Does Corporate Governance Structures Predict Firm’s Market Value? Empirical Evidence from Ghana

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ABSTRACT

This paper examined the effect of corporate governance structures on the market value of firms in Ghana. Quantitative data was collected on thirty-one firms listed on the Ghana stock exchange from 2009 to 2018 to predict the effect of corporate governance structures on the firm’s market value. Panel data regression analysis revealed that corporate governance structures accounted for 84.9% of the variation of a firm’s market value for the period. Furthermore, the study revealed a significant relationship between chief executive officer (CEO) duality, non-executive director, board size and firm’s profitability and value. The study concludes that firms should separate CEO position from board chairman position to enhance a firm’s profitability and value.

Keywords: Agency Theory, Board Size, Corporate Governance, Duality, Firms

JEL Classifications: G32, G34, O16

1. INTRODUCTION

Corporate governance is a process by which organisations are directed, controlled and held to account to the stakeholders of firm (Guo et al., 2013). It is a formal distribution of power between three main parties: The board of directors, managers and shareholders to ensure that the decisions of management do not conflict with the shareholder interest (Ngoungo, 2012). Corporate governance is an attempt to minimise the problems associated with agency theory. The conflict between principal and agents due to the separation and control of a firm by owners and managers is commonly referred to as principal-agent problems (Byrnes et al., 2003). The issue of corporate governance arises because of the separation between the ownership and management of a firm. This creates a problem commonly referred to as “principal-agent” problem where management pursue their personal interest at the expense of owners’ interest. The investors provide the capital necessary to run the firm while managers manage and control the firm to achieve the objective of the investors. Some of the agency problems are the perks, executive pay, empire building and risk-shifting and others. Although the principal-agent problems have existed since the industrial revolution, business and political leaders around the world had a re-awakening following fraudulent business manoeuvres by the former energy giant, Enron, Inc., which eventually created financial crisis in the United States of America (U.S.A).

Corporate governance failures were accounted for the collapse of well performing firms in the past: Enron, Xerox, Parmalat, WorldCom among others (Adewale, 2013; Angelides and Thomas, 2011; Badele and Fundeanu, 2014; Kasum and Etudaiye-Muthar, 2014; Ogjuiba and Obiechina, 2011; Oyerinde, 2014). Agency problems have received lot of attention after the 2008 global credit crunch that culminated into bank failures and worldwide economic crises. Since then many multinational agencies have encouraged governments, regulators and firms to examine the subject matter closely to take proactive steps to implement proper corporate governance procedures. These have seen many countries sanctioning their own corporate governance systems: the Securities and Exchange Commission (SEC) (1977) in the
2.1. Theoretical Review

Two main theories that underline corporate governance are the agency theory and stewardship theory. Agency theory relates to management ethics while stewardship is concern with the formation of social culture in a firm. The reviews provide in-depth correlation between these two theories to corporate governance and firm’s performance.

2.1.1. Agency theory

Jensen and Meckling (1976) presented the agency theory as a theoretical basis of corporate governance, which identifies governance mechanisms that can minimises the conflict of interests resulting from the separation of ownership and management of a firm’s resources. Agency theory is based on the relationship between the principals (i.e., owners) and agents (i.e., managers) in which the agents carry out the firm’s activities on behalf of the owners. An agency problem arises when there is imperfect alignment of interest between the principal and the agent. The wealth and welfare of shareholders and other stakeholders are not maximised in the event of conflict of interest between the two. Agency theory is based on the separation of ownership and control of firm by the principals (i.e., owners) and agents (i.e., managers). The theory assumes that owners engage managers in order for the managers to maximise the interest of the owners. On the contrary, managers rather maximise their personal interest at the expense of the owners’ interest (Sila et al., 2016). Agency theory arises due to the separation of owners from management (Ali, 2014). The theory opines that it is impossible for managers to act on behalf of the owners without conflict of interest. Often, the managers make decisions that are not in the best interest of the owners as they may succumb to self-interest, opportunistic behaviour and fall short of expectations of the owners. Managers will prefer to invest free cash flow into a new project rather than pay dividend to shareholders in order to expand and grow their firms (MacCarthy and Ahulu, 2019). Sometimes, managers are motivated to borrow and grow the business not because it is the best decision for the firm but because they want to boost their personal career growth. These debts can create high cost to the firm and sometimes result in financial distress, leading to bankruptcy at the expense of the owners. This implies that managers sometimes take excessive risk to borrow and buy assets to expand the firm at the expense of the owners. Agency theory creates the problem of information asymmetry, adverse selection, and moral hazard in that order.

2.1.1.1. Information asymmetry

This is a challenge that arises where agency problem exists and occurs when a firm’s internal information is controlled by managers to the extent that managers have too much or little information on the firm (Dahlstrom and Persson, 2010). Information asymmetry makes owners unable to take appropriate decisions on the firm. Owners are unable to take appropriate decisions on the firm where information asymmetry exist. Tsai (2008) states that the higher the information asymmetry the greater the uncertainty of owners are, concerning the firm and its growth prospects.

2.1.1.2. Adverse selection

This situation arises from information asymmetry where managers of a firm make wrong choices or fail to make the best choices for the firm due to their personal interest.

2.1.1.3. Moral hazard

This situation follows after information asymmetry and adverse selection. Moral hazard arises when managers do not take the full consequences and responsibilities of their actions, hence acting less carefully than they otherwise would, and leaving responsibility of the consequences of their actions on another party.
Corporate governance experts have argued that managers must be held accountable for the tasks they carry out on behalf of the firm. Rewards and punishments are used to correct the priorities of managers to align with a firm’s priorities. Also, McColgan (2001) argued that agency problem can be reduced by the help of corporate governance mechanisms. Corporate governance experts have argued for an establishment of an effective board of directors to monitor management’s interest and protect the owners’ interest due to the problems of separation and ownership between principal and agents.

2.1.2. Stewardship theory
Stewardship theory provides an opposing perspective to agency theory and argues for a structure that clarifies the role of the agents (i.e., managers) rather than viewing them as self-interested individuals. This theory opposes the view that agents aim to maximize their private interests and gains at the expense of owners, and posits that agents rather seek the support and endorsement of a wide group of stakeholders to gain legitimacy for their firms. The theory supports corporate governance processes and structures as a means of enhancing a firm’s value rather than agency problems. Stewardship theory, thus assumes managers as good stewards who will act in the best interest of owners (Hiebl, 2013) arguing that stewards are motivated and satisfied when a firm achieves its desired objectives. The theory supports corporate governance and argues that a market value of the firm will increase if a steward with the best expertise is engaged to run the firm rather than bringing an external non-executive director (NED) to the board, who may not have sufficient internal knowledge vital to the success of the business. Consequently, the theory opposes the inclusion of NEDs on the board and opines that the part-time/ceremonial position of NEDs, in many cases, inhibits their monitoring function and renders their contribution to decision-making processes negligible (Bozec, 2005). Stewardship theorists argue that insider directors can better monitor management due to the former’s enhanced knowledge in the firm’s operations as compared to the NEDs who have little or no knowledge about the firm’s operations (Baysinger and Hoskinsson, 1990). The theory supports chief executive officer (CEO) duality and argues that an effective management is based on the principle of unity of command; therefore, it is advisable for the CEO to occupy the position of the chairman to enhance and facilitates effective operations of the business. This view is contrary to the agency theory that argues that to reduce agency problem, the CEO position should be separated from the chairmanship position of the board. The fundamentals of stewardship theory are based on social psychology, which is focused on the behaviour of executives who believe their duty is to safeguard the interest of the principal.

2.2. Empirical Evidence Relating to Corporate Governance and Firms’ Performance
The introduction of corporate governance to explain the performance of a firm has generated divergent views. Empirical evidence on the effect of corporate governance on a firm’s market value is mix (Tricker, 2015; Parum, 2005). Claessens and Yurtoglu (2013), Love (2011) and Rajagopalan and Zhang (2008) argue that good corporate governance reduces agency cost, minimises information asymmetry, lowers capital cost, builds trust for the stakeholders, and improves a firm’s market value. Hence, there is a positive relationship between corporate governance practice and a firm’s market value. Despite the positive relationship other studies show a negative relationship (Park and Shin, 2003; Singh and Davidson, 2003). The negative relationship argues in favour of stewardship theory based on family-related firms (Doc-Ho and Nguyen, 2014). In spite of these few findings related to family businesses, the literature shows that effective corporate governance reduces ownership and control issues associated with agency problems.

3. METHODOLOGY
Research method is a method used by researchers to investigate and provide answers to research problems (Kothari, 2004). This paper adopted quantitative research methodology to collect data to test and predict the relationship between corporate variables and the firm’s market value outlined in this study. The data collected was organised into variables suitable for descriptive and inferential analysis for this study.

3.1. Sample Data
A sample of 23 listed firms was selected from GSE from 2009 to 2018 using probability sampling methods. Data was collected from the financial statements of these firms from 2009 to 2018, giving a total of 310 observations for this study. Table 1 shows the 31 firms selected from 35 listed firms using Yamane formula.

\[ n = \frac{N}{(1+N(\frac{x^2}{2}))} \]  \hspace{1cm} (1)

3.1.1. Model specification
The dataset is organised to fit panel data taken from both cross-sectional and time series observation from the selected firms. This is consistent with prior studies (Tarique and Abbas, 2013; Veprauskaitė and Adams, 2013). The model is used to estimate the effect of corporate governance on firms’ performance, but modified slightly to incorporate other control variables previously as shown below:

\[ \text{Tobin’s } Q_{it} = \beta_0 + \beta_1(\text{CEO})_{it} + \beta_2(\text{Bsize})_{it} + \beta_3(\text{NED})_{it} + \beta_4(\text{Growth})_{it} + \epsilon_{it} \]  \hspace{1cm} (2)

Where:
Tobin’s Q is the dependent variable used in this study.
CEO, board size (Bsize) and NED are the independent variables use in this study.

### Table 1: The population of GSE and the sector categorization

| Sector                | No. of companies | Percentage | Sample size |
|-----------------------|------------------|------------|-------------|
| Banks                 | 7                | 26.3%      | 6           |
| Manufacturing companies| 17               | 44.7%      | 15          |
| Non-manufacturing companies | 11       | 29.0%      | 10          |
| Total                 | 35               | 100.0%     | 31          |

Source: Computed from the Ghana Stock Exchange, 2018
Growth and Debt are the control variables in this study. 
\[ \beta_1, \beta_2, \beta_3, \beta_4, \text{ and } \beta_5 \] are regression coefficients of the equation to be estimated. 
\[ \beta_6 \] is the parameter of the equation.

\[ t = \text{is the time series of the study (} t = 1, 2, 3, 4, 5, 6, 7, 8, 9 \text{ and } 10) \]
\[ i = \text{is the cross-section (i.e., 31 firms selected from the GSE)} \]
\[ \varepsilon = \text{Unique error or error term.} \]

3.2. Variables and Used Models

Three research variables used are dependent variable, independent variables and control variables:

3.2.1. Dependent variable (i.e., Tobin’s Q)

Tobin’s Q is the market performance indicator defined as the percentage of market value of a firm to total assets (Hoon and Prather, 2001). Tobin’s Q is frequently considered as a reliable performance measure indicator based on its growth potential. It incorporates the firm’s share price into firm’s value or wealth measurement. Tobin’s Q measurement of above 1 indicates a firm that has growth opportunities while Tobin’s Q value below 1 to indicate a firm with poor underlying structures and with little growth opportunities. The study the formula used by Bhagat and Bolton (2008) to calculate Tobin’s Q as follows:

\[ \text{Tobin’s Q = Equity market value of the firm/Total assets of the firm}. \]

3.2.2. Independent variables (i.e., CEO, Bsize and NED)

Corporate governance variables are independent variables used to determine the effect on firms’ market value. The three corporate governance variables used and these are: CEO, Bsize and NED. 

3.2.2.1. CEO duality (CEO)

CEO duality refers to the situation where the CEO holds the position of the chairman of the board. Cadbury Committee considers CEO duality as undesirable practice because it gives too much power within a decision-making process to the CEO. Given that, CEO duality is undesirable practice, many studies have found negative relationship between CEO duality and the firm market value. The study equates a CEO that combines the two positions as “0” for this study.

3.2.2.2. NED

A high number of NED on the board represents board independent. Advocators of good corporate governance argue for higher number of NEDs on the board enhances the independence of the board. The proxy for measuring the board composition is the number of NED or outsider directors on the board.

\[ \text{NED} = \text{No of non-executive/No of directors on the board}. \]

3.2.2.3. Bsize

The Bsize represents the number of directors on the board. A Bsize of seven or less is considered as small board and those above seven is considered as large Bsize. The proxy for measuring the Bsize is the number of board members for firm as follows.

\[ \text{Bsize} = \text{Number of board members}. \]

3.2.3. Control variables (i.e., growth and debt ratio)

Control variables affect both dependent and independent variables and if not control will affect the outcome of the study. The control variables used in this study are:

3.2.3.1. Growth

Growth represents the rate of growth of the firm. A growing firm is able to generate enough revenue to finance its operation vice versa. A growing firm tend to contribute positively to firm’s performance vice versa. Pandey (2007) concluded that growth has positive relationship with firm’s performance. Park and Jang (2014) measured the growth using the current year’s sales minus last year’s sales divided by last year’s sales and expressed as percentage change in annual sales.

\[ \text{Growth} = \left( \frac{\text{Current year’s sales} - \text{Previous year’s sales}}{\text{Previous year’s sales}} \right) \]

3.2.3.2. Debt

Debt represents the debt ratio of the firm’s leverage position. Managers are empowered to decide the kind capital to employ, debt capital, equity capital or both. Managers sometimes used debt capital instead of equity capital due to agency problems caused by information asymmetry, adverse selection and moral hazard. Therefore, debt ratio is agency problem that can influence performance. The ratio determines the leverage or gearing ratio of the firm. The proxy for leverage is measured by LTR is calculated by dividing total debt over total assets as shown below:

\[ \text{Debt} = \text{Total debt/Total assets}. \]

4. RESULTS AND DISCUSSION

This sub-section presents the findings from the data analysis carried out in the study. Descriptive statistics, pairwise correlation and multivariate regression were used to test and explain the causal theories relating to corporate governance practices and firm’s performance.

4.1. Descriptive Statistics

To estimate the relationship between corporate governance practices and a firm’s market value, a descriptive statistics was used to present graphical summaries of the relationship between the dependent, independent and control variables. Table 2 presents the descriptive summary statistics of the variables used to analyse the regression model in this study. The table depicts the mean and standard deviation of the dependent, independent and control variables used. The first column shows the mean of the corporate governance variables and firms’ performance variable. The mean

| Variables | Mean | Standard deviation | Min. | Max. | Observations |
|-----------|------|--------------------|------|------|--------------|
| Tobin’s Q | 0.07 | 0.93               | -3.70| 3.90 | 310          |
| CEO       | 0.87 | 0.34               | 0    | 1.00 | 310          |
| Bsize     | 8.00 | 2.19               | 3.00 | 11.00| 310          |
| NED       | 0.24 | 0.15               | 0.09 | 0.67 | 310          |
| Growth    | 0.13 | 0.39               | -1.00| 1.20 | 310          |
| Debt      | 0.67 | 0.27               | 0.05 | 1.26 | 310          |

Source: Researcher’s Stata version 15 computation
for Tobin’s Q was 0.07 for the firms selected for the 10-year period. This implies that on average the firms returns was 7% on owners assets.

The higher this ratio, the better the performance of the selected firms. The mean for the corporate governance variables, CEO duality, Bsize and NED were 0.87, 8.00 and 0.24 respectively. This implies that 87% of CEOs do not practice CEO duality. This outcome is in compliance with the SEC 2010 code on CEO duality. The mean also implies that only 24% of board positions were occupied by executive directors implying that the boards are independent and assertive of their responsibility. Finally, Bsize is an average of 8 which is considered by many scholars as a large Bsize. The standard deviation indicates how far away the variables are from the mean. The standard deviation for Tobin Q is 93% which is an indication of wide dispersion from the mean.

4.2. Statistical Inferences
Statistical inferences enable information taken from the sample dataset to be used to estimate and test the claims about the characteristics of the population. Statistical inferences provide a statement of precision that is associated with the estimate made. This subsection presents the analyses carried out under pairwise correlation analysis, and regression analysis.

4.2.1. Result of correlation matrix
Table 3 shows the pairwise correlation matrix between variables used in this study. The Pearson correlation analysis was used to determine whether there was a significant relationship between corporate governance variables and a firm’s market value variable.

It reveals that corporate governance variables are positively and significantly correlated with the firm. This implies a correlation between CEO, NED and Bsize and a firm’s market value. The P-values for these values are below 5% (i.e., P < 0.05) which means that the relationship between corporate governance variables and a firm’s market value is statistically significant. Additionally, the results revealed that the independent variables are not correlated. When the tolerance static between two independent variables fall below 0.50 then, there is no multicollinearity. Therefore, since none of the coefficient of independent variables is above 0.50, multicollinearity assumption is violated. The existence of multicollinearity would not affect the way in which the regression is performed but rather affect the interpretation of the result (Anderson et al., 2009).

4.2.2. Testing of regression assumption
Before the panel data regression, it is necessary to check the assumptions underlying regression to ensure they are not violated. Violation of any of these assumptions: Normality, autocorrelation, endogeneity and heterogeneity will produce a biased outcome of the results. Therefore, testing of these assumptions provided the needed assurance that the model is fit for the regression. The Hausman test revealed that random effect estimator is the most suitable model for the regression in this study. The outcome of these testing assumptions is presented in Table 4.

4.2.3. Result of the multivariate analysis
The panel data regression is carried out based on the fact that there was correlation between the independent, control variables and dependent variable in this study. The regression assumptions were not violated. The R square is the coefficient of determinant of the model. Table 5 shows that R² was 0.849. It shows predictive power for the panel data regression of the model. This implies that 84.9% of the variation in the Tobin’s Q can be explained by the corporate governance variables for firms selected from the GSE for the study. The corporate governance variables represented by CEO duality, Bsize and NED are positive and significantly related with Tobin’s Q. The higher the R squares, the better the predictive power of the model especially when it is closer to 1.0 or 100%.

The P-value shows the fitness of the model while the “rho” gives the proportion of the variation in the dependent variable that cannot be explained by the model. The P-value of 0.000 is <5%, (i.e., P < 0.05) which implies that the model is a good fit for the data. There is positive relationship between CEO duality, Bsize, NEDs, Growth and Tobin’s Q while there is negative relationship between debt ratio and Tobin’s Q. The positive relationship between the CEO duality, Bsize, NEDs and Tobin’s Q is consistent with the agency theory and it is in alignment with corporate governance guidelines that requires separation of a CEO position from the position of the board chairman, the board should be made of appropriate size between eight and sixteen, and appointment of NEDs with requisite skills will affect the firm’s performance positively.

The outcome explains that a firm represented by a CEO who does not double as the board chairman will enhance the firm market value and the Bsize and NED explains that a firm composed of appropriate size of NEDs and Bsize will enhance the firm’s market value. This outcome is consistent with the agency theory and aligns with corporate governance guidelines that requiring separation of a CEO position from the position of the board chairman will affect the firm’s performance positively. This outcome is consistent with previous studies on corporate governance and firm’s market value that concluded that there was a positive relationship between a firm’s value and Bsize (Bathula, 2008; Bhagat and Bolton, 2008; Gill and Obradovich, 2012; Kyereboah-Coleman and Biekpe, 2013; Maks and Kusnadi, 2005; Singh and Vinnicombe, 2004). Finally, the study sought to determine the effect of using a firm’s debt ratio as a control to predict its relationship with the firm’s market value. There was negative but significant relationship between debt capital and a firm’s market value which is consistent with agency theory. This indicates that an inappropriate use of
Table 4: Summary of testing regression assumption

| Tests | Tests statistics and hypotheses | Null |
|-------|---------------------------------|------|
| 1.    | Test for normality: Econometrics tool: Kolmogorov-Smirnov/Shapiro-Wilk test Result: Statistics=0.727, df=310, Sig=0.059 Null hypothesis: Data is normally distributed | Accepted |
| 2.    | Test for autocorrelation: Econometrics tool: Durbin-Watson statistics Result: R=0.626, R²=0.391, Durbin-Watson statistics=2.022 Null hypothesis: Autocorrelation Decision: Assumption not violated and model fit for regression | Rejected |
| 3.    | Test for endogeneity: Econometrics tool: Hausman test Result: Chi-square (2) statistics=4.260, P=0.372 Null hypothesis: Random effect estimator Decision: The most suitable model for regression is random effect estimator | Accepted |
| 4.    | Test for heteroskedasticity: Econometrics tool: Breusch-Pagan/Cook-Weisberg test Result: BP=129.63, P=0.000 The null is that it is homoscedastic Decision: Confirmation of random effect estimator as most suitable model for regression | Accepted |

Source: Compiled by the author (2019)

Table 5: The random effect estimator result

| Tobin Q | Coefficients | Std. Error | t-statistics | P-value |
|---------|--------------|------------|--------------|---------|
| CEO     | 0.734        | 0.157      | 4.675        | 0.000   |
| Bsize   | 0.247        | 0.112      | 2.205        | 0.104   |
| NED     | 0.252        | 0.317      | 0.800        | 0.426   |
| Growth  | 2.091        | 1.015      | 19.910       | 0.000   |
| Debt    | −0.076       | 0.211      | −3.619       | 0.000   |
| Constant| 0.492        | 0.252      | 1.952        | 0.051   |

R²=84.9%
Wald x²(5)=480.22
Prob>x=0.0000

Source: Researcher’s Stata version 15 computation

The separation of CEO and board chairman position is necessary to ensure optimal performance of a firm in order to ensure that CEOs do not indulge in opportunist behaviors.

This finding is consistent with the agency theory and it implies that the separation of CEO position from the board chairman position coupled with a large number of NEDs on the board enhances transparency, independence of the board and provides an effective monitoring system that will enhance the firm’s market value. Finally, the negative relationship between debt and a firm’s performance is consistent with the agency theory and agrees with the research findings of (Frank and Goyal, 2003; Nenu et al., 2018; Tong and Green, 2005). This implies that debt capital has not been used to the extent that will benefit ownership, therefore, managers should use debt capital to finance operation cautiously.

5. CONCLUSIONS

Corporate governance aims to protect the interest of all stakeholders including owners of firms. The findings from the regression reveal that the corporate governance variables (i.e., CEO, Bsize and NED) affect a firm’s market value (i.e., Tobin’s Q). The positive relationship between corporate governance variables and a firm’s market value indicates that firms with strong corporate governance structures are perceived positively by the market which also reflects on the stock market prices. This finding is consistent with the agency theory that posits that CEO duality may cause ineffective monitoring and supervision of the management team (Loderer and Peyer, 2002; Mohan and Chandramohan, 2018). The separation of CEO and board chairman position is necessary to ensure optimal performance of a firm in order to ensure that CEOs do not indulge in opportunist behaviors.

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Ahulu and MacCarthy: Does Corporate Governance Structures Predict Firm’s Market Value? Empirical Evidence from Ghana

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