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Mediating and moderating role of financial signaling, information asymmetries of corporate governance in debt vs. equity and market value behavior

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Abstract

This particular study is regarded to the static trade off theory, pecking order theory, signaling theory and agency theory, life stage theory, transaction cost economics theory, market timing theory. This paper also estimates the results by an interactive structural equation modeling, depends on different theories to associate Debt versus Equity, corporate governance, and value of firm. The relationship of financial structure - Debt versus Equity, corporate governance, and firm value is tried to justify. In this particular study, 70 Non financial listed firms on Equity Market - Karachi Stock Exchange (KSE) are taken. The data is collected for the period of 2006 - 2010. The results presented that corporate governance has significant effect on firm performance under transaction cost economics theory and good corporate governance theory. It is noticeable of the results of corporate governance has significant effect of the value of firm. In addition, it is also shown that does have mediating effect in between the corporate financial structure and firm value. The negative relationship shows an agency problem. Therefore, the investors do not have the equal information’s of the particular firm as the manager holds. Furthermore, the financial singling and asymmetries of information’s hypothesis reflected that choice of debt or equity should impact the behavior of the investor due to information asymmetries, it is negative to increase threaten of bankruptcy. This research also concludes the basic premise to examine the structure equation modeling of impact of corporate governance and firm performance in the construction of portfolio for best alignment of cost of signaling and asymmetric risk.

Keywords: capital structure, structural equation model, corporate governance, transaction cost economics theory.
1. Introduction

The corporate governance is significant to be a vital measure for growth of financial equity markets. In particular, corporate governance mechanisms are of basic concern for prospective investors, fund’s managers, government and other stakeholders caused to consistency shifted dynamics of financial market at global scenario.

The system that protects the rights of the shareholders is acknowledged as Corporate Governance mechanism. Although goodness of the corporate governance mechanism has been practiced at all times may have best assistance to economic development. It is viewed a growing trend of exploration subject to corporate governance. The poor governance structures of firms may face more agency problems. The managers of these firms have obtained more personal benefits, due to weak governance structures. The global recession, poverty level is used to lead liquidity crunch, inflation and concentration of ownership; Corporate Governance and ethical standards are the integral part for corporate practitioners to regularize the institutions.

In public limited companies, investors and shareholders do not have control over resources allocation and have limited access to decision making. These shareholders authorize the board of directors and managers on their behalf to run the affairs of these corporations. The ownership and control are separated in public limited companies. This separation of ownership and control can cause conflict of interests between owners and managers.

These conflicts usually arise when managers tend to forgo the owners’ interests and give priority to their personal interests. These conflicts ultimately result in lack of shareholders’ confidence which ultimately results in reduced firm’s value. That is how; corporate governance comes into play to resolve these issues of mismanagement and poor governance.

Corporate governance focuses on the areas such as monitoring management actions, limiting managers’ opportunistic behavior and proper disclosure of information to ensure transparency and value creation. Agency theory is referred to as core of corporate governance. Agency agreement can be defined as: It is an agreement in which the principal hands over his responsibilities and decision making authority to agent to work on his behalf.

In context of public limited companies, board of directors is an agent and shareholders are principal who delegate their authority to directors to run the affairs of the company. Based on agency theory poor governance conflicts arise because of the separation of ownership and control in public limited companies and due to the failure of shareholders and debt providers to monitor the management activities effectively and efficiently. Agents have their own self-interests other than the shareholders’ interest of wealth maximization and value creation of firm. Agents have significant control over organization resources and also control the information to be released. Self-interest of managers and directors forbid them from pursuing the shareholders’ interests.

The companies’ ordinance 1984 required to establish Securities and Exchange Commission of Pakistan (SECP) and Pakistan Institute of Corporate Governance (PICG). Securities and Exchange Commission of Pakistan (SECP) established under SECP Act 1997. The State bank of Pakistan (SBP) and Securities and Exchange Commission of Pakistan (SECP) are held responsible for development of sound practices of corporate governance. The State bank of Pakistan (SBP) is the authority to control over monitory policy and financial
system of the economy. Pakistan Institute of Corporate Governance (PICG) encouraged good practices of corporate governance. Securities and Exchange Commission of Pakistan (SECP) started operations on 1st January 1999 and March 2002. Securities and Exchange Commission of Pakistan (SECP) issued the code to conduct the practices of corporate governance to make governance good. The Code assists to recommend good governance practices. There are prescribed rules to corporate governance fulfillment statements should be reported and followed by the firms listed under stock exchange. But there are a lot of examples of poor corporate governance can be drawn attention around the world which is relevant to nepotism, non-fulfillment of governance rules and irregularities in accountancy practices by mis presentations, fraud practices and lack of fairness of affaires in business. These examples are being practices often named as corporate scandals at firm level or at national level i.e. scandal of the privatization of PTCL - 2006, scandal of the Taj Company and scandal of the Mehran bank. The Corporate Governance has become ever significant area of research in Pakistan. The Code faced many criticism and difficulties at initial level in enforcing and implementing. The Code opens the new dimensions of corporate governance in Pakistan. Corporate failures at international scandals such as WorldCom, Enron, One-Tel, Parmalat, Ansett, etc. have awaken the requirement to implement practices of corporate governance not only in the developed economy but also in the emerging, transitional and developing economy.

The framework of the institutions has to be strengthened by transparency & accountability in reporting framework to improve the corporate governance systems in Pakistan. Agency costs of a firm are associated with the level of its corporate governance. A poorly governed firm has to bear higher agency costs usually which depicts the investors’ lack of confidence. The increase in agency costs tends to produce scarcity of funds for a firm. The interest of minority shareholders should also be protected.

The investments decisions should also improve by reducing asymmetry of information’s and agency cost due to presence of non-executive directors. A firm is well managed and follows high level corporate governance it will experience lower agency costs. The institutional framework is the solution to produce in better management practices of corporations and ultimately development of capital markets.

Although the importance of corporate governance is widely accepted for public limited companies, there is an emerging issue of value creation by corporate governance for firms. In past, market efficiency and accounting practices were held responsible to evaluate the value creation of a firm. However, it is an emerging perspective to check the value creation of a firm through corporate governance and its impact on capital structure. Hence in this study our main focus will be impact of corporate governance on capital structure as well as value creation by corporate governance.

2. Literature Review

In the context of corporate finance, to investigate the optimal capital structure is a mature field of finance research. Durand (1952) documented that cost of debt and equity could influence financial structure and value of firm. A number of hypothetical scenarios of relevance theory of Durand developed. The Seminal study of Modigliani and Miller (1958) generally known as theory of irrelevance or Modigliani and Miller - MM theory reflected that the value of the firm does not affect by the financial structure and on the theory of irrelevancy of financial structure assumed implicitly about the possession of full
information of the activities of firms under efficient or perfect market hypothesis. It is proved that EBIT is not having consideration where the use of debt, financial structure may also be considered as irrelevant.

The theoretical and empirical paradigm has shifted over time from financial approach to non-financial approach. The studies were conducted from country to regional, developed to developing, market to transitional economies. The literature of the study will support the significance of the study on Debt versus Equity that how corporate business, corporate finance, finance strategy, corporate governance influence the Debt Versus Equity of the firm.

The problem of financial signaling and asymmetric information arises when the management possesses internal information’s of the company where investors of the company do not have full access of information’s of the company. Therefore the management has the choice of capital structure. This choice may provide the signals to the market for future prospects of firm. The change in debt and equity – increase in debt may signals to the market that managers are more confident about the servicing the interest expenses and debt payments. Therefore it would increase in market value of the firm by providing the positive signal of the size and future cash flows.

The increase in equity may be used to build the perception of the investor that equity is overpriced and going to issue. This may have negative signal to the market and main reason that investor may withdraw from the interest to buy the equity. This lack of interest ultimately reflected in the decline of the market value of the firm.

2.1 The relationship of Debt versus Equity and Value of Firm

Debt Versus Equity is the device to preserve efficiency of the management to enhance market value of firms. Hatfield (1994) examined to classify the leverage ratio as a creature above or below industrial average used to issue new debt before announcement of new debt. This can have impact to the market value firm. This is evident that the debt level and industrial average cannot have any implication concerning to the market. The original proposition validated and found consistent with Modigliani and Miller (1958) that leverage is not being related to the value of the firm. Modigliani and Miller challenged the relevance theory of Durand (1952) by describing that the financial structure is not related to the value of the firm, but under perfect market. Swanson et all (2003) develop the broad range of capital structure determinants including personal tax, corporate tax, bankruptcy cost, agency cost, signaling cost, ownership structure, floatation cost, macroeconomic variables, corporate governance and government regulations and also documented the following conditions of the perfect market that the market should be frictionless; no taxes and no transaction cost and no regulatory requirements.

Kochhar (1997) considered the firm’s competitive advantage and managerial capability to manage the finance of firms. The corporate governance structure can hold the cost and performance efficiency with different strategic assets to settle financial policy matters effect on value of stock market etc. The management of the company decides about financing decision to reach the optimal market value of stocks. The maximization of shareholders value is possible by optimal maximum efficiency and selecting appropriate risk for the company.
Ross (1977) developed a theory that the values of firms will lift up with leverage, since rise in leverage lift up to the market's perception of value in the mind of stakeholders. Akerlof (1970) used the lemons market for used cars that how sellers of good quality cars can use a warranty to signal quality to buyers who cannot otherwise distinguish between good cars and lemons. He explored the tools to examine the economic impact of asymmetric information. He discussed the economic models where presented that trust is important. Informal unwritten guarantees worked as preconditions for production and trade. These guarantees provided indefinite reflection at particular point business will suffer. The good quality from bad is inherent and very difficult to distinguish in the business world. The more explanation required by economic institutions. It may be one of the more important aspects of uncertainty.

Heinkel (1982) tried to process the market and its true position. The positive net present value can be created while Debt versus Equity due to strong information of cash flows random walk than outsiders. The firms issued equity at overvaluation to proceeds signals to imitate lower value must selected underpriced debt and overpriced equity vice versa. There should be credit risk is positively correlated to value of firm.

Klein (2002) provided empirical findings that the firm’s risks exposure shifted over time leads to misrepresentation and mispriced the value of firms. The risks exposure deviations are different of debt or equity to managers and investors. Bharath et al (2009) explored that the firm-level asymmetric information are significant to characterize to volatility of stock, returns of stock and insider trading intensity.

Bradford (1987) prescribed that managers and owners at new issuance reduces the investment due to mispricing the shares and analyzed the changes cause of announcement of new issuance can have effects on market value of firms where it can be compared before and after the value of firm. Welch (1989) presented the mispricing or underpricing process where IPO can have signaling cost and imitation expense. So, it accepted and confirmed that firms used to issue an extensive amount of equity after IPO.

2.2 The relationship of Corporate Governance and Value of Firm

Rocca (2007) researched a controversy in empirical findings that is attributed to a poorness of interaction to financial structure and corporate governance. In fact Debt Versus Equity is device of governance which can make preservation of corporate governance efficiency to protect its capability of value creation. A theoretical framework can have the better understanding of financial structure, corporate governance and market value behavior. It can propose a role model of moderation effect and mediation effect of the corporate governance.

Shah (1994) established that intra – firms information has a significant impact to change in financial structure. The shift in leverage conceptualized in a different way qualitatively. The rise in leverage supports to have lower risk and do not have deviations in future expected cash flows of firm. The fall in leverage supports to have same risk and do have deviations in lower future expected cash flows of firm. Moreover, the high leverage established to control but inability to define asymmetric information.

Ghazali (2010) performed a research on ownership structure (OS), corporate governance (CG) and corporate performance (CP) in Malaysia by using regression analysis. The data used of 87 companies in 2001. The corporate governance covariates are associated to...
corporate performance – firm value significantly. The ownership covariates as named that the substantial shareholding by government and foreign ownership are significantly associated to Tobin’s Q. The corporate transparency and accountability can be enhancing through regulatory measures.

Dbouka and Ismailb (2010) examined that corporate governance can be an effective tool of internal control that contain incentives of managers to choice of SEO issuance that may not serve for the interests of shareholders. This financial capital raised may also invest in value-destroying projects.

Salva (2003) conducted a study on foreign listings, corporate governance, and equity valuations by using event study and univariate analysis. This study is performed on 25 countries. Finally found significant relationship between corporate governance and equity valuation, abnormal returns due to listing and corporate governance. Kim (2006) explored a research by using data from 1991 to 1998 by his research he concluded that family ownership concentration has significant positive association with productivity, high debt reliance negative related with productivity performance. Omran et al (2008) performed a research to evaluate that the ownership concentration can have to response as legally poor protection of investors. This is seems not to have impact significantly on firms’ performance. Drakos and Bekiris (2010) performed an analysis indicated that the managerial ownership is dealt as independently; this may impact positively to value of firm. This positive consideration due to more managerial ownership.

Ghayad (2008) conducted a study on corporate governance and Global performance of Islamic Banks that a firm has foundation of Islamic principles can affect the performance concerned to insider covariates which are quantitative in nature - financial ratios although by the insider covariates which are qualitative in nature - managerial covariates. Wilks (2004) concluded that unique and competitive strategy can be used to measure performance which required as a supplement of contextual information of the business and situation of the business.

Wruck and Wu (2009) found that new interaction can drive the positive stock price at announcement where placements deficient new relations - non-events. The investors with relations attaching to the issuer are added to achieve directorships as element of the placement. The new relations are allied to stronger profits of post placement and performance of the stock price. In general, the private placements are used to create value where it is associated to better monitoring and governance strength.

Hearn (2011) found that universally recognized governance mechanisms evidenced of a mixed impact and high levels of director as owner may increase underpricing as compared to the founders. Anderson and Gupta (2009) suggested that high market value of firm matched to the corporate governance of operating to the market – common combinations of countries as civil combinations of countries.

Sun and Tong (2003) concluded that low ownership concentration of firms showed the low profitability, less control of the firm and industrial characteristics. The disparity of controlling and ownership rights indicated to have low profits. Shah et al (2009) concluded that managerial ownership, ownership concentration, audit committee and board independence are necessary to produce quality of corporate governance and risk avoidance.

Bhagat and Bolton (2008) suggested that board members and CEO-Chair separation has positive significant relation to a better simultaneous and successive operating performance.
Alix Valenti et al. (2011) explored that earlier negative shift in performance of a firm was significant association to a fall in the aggregate number of directors and a less number of external directors.

2.3 The relationship of Corporate Governance and Debt Versus Equity

Jensen and Meckling (1976) developed the agency cost theory described the factor which can effect on debt agency cost and equity agency cost. It was the result of financial determinants extended to include the corporate governance which was rapid growing area in 1970s. The corporate governance is relevant to develop mechanisms to make a right direction of interest of and minimization of conflict between shareholders. There should always be the conflict among principal and agent. It also the key issue of corporate governance.

Gillan (2006) conducted a research on a recent development in corporate Governance and studied cover the area of the basic role of anti-takeover tool, structure of board, governance of capital market, incentives and compensation, agency costs and debt, director and officer labor markets, frauds, lawsuits, structure of the ownership, and its regulation. Lai (2011) investigated that interest has a significant positive relation to investment opportunities regarded to equity firms at all. This is poor due to Big four auditors or a greater proportion of debt maturity in the next year regard to total debt. Additionally, the more levered firms in view of the fact that the lenders may constantly monitor the financial position of borrowers.

Fernando et al (2010) developed a research of audit quality, size of client and cost of financial structure. The auditor sizes, auditor specialization of industry and auditor tenure are associated negatively to cost of financial structure of clients firms. The corporate governance can have the best implication to control the cost of financial structure. It is signified only in small firm that cost of financial structure can be reduced as reduction in cost of equity by the best selection of the auditors.

Bradley and Chen (2011) evaluated that the limited liability and indemnification they serve the interest of shareholders instead of self-interest. The firms that provide indemnification and limited liability may result in higher credit ratings and lower yield spreads by directors. The corporate governance and the agency cost related to directors will reduce the cost of capital and due to credit rating cost of debt will be reduced.

Brown and Lee (2010) explored that an association of the strength of governance and grants concerning to abnormal equity are less negative with reference to the pre-Enron period and post-Enron period may have consistency with firms efficient equity-granting choices after the corporate governance practices mandatory as by the Sarbanes–Oxley Act of 2002. Huang, Wang and Zhang (2009) concluded a study to determine the effect of CEO ownership and shareholder right on cost of equity and managerial ownership lead to lower cost of equity. Joher et al. (2006) concluded that there is negative relationship of leverage and ownership of managers.

3. Theoretical Background

3.1 Pecking Order Theory

Mayers and Majluf (1984) argued the framework of asymmetric information that managers hold internal information of the firm of future prospects as to the market. The manager acts for the best interest of existing shareholders. The managers may use internal finance –
retained earnings as compared to external finance. Mayers and Majluf (1984) modified investment opportunities by equity financing. Fama and French (2005) developed that issuance of equity is supposed to last resort of the financing in pecking order theory due to agency cost of information of asymmetry and finally reduction in value of firm.

3.2 Trade of Theory

Mayers (2001) proved that there is tax shield benefit due to more level of debt which can be used to increase in profitability of the firm. The more level of debt may increase the threat of bankruptcy. Modigliani and Miller (1963) examined that this tax shield benefit can be used to do payments of interest charges. Jensen and Meckling (1976) resulted the agency cost, debt and equity. The agency cost of equity may result in decrease in value of firm due to asymmetric information. The agency cost of debt may result in decrease in value of firm due to threaten of bankruptcy.

3.3 Agency Cost Theory

The management interested in personal benefits than wealth maximization of shareholders may influence the choices of debt versus equity. This may initiate the Agency cost. Jensen and Meckling (1976) resulted the conflict of share and managers or share or equity holders and equity holders and debt holders. Managers settled their priorities how to manage operation of business if equity or shareholders interested in event of liquidation. Stulz (1990) provided that there may be conflict of interest in different dimensions of managers – share or equity holders. The managers may invested full funds even if high cash outflows payments reasonable to share or equity holders. These reasonable prospects of cash inflows may be used to diversify the conflict of fixed debt and interest charges.

3.4 Information Asymmetry Theory

Ross (1977) provided that managers hold internal information of the firm of future concerns as to the market. The choice of debt or equity may generate signal in the market. Debt reflects confidence of managers regarded to prepayments of fixed debt and interest charges by more cash inflows of investments outside and may have perception to rise in the value of the firm. Fama and French (1983) proposed that debt in lower level have more value of firm. The more in debt level associated negatively. The cash inflows may not enough to maintain debt service. This negative reflection lead to threaten of bankruptcy may result in reduction of value of the firm.

3.5 Transaction Cost Economics (TCE)

Williamson (1988) referred that transaction cost economics (TCE) is related to contractual relation of two parties. The assets specificity of assets regarded to investment decisions. The choice of equity with higher degree of assets specificity due to low value of assets and problem of reemployed at the event of liquidation. The choice of debt with general assets specificity due to high value of assets and assets can be reemployed at the event of liquidation. Coase (1937) reported transaction cost economics (TCE) is “to buy and to make” differently with decisions of the usage of markets. Kochhar (1996) presented debt relevant to buy and equity relevant to make.

3.6 Life Stage Theory

Frielinghaus, Mostret and Firer (2005) described the basics roots of life stages of firms. The living organisms of an organization worked in a similar fashion. The life stages starts with birth and ends with death. The maturity of a firm allowed utilizing high debt Bender
and Ward (1993) proposed that risk of the business can be managed through life stages of firms. The business risk of a firm may lead to reduction in risk over time due to maturity of a firm. The financial risk of a firm may lead to increase in risk over time due to maturity of a firm. Adizes (1979) reported that the typical pattern of behavior of life stage is used to describe risk.

4. Data and Methodology

4.1 Data

The particular research is depends on non-financial sector of listed companies of Karachi Stock Exchange (KSE) data from 2006 - 2010. The data is obtained from balance sheet analysis of non-financial sector of listed companies. The research is being conducted to the all non-financial sectors of listed firms on the Karachi Stock Exchange (KSE). The data set is available from published sources. The selection criterion is to complete data firms included in sample.
4.2 Research Variables and Proxies

Table 1: Corporate Governance Variables, Theory /Hypothesis and Examples

<table>
<thead>
<tr>
<th>Ownership Concentration</th>
<th>Theory /Hypothesis</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Board Independence</td>
<td>The relationship between board independence and capital structure is positive.</td>
<td>Chan and Li (2008).</td>
</tr>
<tr>
<td>Audit Committee Independence</td>
<td>The relationship between audit committee independence and capital structure is positive.</td>
<td>Klein (2000), Chan and Li (2008)</td>
</tr>
<tr>
<td>Shareholders Activism</td>
<td>The confidence of the investor will increase due to board independence and audit committee independence.</td>
<td>Chan and Li (2008).</td>
</tr>
</tbody>
</table>
Table 2: Direction of the Effect & Empirical Findings of Corporate Governance

<table>
<thead>
<tr>
<th>Determinant</th>
<th>Measure (Proxies)</th>
<th>Direction of the Effect</th>
<th>Empirical Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ownership Concentration</td>
<td>Shares owned by top 10 shareholders/Total no of shares outstanding.</td>
<td>Positive - Negative</td>
<td>Positive - Negative</td>
</tr>
<tr>
<td>Institutional Ownership</td>
<td>Shares owned by institutional owners /Total no of shares outstanding.</td>
<td>Positive</td>
<td>Positive</td>
</tr>
<tr>
<td>Board Size</td>
<td>Natural log of Board members</td>
<td>Positive</td>
<td>Positive</td>
</tr>
<tr>
<td>Board Independence</td>
<td>Non-executive directors/Total no of directors in board.</td>
<td>Positive</td>
<td>Positive</td>
</tr>
<tr>
<td>Audit Committee Independence</td>
<td>Non-executive directors in audit committee/Total no of directors in audit committee</td>
<td>Positive</td>
<td>Positive</td>
</tr>
<tr>
<td>Ceo Duality</td>
<td>Whether CEO and Chairman the same person.</td>
<td>Negative</td>
<td>Negative</td>
</tr>
<tr>
<td>Shareholders Activism</td>
<td>No of meetings attended by more than 70% directors/Total no of meetings.</td>
<td>Positive</td>
<td>Positive</td>
</tr>
</tbody>
</table>

4.3 Methodology

Modeling financial signaling and information asymmetries in debt versus equity mediation and moderation perspective:
The methodology is used to examine the effects of change in the debt versus equity. The panel data studies of the determinants of debt versus equity are typically based on regression equation:

\[ Y_{ct} = \alpha_t + \sum_{g=1}^{n} \beta_{gc} X_{ntc} + \epsilon_{ct} \]  

(1)

Where \( t = 1, \ldots, 5 \) and \( c \) is the number of firms in each group.

The desired change in debt versus equity is measured as \( Y_{ct} = \Delta (D/E) \) where \( x \) are the independent variables as corporate governance, firm value and debt versus equity.

4.4 Modeling Corporate Governance Financial Covariates

This Model is used to examine the impact of Corporate Governance financial variables on Debt versus Equity:

\[ Y_{cijk} = \alpha_t + \sum_{g=1}^{n} \beta_{gc} \text{(Corporate Governance)}_{tgc} + \epsilon_{ct} \]  

(2)

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Where corporate governance is composed of ownership concentration, institutional shareholder, board size, board independence, audit committee independence, CEO duality, shareholder activism, it can be presented in an expanded form as follows:

\[ Y_{ct} = \alpha_t + \sum_{i=1}^{7} \beta_2 \text{ (Ownership concentration) } \gamma_c + \beta_2 \text{ (Institutional shareholder) } \gamma_c \\
+ \beta_3 \text{ (Board Size) } \gamma_c + \beta_4 \text{ (Board independence) } \gamma_c \\
+ \beta_5 \text{ (Audit committee independence) } \gamma_c \\
+ \beta_6 \text{ (CEO/Chair duality) } \gamma_c + \beta_7 \text{ (Shareholder Activism) } \gamma_c + \epsilon_{tc} \]

Where, for the model as defined above,

- \( Y_{ct} \) = capital structure response for company \( c \) in year \( t \) \((t =1,.., 5)\)
- \( g_{ct} \) = time-varying corporate governance covariate \( g \) \((g =1,.., 7)\) for company \( c \) in year \( t \) \((t =1,.., 5)\)
- \( \epsilon_{tc} \) = random error for company \( c \) in year \( t \)

\[ Y_{ct} = \alpha_t + \beta_1 \text{ (OC) } + \beta_2 \text{ (IO) } + \beta_3 \text{ (BS) } + \beta_4 \text{ (BI) } + \beta_5 \text{ (ACI) } + B_6 \text{ (CD) } + \beta_7 \text{ (SHA) } + \epsilon_{tc} \]

Where

- \( Y_{tk} \) = Debt versus Equity
- \( OC \) = Ownership concentration
- \( IO \) = Institutional Ownership
- \( BS \) = Board Size
- \( BI \) = Board Independence
- \( ACI \) = Audit Committee Independence
- \( CD \) = CEO Duality
- \( SHA \) = Shareholder’s Activism
- \( \epsilon_{tc} \) = Error term

### 4.5 Modeling Mediation of Corporate Governance Covariates

\[ MVC_{ct} = \alpha_t + \beta_1 \text{ (Debt Versus Equity) } + \epsilon_{tk} \] ................................. (3)

\[ MVC_{ct} = \text{Market value response for company } c \text{ in year } t \text{ (} t =1,.., 5 \text{).} \]

\( \beta_1 \) = Coefficients of one time-varying capital structure

\[ CG_{ct} = \alpha_t + \beta_1 \text{ (Firm Value) } + \epsilon_{tv} \] ................................. (4)

\( CG_{ct} = \text{Corporate Governance response for company } c \text{ in year } t \text{ (} t =1,.., 5 \text{).} \)

\( \beta_1 \) = Coefficients of one time-varying capital structure

\[ CG_{ct} = \alpha_t + \beta_1 \text{ (Firm Value) } + \epsilon_{tv} \] ................................. (5)

\( CG_{ct} = \text{Corporate Governance response for company } c \text{ in year } t \text{ (} t =1,.., 5 \text{).} \)

\( \beta_1 \) = Coefficients of one time-varying Firm Value
5. Results and Discussion

5.1 Descriptive Statistics

The descriptive statistics of all fourteen variables reported in table 3. The variables are DE, BS, BI, CD, AS, AI, SA, IO, IC, ROA, ROE, OPM, EPS, TQ and MV. The average annual change in percentage in Debt Versus Equity showed high average change of 7.077 per year with standard deviation is 7.89.

The results showed Ownership concentration (OC) 0.75 change, Institutional Ownership (IO) 0.59 and Board Size (BS), Board Independence (BI), Audit Committee Independence (ACI), CEO Duality (CD) and Share Holder’s Activism (SHA) reflected low average change within one year 2.07, 0.98, 0.997, 0.1771.133 respectively.

The standard deviation showed that the deviation from mean. Ownership concentration (OC) 0.01, Institutional Ownership (IO) 0.0155, Board Size (BS) 0.010, Board Independence (BI) 0.0004, Audit Committee Independence (ACI) 0.000157, CEO Duality (CD) 0.0204 and Share Holder’s Activism (SHA) 0.022 showed the volatility. This volatility can be hedged to mitigate the risk exposure. The summery statistics for all variables given in table 3 as under

<table>
<thead>
<tr>
<th>Variable</th>
<th>N</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
<th>Median</th>
<th>S.D</th>
</tr>
</thead>
<tbody>
<tr>
<td>DE</td>
<td>350</td>
<td>-366.897</td>
<td>2668.838</td>
<td>7.076644</td>
<td>1.55612</td>
<td>7.887354</td>
</tr>
<tr>
<td>BS</td>
<td>350</td>
<td>1.609438</td>
<td>2.70805</td>
<td>2.070433</td>
<td>1.94591</td>
<td>0.01044</td>
</tr>
<tr>
<td>BI</td>
<td>350</td>
<td>0.428571</td>
<td>1</td>
<td>0.982814</td>
<td>1</td>
<td>0.004133</td>
</tr>
<tr>
<td>CD</td>
<td>350</td>
<td>0</td>
<td>1</td>
<td>0.177143</td>
<td>0</td>
<td>0.020437</td>
</tr>
<tr>
<td>AI</td>
<td>350</td>
<td>0.666667</td>
<td>1</td>
<td>0.997271</td>
<td>1</td>
<td>0.001575</td>
</tr>
<tr>
<td>SA</td>
<td>350</td>
<td>0</td>
<td>2.5</td>
<td>1.133907</td>
<td>1</td>
<td>0.022981</td>
</tr>
<tr>
<td>IO</td>
<td>350</td>
<td>0.002159</td>
<td>0.999911</td>
<td>0.594279</td>
<td>0.644863</td>
<td>0.015542</td>
</tr>
<tr>
<td>OC</td>
<td>350</td>
<td>0.015243</td>
<td>1.980159</td>
<td>0.753478</td>
<td>0.786306</td>
<td>0.010387</td>
</tr>
<tr>
<td>ROA</td>
<td>350</td>
<td>0.28653</td>
<td>1.019468</td>
<td>0.052601</td>
<td>0.026811</td>
<td>0.006061</td>
</tr>
<tr>
<td>ROE</td>
<td>350</td>
<td>-334.203</td>
<td>6.560479</td>
<td>-0.93412</td>
<td>0.084936</td>
<td>0.959002</td>
</tr>
<tr>
<td>OPM</td>
<td>350</td>
<td>-1.72667</td>
<td>2.671022</td>
<td>0.101861</td>
<td>0.082389</td>
<td>0.015187</td>
</tr>
<tr>
<td>EPS</td>
<td>350</td>
<td>-1800</td>
<td>2000</td>
<td>10.56649</td>
<td>3.15</td>
<td>8.496788</td>
</tr>
<tr>
<td>TQ</td>
<td>350</td>
<td>0.026772</td>
<td>438.9761</td>
<td>4.705551</td>
<td>0.865639</td>
<td>1.817631</td>
</tr>
<tr>
<td>MV</td>
<td>350</td>
<td>-7729.5</td>
<td>4289.535</td>
<td>-58.6728</td>
<td>-1.05881</td>
<td>53.1675</td>
</tr>
</tbody>
</table>

These results pointed out that there is negative relationship between corporate governance variables and debt versus equity to reflect agency problem in this reflected that proxies of corporate governance variables, Share Holder’s Activism (SHA) with value of -0.04725 has insignificant negative relationship. This reflected that, proxies of corporate governance variables Board Size (BS), Board Independence (BI), Audit Committee Independence
(ACI), CEO Duality (CD) a positive relationship with value of 0.08, 0.009, 0.03 and 0.11 respectively.

Table 4 presented correlation among financial and Debt Versus Equity. Results revealed that there is no significant relationship among financial variables and Debt Versus Equity. The correlation coefficient between financial variables and Debt Versus Equity showed week relationship. SA, ROA, ROE, OPM, EPS and TQ are negatively correlated. There is BS and MV is positively correlated.

**Table 4: Correlations among Independent Variables**

<table>
<thead>
<tr>
<th>Variable</th>
<th>DE</th>
<th>BS</th>
<th>BI</th>
<th>CD</th>
<th>AI</th>
<th>SA</th>
<th>IO</th>
<th>ROA</th>
<th>ROE</th>
<th>OPM</th>
<th>EPS</th>
<th>TQ</th>
<th>MV</th>
</tr>
</thead>
<tbody>
<tr>
<td>DE</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BS</td>
<td>0.08</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BI</td>
<td>0.00</td>
<td>9216</td>
<td>0.15</td>
<td>0.13</td>
<td>0.17</td>
<td>0.16</td>
<td>0.16</td>
<td>0.16</td>
<td>0.13</td>
<td>0.16</td>
<td>0.18</td>
<td>0.19</td>
<td>0.19</td>
</tr>
<tr>
<td>CD</td>
<td>0.11</td>
<td>778</td>
<td>0.16</td>
<td>0.13</td>
<td>0.17</td>
<td>0.16</td>
<td>0.16</td>
<td>0.16</td>
<td>0.13</td>
<td>0.16</td>
<td>0.18</td>
<td>0.19</td>
<td>0.19</td>
</tr>
<tr>
<td>AI</td>
<td>0.00</td>
<td>373</td>
<td>0.00</td>
<td>0.02</td>
<td>0.00</td>
<td>0.02</td>
<td>0.02</td>
<td>0.02</td>
<td>0.00</td>
<td>0.02</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>SA</td>
<td>-</td>
<td>0.04</td>
<td>0.27</td>
<td>0.05</td>
<td>0.09</td>
<td>0.07</td>
<td>0.07</td>
<td>0.07</td>
<td>0.05</td>
<td>0.07</td>
<td>0.05</td>
<td>0.05</td>
<td>0.05</td>
</tr>
<tr>
<td>IO</td>
<td>0.10</td>
<td>2899</td>
<td>0.16</td>
<td>0.10</td>
<td>0.06</td>
<td>0.06</td>
<td>0.06</td>
<td>0.06</td>
<td>0.06</td>
<td>0.06</td>
<td>0.06</td>
<td>0.06</td>
<td>0.06</td>
</tr>
<tr>
<td>OC</td>
<td>-</td>
<td>0.08</td>
<td>0.06</td>
<td>0.05</td>
<td>0.11</td>
<td>0.05</td>
<td>0.11</td>
<td>0.11</td>
<td>0.05</td>
<td>0.11</td>
<td>0.05</td>
<td>0.11</td>
<td>0.11</td>
</tr>
<tr>
<td>ROA</td>
<td>0.07</td>
<td>217</td>
<td>0.24</td>
<td>0.01</td>
<td>0.03</td>
<td>0.03</td>
<td>0.03</td>
<td>0.03</td>
<td>0.03</td>
<td>0.03</td>
<td>0.03</td>
<td>0.03</td>
<td>0.03</td>
</tr>
<tr>
<td>ROE</td>
<td>0.97</td>
<td>185</td>
<td>0.08</td>
<td>0.01</td>
<td>0.11</td>
<td>0.03</td>
<td>0.03</td>
<td>0.03</td>
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<td>0.03</td>
<td>0.03</td>
<td>0.03</td>
<td>0.03</td>
</tr>
<tr>
<td>OPM</td>
<td>0.03</td>
<td>492</td>
<td>0.04</td>
<td>0.01</td>
<td>0.11</td>
<td>0.03</td>
<td>0.03</td>
<td>0.03</td>
<td>0.03</td>
<td>0.03</td>
<td>0.03</td>
<td>0.03</td>
<td>0.03</td>
</tr>
<tr>
<td>EPS</td>
<td>0.00</td>
<td>493</td>
<td>0.11</td>
<td>0.00</td>
<td>0.02</td>
<td>0.02</td>
<td>0.02</td>
<td>0.02</td>
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<td>0.02</td>
<td>0.02</td>
<td>0.02</td>
<td>0.02</td>
</tr>
<tr>
<td>TQ</td>
<td>0.00</td>
<td>442</td>
<td>0.02</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>MV</td>
<td>0.00</td>
<td>225</td>
<td>0.02</td>
<td>0.00</td>
<td>0.11</td>
<td>0.20</td>
<td>0.20</td>
<td>0.20</td>
<td>0.20</td>
<td>0.20</td>
<td>0.20</td>
<td>0.20</td>
<td>0.20</td>
</tr>
</tbody>
</table>

The blow results presented showed the relationship between Corporate Governance (CG) and Debt Vs Equity (DE). It produced reasonably more significant $R^2 0.230547$, $P – Value 0.000000$ and $F-Value 8.389469$. The Institutional Ownership (IO) has a significant effect on Debt Vs Equity decisions. Institutional Ownership (IO) is the premise to increase the confidence of investor and decreased the asymmetries of Debt Vs Equity choices.
Table 5: Debt versus Equity (De) and Corporate Governance (Cg)

<table>
<thead>
<tr>
<th>Variables</th>
<th>Coefficients</th>
<th>t-Statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>1.061575</td>
<td>2.765418</td>
</tr>
<tr>
<td>IO</td>
<td>0.291967</td>
<td>8.871128**</td>
</tr>
<tr>
<td>OC</td>
<td>29.07754</td>
<td>0.641545</td>
</tr>
<tr>
<td>BI</td>
<td>-0.08398</td>
<td>-1.60286</td>
</tr>
<tr>
<td>BS</td>
<td>-0.06301</td>
<td>-0.49442</td>
</tr>
<tr>
<td>CD</td>
<td>-0.20763</td>
<td>-0.60261</td>
</tr>
<tr>
<td>AI</td>
<td>0.058877</td>
<td>2.3089</td>
</tr>
<tr>
<td>SA</td>
<td>-0.03309</td>
<td>-1.43716</td>
</tr>
</tbody>
</table>

R^2 0.230547
R^2 Adjusted 0.203066
F-Value 8.389469
P - Value 0.000000

Significant at 0.01, 0.05 level.

The Chairman Duality (CD) is found statically more significant and negatively related to Chairman Duality (CD) which leads that duality prefer to more debt as source of financing. The investors or creditors unwilling to choice of debt and feel threat of bankruptcy. The results are consistent with Abor (2007). The most of the variables of Corporate Governance (CG) reflected negative relationship with Debt Vs Equity meant for companies prefer to have equity financing for their investments.

Table 6: Debt versus Equity (De) and Firm Value (Fv)

<table>
<thead>
<tr>
<th>Variables</th>
<th>Coefficients</th>
<th>t-Statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>-2.51563</td>
<td>-1.18769</td>
</tr>
<tr>
<td>ROA</td>
<td>40.96586</td>
<td>2.109587**</td>
</tr>
<tr>
<td>ROE</td>
<td>-8.01932</td>
<td>-76.799**</td>
</tr>
<tr>
<td>OPM</td>
<td>-0.95319</td>
<td>-0.12684</td>
</tr>
<tr>
<td>EPS</td>
<td>-0.00252</td>
<td>-0.2089</td>
</tr>
<tr>
<td>TQ</td>
<td>0.006274</td>
<td>0.113609</td>
</tr>
<tr>
<td>MV</td>
<td>-0.00069</td>
<td>-0.35916</td>
</tr>
</tbody>
</table>

R^2 0.945358
R^2 Adjusted 0.944402
F-Value 989.0278
P - Value 0.000000

Significant at 0.01, 0.05 level.

The model of the research takes into account the test of mediating effect and moderating effect of Corporate Governance (CG). The interactive dynamics of the model is importantly considerable to reflect the mediating effect and moderating effect. The overall models are satisfied the basic assumptions of normality, linearity, multicolinearity and homo – secedasticity. The table 7 (model 1 and 7) are statically significant. The model 1 significant at α < .05 and model 3, model 7 significant at α < .10. It satisfied the conditions of mediation as Corporate Governance (CG) in between Debt Versus Equity and Firm performance.
### Table 7: Mediating Effect of Corporate Governance (CG)

<table>
<thead>
<tr>
<th>OLS</th>
<th>Model 1</th>
<th>Model 2</th>
<th>Model 3</th>
<th>Model 4</th>
<th>Model 5</th>
<th>Model 6</th>
<th>Model 7</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Dependent Variable</strong></td>
<td>DE</td>
<td>ROA</td>
<td>ROE</td>
<td>OPM</td>
<td>EPS</td>
<td>TQ</td>
<td>MV</td>
</tr>
<tr>
<td><strong>Independent Variable</strong></td>
<td>CG</td>
<td>CG</td>
<td>CG</td>
<td>CG</td>
<td>CG</td>
<td>CG</td>
<td>CG</td>
</tr>
<tr>
<td><strong>R^2</strong></td>
<td>0.120791</td>
<td>0.072122</td>
<td>0.092162</td>
<td>0.564960</td>
<td>0.067310</td>
<td>0.04464</td>
<td>0.1015300</td>
</tr>
<tr>
<td><strong>R^2 Adjusted</strong></td>
<td>0.014590</td>
<td>0.002343</td>
<td>0.005645</td>
<td>0.000327</td>
<td>0.001670</td>
<td>-0.00087</td>
<td>0.007464</td>
</tr>
<tr>
<td><strong>F-Value</strong></td>
<td>5.152674</td>
<td>1.81963</td>
<td>2.981193</td>
<td>1.114304</td>
<td>1.583854</td>
<td>0.69505</td>
<td>3.624647</td>
</tr>
<tr>
<td><strong>β (Beta Coefficient)</strong></td>
<td>0.000086</td>
<td>0.078259</td>
<td>-15.8236</td>
<td>-15.3610</td>
<td>-102.393</td>
<td>-14.5286</td>
<td>966.4329</td>
</tr>
<tr>
<td><strong>P - Value</strong></td>
<td>0.023822</td>
<td>0.178234</td>
<td>0.085125</td>
<td>0.291881</td>
<td>0.209050</td>
<td>0.40502</td>
<td>0.057754</td>
</tr>
</tbody>
</table>

Significant at 0.01, 0.05 level.

In accordance with Baron and Kenny (1986) documented that mediation can be observed by three regression equations. In accordance with Baron and Kenny (1986) documented that mediation can be observed by three regression model equations. At first, Debt Versus Equity (dependent variable) must be significant relation to Corporate Governance (CG) - (mediator). At second, Corporate Governance (CG) – (mediator) and Firm value (FV) - (independent variable) must be significantly related. At third, both Corporate Governance (CG) – (mediator) and Firm value (FV) - (independent variable) are currently included in multiple regression. The relationship between the results and independent variables must be statically insignificant where it is matched to main effect. The model 1 and 7 fulfilled the conditions of mediation. This provided that model 1 (β = 0.000086, F – value =5.1526, p (sig) = 0.00238) indicated the relationship and impact in between Debt Versus Equity (DE) and Corporate Governance (CG) and accept the first condition of the mediation. The model 7 (β = 966.4329, F – value =3.624647, p (sig) = 0.05) explained that Corporate Governance (CG) has the effect on Firm value (FV). It also satisfied the second condition to accept the mediation as prescribed by Baron and Kenny (1986).The results are consistent with Rocca (2007) to support the positive or negative relationship of Debt Versus Equity (DE) and Corporate Governance (CG). The model 2 provided that (β = 0.078259, F – value =1.81963, p (sig) = 0.17) fails to accept and rejected the second mediation condition but showed positive impact on Firm value. The model 3, 4, 5 and 6 where (β = - 15.8236), (β = - .153610), (β = - 102.393) and (β = - 14.5286) respectively negative effect but insignificant due to significance level at α > .05. In this regard particularly it is observed that negative effect of Corporate Governance (CG) due asymmetric information’s and agency problems where perceptions of market participants may change and quite different from theoretical background.
The results in table 8 provided the moderation effect of Corporate Governance (CG) on Firm Value (FV). The model 2 is statically significant at $\alpha < .05$. It satisfied the conditions of moderation of the Corporate Governance (CG) on Firm performance. The model 1, 3, 4 and 5 where ($\beta = -0.000680$), ($\beta = -0.000890$), ($\beta = -0.16867$) and ($\beta = -0.03439$) respectively negative effect but insignificant due to significance level at $\alpha > .05$. The model 6 presented that ($\beta = 1.485575$, $F$ – value =1.250005, $p$ (sig) = 0.741346) fails to accept and rejected the condition of moderation but reflected positive relationship on Firm value.

**6. Conclusion**

The results conclude that corporate governance (CG) has no effect on firm performance (FP) under transaction cost economics theory and good management theory. The results presented that corporate governance (CG) has effect on firm performance (FP) under transaction cost economics theory and good management theory. It is evident from the results that CG has significant effect on the firm value. In addition, it is also shown that (CG) does not have mediating effect in between the corporate financial structure (CFS) and firm value. The negative relationship showed an agency problem. Therefore, the investors do not have the equal information’s as by the managers about the firm. Furthermore, the hypothesis singling reflected that the further incorporation of debt or equity should impact the behavior of the investor due to information asymmetries, it is negative. These asymmetries of information affect the psychology and perception of investor in decisions of investments. These imperfections can misprice the value of the firm. There should be improvements in trust and confidence of investors to make the market more proficient and frictionless to reduce the anomalous behavior and mispresentation of the market.

The sample period is quite significant due the characteristic of corporate governance, capital structure and firm value of becomes optional sometimes. Moreover, we concluded that some principals are very much concerned with the wealth maximization to achieve the goal of the firm other than the profitability. So, if corporate governance (CG) practices are incorporated and inferred that the agents have not practically implied by the managers. This
may indicate negative signal that the existence an agency problem. Furthermore, the investor do not have the equal information as to managers have full information’s. The choice of debt or equity should impa impact on behavior of the investor due to asymmetries of information. The asymmetries of information lead to negative signals and investor withdrew from investment decision. As a result, it declines the firm value. The study tested mediation and moderation to make the results unique and reliable justification that Debt Versus Equity is a device to preserve the efficiency of Corporate Governance and may best protector of value and risk diversification of optimal capital structure. This study also supplied the basic premise to examine the model of effect of CG on firm performance in a construction of portfolio. In fact, Choices of Debt Versus Equity represents as the governance tool by preservation of the Corporate Governance efficiency and protect its ability for better value creation and diversification of risk to make capital structure optimal. So, it is needed to follow the code of conducts of the Corporate Governance to enhance proficiency of Governance to achieve optimal Capital structure.

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