
Intercept	**66.773** 3.98 (0.000)	**3.116** 1.90 (0.057)	**1.887** 3.28 (0.001)	**–5.478** 2.86 (0.004)
CGI		**– 0.039** -1.73 (0.083)	**–0.027** -3.90 (0.000)	**0.080** 2.34 (0.019)
LN_CONC	**– 9.078** -1.97 (0.049)		**–0 .267** -2.22 (0.026)	**0.749** 4.22 (0.000)
LV	**– 28.762** -1.83 (0.068)	**3.853** 1.88 (0.060)		**2.996** 1.95 (0.051)
Q	**+ 11.381** 2.10 (0.036)	**0.088** 0.33 (0.739)	**0.351** 4.04 (0.000)	
LN_ASSETS	**6.936** 2.04 (0.041)		**0.223** 3.38 (0.001)	**-0.643** -3.91 0.000
LN_AGE	**– 0.3488** -0.13 (0.896)			
GROUP	**2.708** 0.43 (0.667)	**1.267** 2.04 (0.042)		
RETURN		**0.642** 2.16 (0.031)		
ROE			**0.0008** 0.000 (0.996)	**– 0. 014** -0.03 (0.976)
VOLA		**–9.950** -3.03 (0.002)		**– 0. 321** -0.15 0.878
DIV	**0.380** 0.08 (0.936)		**– 0.007** -0.14 (0.887)	
LN_TRANS		**0.096** 0.60 (0.547)		
GROWTH			**–0.000** -0.00 (0.999)	**– 0. 001** -0.02 0.987
RMSE	8.300	0.587	0.242045	0.680
R^2	0.794	0.640	0.1869	0.4525
χ^2	141.48 (0.000)	76.88 (0.000)	78.39 (0.000)	134.01 (0.000)
INDUSTRY	(1, 3, 4, 5 and 6 Significant)	(1, 2, 3, 4 and 6 Significant)	(2, 4 and 5 Significant)	(2 and 5 Significant)

In the first equation, coefficients for both the concentration and leverage variables are statistically significant at 10 percent level. Both of these coefficients are not significant when the same equation is estimated through ordinary least squares. Corporate governance index is negatively related with both the ownership concentration and leverage, suggesting poor governance system of the firm with high concentration of ownership and high amount of leverage. Thus the result suggests ownership dispersal is an essential criterion to improve corporate governance of a firm. The coefficient for the Tobin's Q is statistically significant at 10 percent level of significance and the sign of the coefficient is as per expectation. The result suggests, on an average, one unit increase in value of firm leads to 11 units increase in the quality of corporate governance as measured by the corporate governance index. The coefficients for other exogenous control variables are not statistically significant except for assets size as measured by natural logarithm of total assets. The result suggests that quality of corporate governance is good in a large firm compared to small firms. Out of 7 industrial dummies only one coefficient is statistically significant, suggesting industrial influence in corporate governance of a firm is not significant in Nepalese context.

In second equation, coefficients for both the CGI and leverage variables are statistically significant at 10 percent level. Only the leverage coefficient is significant when the same equation is estimated through ordinary least squares. The ownership concentration is negatively related with corporate governance index and positively related with leverage. The negative sign of CGI coefficient confirms the result of the above equation and the positive sign for leverage coefficient suggest high dispersal of ownership in highly levered firm. The result suggests the investor consciousness toward risk. They do not want to hold large amount stock of a firm with high leverage. The coefficient for the Tobin Q is not statistically significant in this equation. Thus the relationship between the ownership concentration and the firm value is indeterminate. The coefficients for other exogenous control variables are also statistically significant except for the number of transaction as measured by LN_TRANS. The result shows that investors prefer to buy and hold large number of shares for the firm having high return and low risk. Out of 7 industrial dummies 5 coefficients are statistically significant; suggesting industrial influence in ownership concentration of a firm is significant in Nepalese context.The third equation has statistically significant coefficients for both the CGI and ownership concentration variables at 10 percent level. Both the CGI and ownership concentration are negatively related with leverage. The negative sign of the CGI coefficient confirms the result of the first equation but negative sign for ownership concentration contradict the result of second equation where these two variables are positively related. The result suggests poor corporate governance lead to the increase in the leverage of the firm and so do the dispersal of ownership. The coefficient for the Tobin Q is statistically significant in this equation. The value of firm and leverage are positively related indicating that increase in the value of firm also increase the leverage. Out of the four exogenous control variables, a coefficient for only one variable, i.e., firm size is statistically significant. The result shows that big firms are more levered as compared to small firms. Out of 7 industrial

dummies only 3 coefficients are statistically significant. it suggests moderate influence of industrial differences in ownership concentration of a firm.

The fourth equation as well shows that the coefficients of all three variables (corporate governance index, ownership concentration and leverage) are positively related with firm value and statistically significant at 10 percent. The result suggests the value of the firm significantly depends on the governance mechanism of the firm. Out of the four exogenous control variables, a coefficient for only one variable, i.e., firm size is statistically significant. The result shows big firms are unable to gain value in the market place compared to small firms. Out of 7 industrial dummies only 2 coefficients are statistically significant, suggesting industrial influence in the value of a firm is not so significant Nepalese context.

As discussed above, estimating a system of simultaneous equations allows investigating the interdependence between the corporate governance mechanisms and Tobin's Q. In fact, the coefficient estimates where Q is the independent variable reveal that higher values of CGI not only lead to higher firm valuation, but that there is also reverse causality, i.e., firms with higher values of Tobin's Q adopt better corporate governance practices. High Q firms seem to be precursors in implementing the good corporate governance practice, as shown by the significant coefficient on Q in equation 1. In addition, it is supposedly harder and more costly to gain a controlling stake in more valuable firms. Therefore, in firms with higher Qs the shareholdings of shareholder tends to be smaller. Firms with higher Qs also choose more leverage, as indicated by the significant coefficient.

V. CONCLUSIONS

The study addresses the question whether 'good' corporate governance has a positive impact on firm valuation. While most previous studies used US or emerging markets data, here, investigation on this relationship is made using a broad sample of listed Nepalese firms. The Nepalese corporate governance regime is interesting to analyze, since the country has not taken any important steps to improve its corporate governance standards in the corporate sector though the urgency of corporate governance code is felt in many sectors. For example, the collapse of Necon Air and Nepal Development Bank have raised a serious question on performance of regulating agencies. Observing the intense public discussion since then, the issue undoubtedly increased the general consciousness for the importance of internationally recognized governance practices in Nepal .

The study emphasizes the importance to control for a possible interrelationship among different governance mechanisms and Tobin's Q. To provide a comprehensive analysis of corporate governance, the study use a broad corporate governance index and two additional governance mechanisms: ownership concentration and leverage. One may suspect that important substitution effects between these three governance mechanisms exist, i.e., where one mechanism is used less, others may be used more, resulting in the same valuation effects. Therefore, to avoid spurious results and capture

the possibly complex interrelationships between the different governance mechanisms, a comprehensive system of four simultaneous equations developed and three-stage least squares (3SLS) is applied to estimate the relationship. This setup allows each of the governance mechanisms to affect Tobin's Q, while at the same time Tobin's Q is also allowed to affect the choice of each mechanism.

The major conclusion of the study is positive impact of corporate governance on the firm performance. The result supports the widespread hypothesis of a positive relationship between firm-specific corporate governance and Tobin's Q, specifically corporate governance index based on Nepalese governance constructed in the study. The analysis confirms that causation runs from corporate governance to firm value, but there is also an evidence of reverse causality, with higher valued firms adopting better corporate governance practices.

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Annex 1 : Definition of Variables

Endogenous Variables

CGI	=	Corporate governance index (takes into account 25 different aspect of corporate governance structure of a company; scaled to 0 and 100.)
Q	=	Ratio of market value to book value of assets (market value of assets is computed as market value of equity plus book value of assets minus book value of equity)
LV	=	Leverage, measured as ratio of total (non-equity) liability to total assets
LN_CONC	=	Ownership concentration, measured by natural logarithm of average number of shareholding by a shareholder

Exogenous Variables

LN_ASSETS	=	Firm size, measured by natural logarithm of book value of total assets
LN_AGE	=	Natural log of firm age since listing in NEPSE
GROWTH	=	Average annual growth in sales (2006-2009)
ROE	=	Ratio of net income to total equity (return on equity)
RETURN	=	Annualized monthly average return for FY 2008/09
VOLA	=	Standard deviation of monthly stock return for the 12 month of the year 2008/09
B_SIZE	=	Number of directors on the board of the company
DIV	=	A dummy variable, 1 if firm paid dividend in the year 2008/09, 0 otherwise

Annex 2 : Construction of corporate governance index

S.N.	Corporate Governance Factors
A	**Corporate governance commitment**
1	Does the value-oriented management and control of the firm also follow corporate governance principles?
2	Does the annual financial statement explicitly refer to the company-specific corporate governance practices?
3	Are there company-specific corporate governance guidelines in written form?
4	Are these corporate governance guidelines (if available) easily accessible for all stakeholders (for example, via Internet)?
B	**Shareholders' rights**
1	Does the firm strictly follow the one share-one vote principle (for example, are no preferential shares and participation certificates outstanding)?
2	Does the company disclose a detailed analysis of any deviations from previously announced sales and earnings targets?
3	Are there measures in place that facilitate the personal exercising of shareholder voting rights (for example, via mail) and assist shareholders in the use of proxies?
4	Shareholders are allowed to mail their proxy vote in AGM
5	Shareholders have pre-emptive rights to new issued shares
C	**Transparency**
1	Does the company has a web-address which contain most recent financial statements?
2	Does the company respect the principle of equal treatment in the dissemination of information to investors and financial analysts (including information that is not subject to ad-hoc disclosure requirements)?
3	Are the agenda of the general shareholders' meeting, and the detailed minutes of the meeting available in electronic form?
4	Related information other than statutory / mandatory are also disclosed frequently with publicly available media.
5	Information provided by the company are easy to understand and not ambiguous.
D	**Board of directors and executive management**
1	Are the Board's chairperson and CEO different persons?
2	Does the activities of BOD governed by proper codes of conduct?
3	Is the board meeting organized frequently and timely, not only to meet the legal requirement?
4	Are there company-specific criteria in writing to select members of the board of directors who represent the shareholders (for example, as regards to knowledge, expert experience, potential conflicts of interest, age)?
5	Are there a sufficient number of committees of the board of directors to deal with complex matters and perform defined tasks (for example, audit, compensation, strategy)?
E	**Reporting and auditing**
1	Does the company publish quarterly reports?
2	Are the annual and interim (if available) financial statements in accordance with internationally recognized accounting principles (i.e., IFRS/IAS or US-GAAP)?
3	Does the annual financial statement specifically discuss the firm's risk management system?
4	Does the company have audited financial statement for 2007-2008?
5	Are the annual financial statements published within 90 days of the end of the financial year?
6	Does the company have provision of audit committee?