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Governance structures, cash holdings and firm value on the Ghana stock exchange

Disraeli Asante-Darko, Bright Adu Bonsu, Samuel Famiyeh, Amoako Kwarteng and Yayra Goka

Abstract

Purpose – There is an existing relationship among shareholders, boards of directors and management of companies. Corporate governance practices of companies are expected to ensure that this relationship maximises the wealth of shareholders. Differences exist among corporate governance of companies listed on the Ghana Stock Exchange. Companies, for purposes of liquidity, hold cash, but cash holdings also add to the cost of financing, according to working capital theories. The study, thus, sought to examine the relationship between corporate governance practices, ownership structure, cash holdings and firm value.

Design/methodology/approach – The study deployed the seemingly unrelated regression to reduce the problem of multicollinearity resulting from the strong relationship between cash reserves and some control variables.

Findings – The study found no significant relationship between board size and firm value. Similar findings were also made on the relationship between proportion of non-executive directors on the board and firm value. However, firms audited by the big four audit firms are valued higher by the capital market. Cash holdings of firms negatively affect performance, and this is statistically significant. A positive relationship arises between a firm's cash holdings and its value as a result of debt financing, even though this is not significant.

Originality/value – The study is the first of its kind that deploys Tobin's Q as a measure of firms' value to reflect investors' valuation of firms in Ghana. The study is also the first of its kind to test the interactive effect of debt financing and cash holdings on firm value in Ghana.

Keywords Ghana, Corporate governance, Firm value, Firm liquidity

Paper type Research paper

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1. Introduction

The value of a company is affected by factors within the control of management and other external factors. Valuation models identify the value of a company as a function of the risk faced by the company. Risk, in the literature, is identified as systematic and unsystematic risk, where systematic risk refers to risk arising from market-related factors, and unsystematic risk arises from entity-specific factors. Entity-specific factors, such as cash holding, corporate governance and ownership structure, can influence a company's value (Harford *et al.*, 2008).

In valuation of equity shares, one approach identified in the literature is the free cash flow method, which values shares based on the free cash flow available. This means that the amount of cash a company holds at any point in time has influence on its value (Isshaq *et al.*, 2009).

Corporate governance, the mechanism within which a firm operates and is directed, can also influence its value. Jensen (1993) identified that as a result of the agency problem, the shareholder wealth maximisation goal, which managers are to pursue, is disregarded for

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personal goals, such as increasing their perks. This phenomenon is not value-adding. [Eberhart \(2012\)](#), in a research based in Japan, showed that companies that adopted the Anglo-American committee system experienced increase in their firm valuation after the adoption, and the reason stated was that the adoption signalled a move to transparency. With transparency, asymmetric agency cost was also expected to be reduced. Other researchers, such as [Stiglbauer and Velte \(2014\)](#), show that soft law regulations governing corporate governance have no impact on the value of firms. The effect of executive ownership on different economic variables has been assessed extensively in current literature ([Iona et al., 2017](#); [Iona and Leonida, 2016](#); [Ehikioya, 2009](#)).

The ownership structure can affect a firm's value. Ownership structure is defined as whether firms have management ownership or otherwise. [Jensen \(1993\)](#), in the convergence of interest hypothesis, identified that management ownership "joins" the interest of management and shareholders. This reduces the agency problem.

The interaction of corporate governance mechanism and cash holdings has also been identified to have an effect on a company's value. In a weakly governed company, managers are given the leeway, and they engage in activities that reduce the cash reserves of the company rather than investing in value-adding activities ([Harford et al., 2008](#)). Accumulated cash holding in a company can also suffer inefficient investment in the absence of organised structures, as management can engage in acquisitions and mergers that do not add value to shareholders ([Harford et al., 2008](#)). Corporate governance structures exist, hence, to ensure that managers do not waste free cash flow of companies, according to the free cash flow theory and the agency theory ([Jensen, 1993](#)). This study brings out the relationship existing between firm value and entity-specific factors: corporate governance, ownership structure and cash holdings.

2. Literature review and hypothesis development

2.1 Theoretical framework

2.1.1 Agency theory. An agency problem arises between management and shareholders as a result of separation of ownership and management. Agency problem reduces firm value as a result of the agency costs ([Jensen and Meckling, 1976](#)). Management has the tendency to pursue their interest at the expense of shareholders, and this is likely to result in management engaging in activities which are non-value adding ([Hogan, 1997](#)). The board is regarded as a monitoring body that is to supervise the activities of management so that shareholder wealth maximisation is pursued. Thus, corporate governance measures, such as board size, board independence, audit quality and others, are important in ensuring effectiveness of the board. Corporate governance is expected to reduce agency costs in firms and, thus, can affect firms' value. [Jensen \(1993\)](#) asserts that there is the need for the convergence of interest of management and shareholders to reduce the agency problem. Also, transparency of financial statements through financial statement auditing can also be achieved to reduce window dressing or any form of creative accounting. Management ownership on the basis of this can also affect firms' value.

2.1.2 Free cash flow theory. Free cash flow refers to amount of cash available to firms after investment in positive net present value projects ([Jensen, 1986](#)). The free cash flow hypothesis suggests that firms that have free cash flows are more susceptible to the agency problem. This is because management develops the tendency to invest the free cash flow in even projects with negative net present values. Having cash available in a firm invested in projects that reduce the firm's value suggests that the distribution of this cash to shareholders would increase firm value. According to [Jensen \(1986\)](#), free cash flow increases agency cost and, thus, reduces firm value. However, the theory recommends that this urge of management to waste free cash flows can be controlled when firms use debt financing. Debts have restrictive covenants and interest obligations which together restrain

the behaviour of management. Management is, therefore, controlled, hence reducing the tendency to engage in non-value adding activities. The theory is, however, criticised for fostering short-termism in management and emphasising debt financing.

2.2 Empirical literature

2.2.1 Corporate governance and firm value. Performance measures that use return on assets, return on equity and Tobin's Q have been linked to corporate governance in the literature. [Abor \(2007\)](#), for instance, linked performance of companies listed on the Ghana Stock Exchange to corporate governance. However, another performance measure of companies is their market value. How does corporate governance affect the value of a company? The literature presents mixed results, as there is no clear direction as to whether corporate governance affects positively or negatively a company's value.

With respect to the relationship between corporate governance and firms' value, firms with corporate governance mechanisms that are able to protect investors are valued at a premium by investors. The literature identifies that firms' value increase at the domestic market when firms make outside investment in countries that have high investor protection. On the contrary, if firms invest in countries with low investor protection, they are valued low ([Pinkowitz et al., 2006](#)).

Shareholder rights have been linked to firm value in the literature. It has been found that where there are shareholder rights, firms achieve high profits; they are able to reduce capital expenditures and are also able to achieve high valuation on the capital market ([Gompers et al., 2003](#)). This finding is also corroborated by that of [Brown and Caylor \(2006\)](#), who found that better governed firms are valued higher by the capital market.

[Dittmar and Mahrt-Smith \(2007\)](#) assert that corporate governance has a link with cash holdings, and the literature identifies that, depending on whether a firm has poor or good corporate governance mechanisms, this would affect firms' value. Where firms have poor corporate governance structure, cash reserves can be abused by managers, and acquisitions that reduce a company's value can be made. However, with a good corporate governance structure, this can be avoided, and decisions that increase firms' value would be taken.

There are other researches also in the literature that establish that there is no statistically significant relationship between corporate governance and firms' value. [Klein \(1998\)](#) found no association between a firm's committee structure and its value, whereas [Bhagat and Black \(1999\)](#), in a research, using US firms, found no relationship between corporate governance and firms' value. In a research, using a relative measure, Tobin's Q, to measure firms' value, [Hermalin and Weisbach \(1991\)](#) found that the proportion of outsider directors' on board does not have any statistical relationship with stock value. No statistical relationship was found between board composition and firm value ([Hermalin and Weisbach, 2000](#)).

Corporate governance is measured using board characteristics and audit quality. Board characteristics, such as board size, board composition, CEO duality and audit quality, have been used to measure corporate governance ([Isshaq et al., 2009](#); [Ehikioya, 2009](#); [Abor, 2007](#)). The impact of board characteristics and audit quality on firm value identified in the literature is discussed below.

The number of people on corporate boards has been identified to affect their monitoring function on management so as to effectively manage the agency problem, which adversely affects firm value. [Lipton and Lorsch \(1993\)](#) identified that larger boards are ineffective in their monitoring performance, as communication even becomes difficult. [Chaganti et al. \(1985\)](#) despite the postulations of the agency theory on board size, however, found that board size positively affects firm value.

The presence of non-executive directors on corporate boards is also expected to reduce the agency problem and, hence, the agency cost. This is because non-executive directors

bring to the board impartiality and objectivity in their decisions, unlike management whose decisions can be motivated by the need to gratify their self-interests (Jensen, 1986). Value maximisation is pursued, all other things being equal, for companies that are dominated by non-executive directors. Non-executive directors are directors having no attachment with the company unlike executive directors.

Jensen (1986) identifies that one way shareholders can minimise or keep in check the agency problem is through external monitoring, such as audit. Audit is able to ensure that, in the midst of asymmetry of information, shareholders can be assured whether what management is saying is true or otherwise. Hence, quality audit has the effect of checking agency problem and, in the final analysis, increasing firm value. Thus, agency theory identifies that quality audit helps to minimise the agency problem. Audit quality is measured using audit conducted by the big four auditors.

The study thus hypothesises that:

H1. Corporate governance has significant relationship with firm value.

2.2.2 Ownership structure and firm value. Ownership structure refers to the extent of management and employee ownership (insider ownership) in a company. The literature identifies that ownership structure has a non-linear relationship between corporate governance and firms' value (Morck *et al.*, 1988; McConnell and Servaes, 1990). The results suggest that insider ownership increases a firm's value, but as insider ownership dominates, there is an entrenchment effect, and this reduces a company's value. Insider ownership increasing a firm's value conforms to the agency theory. The convergence of interest hypothesis of Jensen (1993), for instance, puts across the idea that the interest of managers and shareholders are aligned when there is insider ownership. This reduces the incidence of the agency problem. Bhagat and Bolton (2008), however, do not find evidence supporting a positive association between ownership concentration and firm performance. Thus, in line with the agency theory that employee and management ownership (ownership structure) reduces agency problem, and hence, should lead to shareholder wealth maximisation, the study makes this hypothesis:

H2. There is a significant relationship between ownership structure and firm value.

2.2.3 Cash holdings and firm value. This section looks at whether the cash holdings of firms have any effect on their value. The literature, however, does not provide uni-directional results. There have been mixed results, as some studies show that cash holdings reduce firms' value while others show that cash holdings increase firms' value.

The part of the literature that identifies negative relationship between cash holdings and firms' value has been largely explained through non-value adding acquisitions and cash misuse by managers as a result of cash availability. The literature identifies that, when cash is available, managers can engage in acquisitions which do not add to shareholders' wealth maximisation (Harford, 1999). Managers can also engage in activities that reduce companies' value by converting companies' liquid assets to their personal assets easily (Myers and Rajan, 1998). Also, managers can engage in any investment decisions and they are not compelled to reveal information to investors or the capital market, when internal finance is used. Managers can engage in some expenses which are not necessary for the operations of their entities. Hence, non-value adding investment decisions can be made by management. It is also recognised that controlling shareholders can use their powers where there is cash availability to siphon the cash through investment decisions that do not add value to the company (Dittmar *et al.*, 2003).

Aside these findings, there are other aspects of the literature that identify that cash holdings increase firms' value. Chen (2008), for instance, identifies that cash is held for transactionary, precautionary and speculative reasons, and according to the financial hierarchy theory, having cash for transaction purposes reduces a firm's cost of capital, which, in turn, is expected to increase value. By reducing cost of capital, an entity can take

advantage of more investment opportunities (Boyle and Guthrie, 2003). The literature identifies mixed results such that cash holdings have negative, positive and no impact on firm value. Kalcheva and Lins (2007) found that there is a negative relationship between cash holdings and firm value, while Mikkelson and Partch (2003) found a positive relationship between firm value and cash holdings.

Other parts of the literature also suggest that the impact of cash holdings on a firm depend on a mix of the debt and the equity of a company. Merton (1973) recognised that, where a company has high proportion of debt in its capital structure, its value becomes dependent on debt holders. This is espoused by theories like contingent claims analysis. The theory suggests that increase in cash holdings of a company increases debt holders' value rather than equity holders', which means that the stock market places a low value on a company's share for each additional cent/dollar of cash reserve held. However, the marginal value of cash-to-equity ratio increases when there is a decline in a company's level of gearing. This is explained by the fact that equity shareholders now benefit from the company's cash, and bankruptcy cost is reduced. In these mixed results, the study makes a hypothesis based on results supporting the agency theory expectations that high cash holdings increase the agency problem. Thus, the study makes the following hypothesis:

One way to reduce the agency problem is through debt. Given debt financing as measured by leverage of the firms, it is expected that management would not waste firm's cash holdings (Jensen, 1993). Rather, cash held is going to be expended in a manner that adds value to the company in accordance with the free cash flow theory.

The study therefore makes the following hypothesis:

H3. There is a significant relationship between cash holdings and firm value.

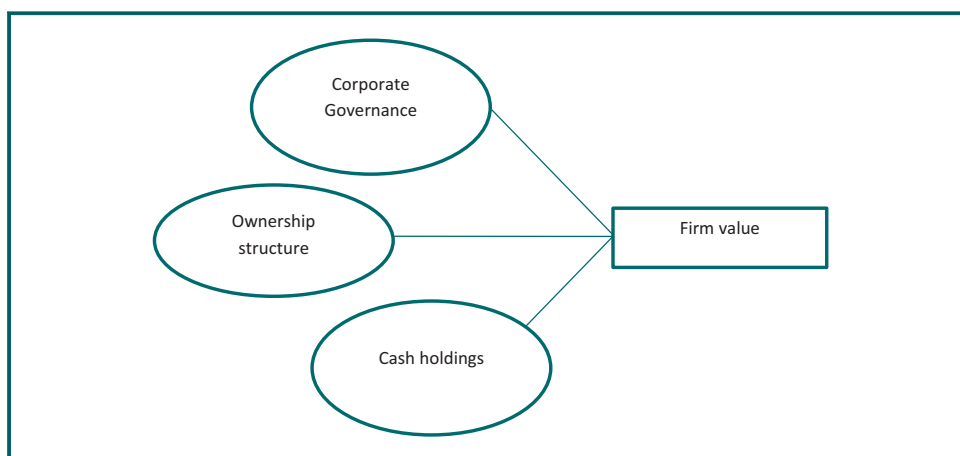
2.2.4 The conceptual framework. The conceptual framework shows the relationship between corporate governance, ownership structure and cash holdings and firms' value. The conceptual framework below shows, essentially, that corporate governance variables, ownership structure and cash reserves can affect firms' value [Figure 1](#).

3. Data and methodology

3.1 Sources of data

The study used secondary data, specifically the financial results and market data of the selected companies. Data were picked from the Ghana stock Exchange fact book and the companies' annual report. The study used data over the period 2010-2014.

Figure 1 The conceptual framework



3.2 Econometric model

The study used panel (pooled) data for sampled companies on the Ghana Stock Exchange. The general form of the regression equation is stated below:

$$Y_{i,t} = \beta_0 + \beta_1 X_{i,t} + \varepsilon_{i,t}$$

' $Y_{i,t}$ ' stands for the dependent variable and the ' $X_{i,t}$ ' stands for the independent variables, while the ' $\varepsilon_{i,t}$ ' represents the stochastic error term. The subscript ' i ' stands for the cross-section portion of the data, while ' t ' represents the time series portion. Panel data, hence, means a combination of time series and cross-sectional data.

The econometric model used in the research has the value of a firm as the dependent variable, and the independent variables of interest are cash holdings, corporate governance and ownership structure. Control variables are also set to reduce the omitted variable bias (Gujarati and Porter, 2010). As a result, control variables, such as leverage and dividend payments, were included in the study. The second model introduces the interaction of management ownership on the cash holding of firms to examine its effect on firm value. The study uses the Tobin's Q, a relative measure, to represent firm value (Krafft *et al.*, 2013).

The seemingly unrelated regression (SUR) was used to estimate the regression equations. The method used is in line with the works of Isshaq *et al.* (2009). This was used because of the established relationship between one of the main independent variables, cash holdings, and dividend payments. This, hence, presents the problem of multicollinearity, which upon its occurrence makes the ordinary least square (OLS) estimator less efficient. The SUR, when used, is able to handle well the strongly correlated variables. The strong relationship between cash holdings and some of the control variables, such as dividend payment and firm size, is evidenced by the correlation table (Appendix 1).

The model used for the study is specified below:

$$VAL_{i,t} = \beta_0 + \beta_1 BS_{i,t} + \beta_2 PropNED_{i,t} + \beta_3 AUDQ_{i,t} + \beta_4 MOWN_{i,t} + \beta_5 LevxCASH_{i,t} + \beta_6 SIZE_{i,t} + \beta_7 LnDIV_{i,t} + \beta_8 LnCASH_{i,t} + \beta_9 LEV_{i,t} + \beta_{10} logage_{i,t} + \varepsilon_i$$

where $VAL_{i,t}$ measures value of firms, $BS_{i,t}$ measures board size, $PropNED_{i,t}$ measures proportion of non-executive directors on the board, $AUDQ_{i,t}$ measures audit quality, $MOWN_{i,t}$ measures ownership structure, $SIZE_{i,t}$ refers to size of companies, $LnDIV_{i,t}$ measures dividend payments of firms; $LnCASH_{i,t}$ measures cash holdings of firms, $LEV_{i,t}$ represents leverage of firms, $logage_{i,t}$ represents age of listing of firms.

Table I below gives a summary of measurement of variables and the expected signs by the study.

4. Empirical results

Table II shows that the companies used for the study have average board size of eight (antilog 2.071307). Some companies, however, had board size of 13, while others recorded a minimum size of five members. The standard deviation also shows that there are variations in the companies in terms of board size.

The proportion of non-executive directors on the boards of companies used for the study, on average, approximates 82 per cent. Some companies, however, recorded minimum non-executive directors proportion of 71 per cent, while others recorded a virtually full non-executive directors representation of approximately 92 per cent. It can be discerned that companies listed on the Ghana Stock Exchange have boards dominated by non-executive

Table I Measurement of variables

Variables	Label	Measures	Expected sign
<i>Dependent variable</i>			
Firm value	$VAL_{i,t}$		
<i>Independent variables</i>			
<i>Corporate governance</i>			
Board size	$BS_{i,t}$	The natural logarithm of the number of directors on the board	Negative
Non-executive directors	$propNED_{i,t}$	Measures the proportion of outside directors on the board	Positive
Audit type	$AUDQ_{i,t}$	Measures whether a firm is audited by one of the big four auditors or otherwise. It is a binary variable	Positive
<i>Ownership structure</i>			
Management ownership	$MO_{i,t}$	Measures management shareholding in relation to total equity shares	Positive
<i>Cash holding</i>			
	$CASH_{i,t}$	Measures the cash reserve of companies. (Natural logarithm of year-end cash balances)	Negative
<i>Interactive effect</i>			
	$CASH \times LEV_{i,t}$	Measures the effect of cash holding, given debt financing	Positive
<i>Control variables</i>			
Dividend	$DIV_{i,t}$	Measures dividend payments of DIV companies for a particular year	Positive
Leverage	$LEV_{i,t}$	Measures the amount of debt in a company's financing mix. (Total liabilities/Total assets)	Negative
Size	$SIZE_{i,t}$	Measures the natural logarithm of total assets of firms	Positive
Age	$logage_{i,t}$	Measures the natural logarithm of number of years firms have listed on the GSE	Positive
<i>Error term</i>			
	$\varepsilon_{i,t}$		

Table II Descriptive statistics

Variable	Obs	Mean	SD	Minimum	Maximum
Logbs	70	2.0713	0.2609	1.6094	2.5465
PropNED	70	0.8198	0.0576	0.7143	0.9167
Audq	70	0.7857	0.4133	0	1
MOWN	70	0.1046	0.2067	0	0.6103
SIZE	70	10.6140	1.9403	7.2031	14.4692
LnDIV	60	13.6313	1.8214	9.2686	17.0954
Lncash	70	14.5438	2.6323	8.8662	19.1316
LEV	70	0.5893	0.2850	0.0613	1.1788
Logage	66	1.9304	0.8442	0	2.9444
Tobin's Q	70	2.6317	2.9406	1.5382	17.5418

Notes: Logbs means natural logarithm of the number of people on the board; propNED means the proportion of non-executive directors on the board; Audq refers to audit quality; MOWN represents management and employee ownership; SIZE refers to size of firms; LnDIV refers natural logarithm of dividend payments of firms; Lncash represents the natural logarithm of year-end cash balances of firms; LEV refers to leverage of firms; logage represents the natural logarithm of listing age of firms; Tobin's Q refers to the Tobin's Q

directors, even though they are diversified boards in terms of executive and non-executive directors. The summary statistics on this variable shows that companies are complying with the diversified board recommended by the regulatory framework of corporate governance in the country (Agyemang *et al.*, 2013).

Audit quality is a binary variable used by the study and codes companies audited by the big four auditors: KPMG, Deloitte & Touche, Pricewaterhouse Coopers and Ernst & Young as 1 and 0, otherwise. The average figure on this variable shows a value of 0.79, indicating that greater proportion of companies listed on the Ghana Stock Exchange are audited by the big four auditors. The minimum value shows accordingly that some companies were audited by small audit firms over the period under study. There is not much variation among the companies in respect of this statistic.

The ownership of companies' shares by management and employees was also identified by the study. On average, approximately 10 per cent of total equity shares issued by companies listed on the GSE are held by management and employees. The minimum value shows a nil value, suggesting that some companies, over the years used for the study, had no management and employees as part of their equity shareholders. The maximum value shows that some companies had greater management ownership of approximately 61 per cent.

The cash reserves of companies used for the study show an average year-end cash balance of 2,071,534.096 Ghana cedis (natural antilogarithm of 14.5438). The minimum and maximum values indicate variation among the companies used for the study in terms of cash reserves.

The summary statistics also show that, over the years used for the study, the companies paid dividends to shareholders (though some companies in some years did not pay dividend). There is variation among the companies in respect of this variable.

The companies used for the study also differ in terms of size, measured on the basis of natural logarithm of total assets. Whereas, on average, companies have total assets (in antilog) of 10.61, some firms recorded a minimum size of 7.20 and a maximum size of 14.47. There is variation among companies in terms of this variable.

Leverage is measured by the study as total debt to total assets. The summary statistics in [Table II](#) shows that companies listed on the GSE, on average, have greater proportion of their total assets financed by total debt. The mean shows a value of approximately 59 per cent, suggesting that, on average, listed firms are predominantly financed through debt.

The number of years companies have been listed on the GSE, as indicated in its natural logarithm, shows average value of 7 years (antilog of 1.930354). Some companies, however, have been listed for 19 years, while, over the selected years, some companies had barely spent a year after being listed on the GSE.

Value of firms is measured by the study, using Tobin's Q. The mean value shows a figure greater than 1, suggesting that companies on the GSE, on an average, had their market capitalisation exceeding book value. Specifically, the market valued companies approximately 2.6 times as their book values. Other companies, however, showed larger market valuations of approximately 17.54 times as their book values [Table III](#).

4.1 Robustness checks

The study further relaxed the assumption of homoscedasticity by estimating the robust standard errors. The result on the test for heteroscedasticity using the Breusch-Pagan test for heteroscedasticity on a panel data set ([Wooldridge, 2010](#)) is shown in [Table IV](#):

The results show that the null hypothesis stating that there is no heteroscedasticity cannot be rejected. The conclusion is that there is no heteroscedasticity.

[Table V](#) compares regression results with the expected signs of the study.

Next, we discuss the findings of the study in line with relevant financial theories.

4.2 Discussion of findings

The study reveals a negative relationship between board size and firm value, but this is statistically insignificant. This result conforms to the expectations of the agency theory as board performance is believed to be affected by board size. This is because emoluments paid to directors add to the cost of firms, and also, decision making takes long in large boards ([Jensen, 1986](#)). The issue of agency problem is not effectively checked at the presence of large boards. The result, however, contradicts the expectations of theories like

Table III Regression incorporating interaction of debt financing and cash holding

Variable	Co-efficient	Z-score	Probability
Logbs	-0.0519	-0.03	0.977
Propned	0.7124	0.12	0.901
Audq	2.2067**	2.51	0.012
Mown	4.1722**	2.02	0.043
Lncash	-0.7338*	-1.88	0.060
Cash x Lev	0.0201	1.59	0.112
Size	-0.0284	-0.04	0.965
LnDiv	0.9505**	2.48	0.013
Lev	-0.3009	-0.14	0.890
Logage	-0.0724	-0.18	0.859
Constant	-2.1561**	-0.29	0.770
RMSE	2.1071		
R^2	0.3253		
χ^2	27***		0.0026

Notes: *Significant at 10%; **significant at 5%; ***significant at 1%; Logbs means natural logarithm of the number of people on the board; propNED means the proportion of non-executive directors on the board; Audq refers to audit quality; MOWN represents management and employee ownership; SIZE refers to size of firms; LnDIV refers natural logarithm of dividend payments of firms; Lncash represents the natural logarithm of year-end cash balances of firms; LEV refers to leverage of firms; logage represents the natural logarithm of listing age of firms; Tobin's Q refers to the Tobin's Q

Table IV Robustness checks

F-Statistic	P-value
1.15	0.3573

Table V Comparison of signs of regression variables against their expected signs

Hypothesis	Variables	Expected sign	Regression results	Comment
H_{1a}	Board size	-/+	-	Not satisfied
H_{1b}	Non-executive directors	-/+	+	Not satisfied
H_{1c}	Audit quality	-/+	+	Satisfied
H_2	Ownership structure	-/+	+	Satisfied
H_3	Cash holdings	-/+	-	Satisfied
H_4	Interaction of cash holdings and ownership structure	-/+	+	Not satisfied

resource dependency of corporate governance, which recognise a firm's board as a link between the firm and the outside world (Pfeffer, 1972). This is because the board represents a pool of expertise needed to help work towards shareholder wealth maximisation. The results in Ghana are consistent with the findings of Chaganti *et al.* (1985), where they found that a large board may be more valuable for reasons of the breadth of its size. The result is inconsistent with the findings of Isshaq *et al.* (2009), who found that there is a positive relationship between board size and firm value.

The proportion of non-executive directors on the boards has a positive relationship with value, even though it is not statistically significant. This result meets the expectations of the agency theory, explaining corporate governance and firm value. Non-executive directors, unlike management, bring to the board impartiality and objectivity in making decisions relating to the company. Shareholder wealth maximisation is their sole goal, unlike management that has conflict of interest with shareholders. The agency problem is well

checked when non-executive directors dominate the board, as identified with all the companies listed on the GSE and which had been used for the study (Jensen, 1986). The results in Ghana that the proportion of non-executive directors on board has no significant impact on firm value is consistent with the findings of Hermalin and Weisbach (2001), where they found that no relationship exists between board composition and firm value in a cross-sectional study. Isshaq *et al.* (2009), however, found a negative relationship between board composition and firm value, using companies listed on the GSE, but this was also not significant. The result of this study is, hence, inconsistent with that finding.

The positive relationship identified by the study between audit quality and firm value is also justified by the agency theory. Agency problem arises between management and shareholders as a result of conflict of interest and more importantly asymmetry of information (Jensen and Meckling, 1976). Pursuing value maximisation is not effective where agency problem is high and, hence, there is the need to reduce agency cost. One way to minimise agency cost is through external monitoring on management by shareholders. Audit is a tool used by shareholders to help reduce the effect of asymmetry of information and, hence, its effectiveness has a long way of reducing the agency problem and achieving value maximisation pursued by shareholders (Jensen, 1986). Quality audit is needed to achieve this, and the agency theory, hence, expects the company that has quality audit to have higher value than the other companies that do not have quality audit.

Ownership structure represented by management ownership has a positive relationship with value. This result is also explained by the agency theory. Management ownership is identified in the literature as a way shareholders use to bond the interest of management, who can pursue their private interest at the expense of shareholder wealth maximisation (Jensen and Meckling, 1976; Jensen, 1986). The result in Ghana is consistent with the findings of McConnell and Servaes (1990), where they found a non-linear relationship between management ownership and firm value. The result is, however, inconsistent with the findings of Isshaq *et al.* (2009), where they found that ownership structure negatively influences value, using natural logarithm of share price as a measure of value.

Cash holdings for firms listed on the GSE show a negative relationship with firm value. This result is consistent with the findings of Lins and Kalcheva (2004), where they found that cash holdings negatively influence value. The results in Ghana can be explained from Harford (1999), who asserts that where firms have a cash reserve, they are likely to engage in non-value adding activities. Also, Myers and Rajan (1998) assert that, in some cases where liquid assets such as cash are piled up, management can convert them to private benefits, which, in the final analysis, negatively affects firm value. Thus, the holding of excess cash by companies listed on the GSE reduces their value, as managers might be engaging in activities that are not value adding because of the excess cash reserve. The results in Ghana, however, do not support findings such as those of Mikkelsen and Partch (2003), where it was found that cash reserve positively affects performance. The positive relationship was explained by the financial hierarchy theory, which states that firms hold cash for transaction purposes to avoid external borrowing, which comes with high financing cost. Financing cost is, hence, saved in this regard. The literature admits that a positive relationship is possible between cash reserve and firm value, but this happens when cash reserve is contingent on other parameters. When cash reserve is interacted with financial structure, there is a positive impact on firm value as recognised by Merton (1973). Likewise, this study explored the impact of cash holdings on firm value, given the financial structure of firms. A positive relationship exists between the interaction of debt financing and cash holdings of firms. This result is consistent with the expectations of the free cash flow hypothesis, which states that debt financing constrains the behaviour of management in engaging in activities that reduce firm value (Jensen, 1986). Jensen (1986) asserts that

when firms are financed through debt, restrictive covenants and interest payments accompanying debt constrain the behaviour of management to operate in a manner profitable to shareholders. Shareholder wealth maximisation is expected to be positively affected in this regard. The result in Ghana, however, confirms that at the instance of debt financing, cash holdings of a firm increase the firm's value, even though this is statistically insignificant.

The control variable, the leverage (financial structure) of the firms listed on the GSE, shows a negative relationship with performance. This is, however, not statistically significant. The negative relationship can be explained from the fact that debt introduces financial risk to firms, aside the business risk. This increases the weighted average cost of capital of firms and, as the value of firms is a function of risk faced by the firms and an inverse relationship exists between value and risk, leverage reduces firm value. The result is, however, inconsistent with the findings of [Isshaq et al. \(2009\)](#), where a positive relationship was found between leverage and firm value.

Dividend payments to shareholders are valued by these shareholders and, hence, have a positive and significant relationship with performance. The positive relationship can be explained by the dividend relevance theory (Litner, 1952) that dividend has information-signalling effect, and payment of dividend is read by the market as positive or non-performance of firms. Dividend paying firms are valued higher, relative to firms that are not consistent in paying their dividends. This result agrees with the findings of [Isshaq et al. \(2009\)](#), who found that shareholders value dividend payments more.

The study reveals that size has a negative relationship with value, but this is not significant. The finding can be explained from the fact that as firms grow in size, there is huge investment in non-current assets, but these huge expenditures do not bring immediate benefits. This might not be well read by the market because of information asymmetry ([Mayo, 2014](#)). This, thus, leads to downward valuation placed on large firms by the capital market and vice versa.

5. Conclusion

Corporate governance mechanism, ownership structure and cash holdings are entity-specific factors that introduce unsystematic risk to shareholders or equity participants in the capital market. Hence, the study sought to find out whether these variables significantly influence value of firms, using a sample of companies listed on the GSE. The study used the Tobin's Q, a relative measure to measure firm value. The study used the SUR and found mixed results for the relationship between corporate governance variables and firm value. Board size of firms and proportion of non-executive directors on firm's boards has no significant relationship with firm value. These results agree with the findings of [Isshaq et al. \(2009\)](#). The study revealed that firms audited by the big four auditors show higher value than firms audited by the other firms. The results showed that management ownership has a positive and statistically significant relationship with firm value. However, cash holdings of firms listed on the GSE have an identified negative relationship with firm value.

5.1 Recommendations

Cash holdings of companies listed on the Exchange have a negative relationship with firm value. Management might be engaged in non-value adding activities as a result of the cash reserves piled up. To address this situation, firms need to have in place a minimum cash balance that should be held. Cash management models, such as the Baumol Model, can be used so that cash balance that reduces explicit and implicit costs is held, so as to maximise firm value.

The study recommends that shareholders of companies should have in place employee and management share ownership schemes for their respective companies so as to bond the interest of management (including employees) and theirs. This is expected to increase management and employee ownership, which the study has identified to increase firm value.

The study has also shown that the capital market “punishes” firms for holding more cash at the year end and rewards firms for paying dividend. Hence, companies should ensure that the market is informed of investment opportunities for which year-end cash balances are earmarked for, to prevent downward valuation. Thus, where no positive-net-present value investment is at hand, companies should disburse the cash to shareholders except the minimum cash balance earlier mentioned.

The corporate governance structures of firms largely influence firm value positively. It is, thus, recommended that companies choose the right structures appreciated by the capital market. Corporate governance variables, such as audit quality, are treasured by the market. Therefore, there is the need for firms to have in place these appreciated corporate governance variables.

5.2 Recommendations for future research

It is recommended that future studies should focus on the financial sector to give a clear picture of cash holdings on firms' value where liquidity is paramount.

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Appendix 1

Table A1 Seemingly unrelated regression

Equations	Obs	Parms	RMSE	R-sq	Chi2	p
tobinsq	56	10	2.107103	0.3253	27.00	0.0026
Tobinsq	Coef	Std.Err	Z	<i>p</i> > z		
logbs	-0.0518845	1.79042	-0.03	0.977		
audq	2.206691	0.8796054	2.51	0.012		
propned	0.7124104	5.714598	0.12	0.901		
mown	4.172231	2.065537	2.02	0.043		
size	-0.0283691	0.6545715	-0.04	0.965		
lndiv	0.9504725	0.3835911	2.48	0.013		
lncash	-0.7338262	0.3900553	-1.88	0.060		
cashxlev	0.020148	0.0126854	1.59	0.112		
lev	-0.3008708	2.166281	-0.14	0.890		
logage	-0.0724258	0.4068638	-0.18	0.859		
_cons	-2.156115	7.361876	-0.29	0.770		

Appendix 2

Table AII Dependent variables

	Logbs	Propned	Audq	Mown	Size	Lndiv	Lncash	Lev	logage
Logbs	1.0000								
Propned	-0.1451	1.0000							
	0.2308								
Audq	-0.1060	0.3421	1.0000						
	0.3825	0.0037***							
Mown	-0.0310	0.2235	-0.3319	1.0000					
	0.7990	0.0629*	0.0050***						
Size	0.6195	-0.2724	-0.0794	-0.2403	1.0000				
	0.0000***	0.0225**	0.5135	0.0451**					
Lndiv	0.4004	-0.3294	-0.1626	-0.2809	0.8723	1.0000			
	0.0015***	0.0102***	0.2145	0.0297**	0.0000***				
Lncash	0.4961	-0.3567	-0.1437	-0.2879	0.9025	0.8502	1.0000		
	0.0000***	0.0024***	0.2353	0.0156**	0.0000***	0.0000***			
Lev	0.0886	-0.1062	-0.1852	0.0205	0.4537	0.2712	0.4146	1.0000	
	0.4656	0.3816	0.1248	0.8662	0.0001***	0.0361**	0.0004***		
Logage	0.0511	0.0193	0.1971	-0.2493	-0.0027	0.1900	-0.1153	0.1585	1.0000
	0.6835	0.8776	0.1127	0.0436**	0.9830	0.1607	0.3565	0.2036	

Notes: *Significant at 10%; **significant at 5%; ***significant at 1% (2-tailed hypothesis test); Logbs means natural logarithm of the number of people on the board; propNED means the proportion of non-executive directors on the board; Audq refers to audit quality; MOWN represents management and employee ownership; SIZE refers to size of firms; LnDIV refers natural logarithm of dividend payments of firms; Lncash represents the natural logarithm of year-end cash balances of firms; LEV refers to leverage of firms; logage represents the natural logarithm of listing age of firms; Tobin's Q refers to the Tobin's Q.

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