

## CORPORATE GOVERNANCE AND FIRM PERFORMANCE: EVIDENCE FROM GHANAIAN LISTED COMPANIES

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### **Abstract**

Well governed firms have been noted to have higher firm performance. The main characteristic of corporate governance identified include board size, board composition, and whether the CEO is also the board chairman. This study examines the role corporate governance structures play in firm performance amongst listed firms on the Ghana Stock Exchange. Results reveal a likely optimal board size range where mean ROA levels associated with board size 8 to 11 are higher than overall mean ROA for the sample. Significantly, firm performance is found to be better in firms with the two-tier board structure. Results show further that having more outside board members is positively related to firm performance. It is clear that corporate governance structures influence firm performance in Ghana, indeed within the governance structures the two-tier board structure in Ghana is seen to be more effective in view of the higher firm level mean values obtained compared to the one-tier system.

**Keywords:** Corporate Governance, Performance, Ghana, board composition, CEO, ROA

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### **1. Introduction**

Corporate governance has received much attention especially among very large firms in developed markets. It is believed that, good governance generates investor goodwill and confidence. A number of recent studies show that good corporate governance increases valuations and boosts the bottom line. For instance, a study by Gompers Ishii & Metrick (2003) concluded that companies with strong shareholder rights yielded annual returns that were 8.5 percent greater than those with weak rights. Well governed firms also enjoy higher valuations, higher profits, higher sales growth, and lower capital expenditures. Claessens Djankov, Fan & Lang (2002) also maintain that better corporate frameworks benefit firms through greater access to financing, lower cost of capital, better performance and more favourable treatment of all stakeholders. They argue that, weak corporate governance does not only lead to poor firm performance and risky financing patterns, but are also conducive to macroeconomic crises like the 1997 East Asia crisis. Becht, Bolton & Rosell (2002) identify a number of reasons for the growing importance of corporate governance. These include the world-wide wave of privatization of the past two decades, the pension fund reform and the growth of private savings, the takeover wave of the 1980s, the deregulation and integration of capital markets, the 1997 East Asia

Crisis, and the series of recent corporate scandals in the U.S. and elsewhere. Corporate governance has dominated policy agenda in developed market economies for more than a decade, and it is gradually warming itself to the top of the policy agenda in the African continent. The Asian crisis and the relative poor performance of the corporate sector in Sub-Saharan Africa have made corporate governance a catchphrase in the development debate (Berglof and von Thadden, 1999).

Developing countries are now increasingly embracing the concept of good corporate governance, knowing it leads to sustainable growth and Ghana is no exception. However, in the context of Sub-Saharan Africa, corporate governance influence on firms remains a largely unexplored empirical issue. This study provides empirical evidence on corporate governance and firm performance from the context of a developing economy. The paper specifically investigates the relationship between various variables of corporate governance and performance of companies listed on the GSE during the most recent six year period (1998 – 2003). The rest of the paper is organized as follows. Section two provides an overview of empirical literature on the subject matter and concludes with a look at corporate governance practices in Ghana. Section three discusses the methodology and the results. Finally the conclusion is discussed in section four.

## 2. Literature Review

Theoretical underpinnings for the extant research in corporate governance come from the classic thesis, *"The Modern Corporation and Private Property"* by Berle & Means (1932). The thesis describes a fundamental agency problem in modern firms where there is a separation of ownership and control. It has long been recognised that modern firms suffer from a separation of ownership and control. These companies are run by professional managers (agents), who are unaccountable to dispersed shareholders (principals). This view fits into the principal-agent paradigm. For the agents, the question is how to ensure that managers follow the interests of shareholders. The principals also have to solve two problems. First, they face an adverse selection problem: select the most capable managers. They are also confronted with a moral hazard problem: give the managers the right incentives to put forth the appropriate effort and make decisions aligned with shareholders interests (e.g., take the right amount of risk and do not engage in empire building).

Jensen & Meckling (1976) further define agency relationship and identify agency costs. Agency relationship is a contract under which *"one or more persons (principal) engage another person (agent) to perform some service on their behalf, which involves delegating some decision-making authority to the agent"*. Conflict of interests between managers or controlling shareholder, and outside or minority shareholders refer to the tendency that the former may extract *"perquisites"* (or perks) out of a firm's resources and less interested to pursue new profitable ventures. Agency costs include monitoring expenditures by the principal such as auditing, budgeting, control and compensation systems, bonding expenditures by the agent and residual loss due to divergence of interests between the principal and the agent. The share price that shareholders (principal) pay reflects such agency costs. To increase firm value, one must therefore reduce agency costs. This is one way to view the linkage between corporate governance and corporate performance. Fama (1980) concludes that the separation of ownership and control can be explained as a result of *"efficient form of economic organization"*.

A number of definitions have been given to corporate governance. According to Mayer (1997), corporate governance is concerned with ways of bringing the interests of (investors and managers) into line and ensuring that firms are run for the benefit of investors. Corporate governance is concerned with the relationship between the internal governance mechanisms of corporations and society's conception of the scope of corporate accountability (Deakin and Hughes, 1997). It has

also been defined by Keasey, Thompson & Wright (1997) to include 'the structures, processes, cultures and systems that engender the successful operation of the organisations.' Corporate governance is also seen as the whole set of measures taken within an enterprise to favour the economic agents to take part in the productive process, in order to generate some organizational surplus, and to set up a fair distribution between the partners, taking into consideration what they have brought to the organization (Maati, 1999).

From these definitions it may be stated more generally that different systems of corporate governance will embody what are considered to be legitimate lines of accountability by defining the nature of the relationship between the company and key corporate constituencies.

Corporate governance systems may be therefore thought of as mechanisms for establishing the nature of ownership and control of organisations within an economy. In this context, 'corporate governance mechanisms are economic and legal institutions that can be altered through the political process - sometimes for the better' (Shleifer and Vishny, 1997). Company law, along with other forms of regulation (including stock exchange listing rules, and accounting standards), both shape and is shaped by prevailing systems of corporate governance. The impact of regulation on corporate governance occurs through its effect on 'the way in which companies are owned, the form in which they are controlled and the process by which changes in ownership and control take place (Jenkinson and Mayer, 1992). Ownership is established by company law, which defines property rights and income streams of those with interests in or against the business enterprise (Deakin and Slinger, 1997). The Cadbury Committee, 1992 thus observes that corporate governance describes how companies ought to be run, directed and controlled. It is about supervising and holding to account those who direct and control the management.

Shleifer and Vishny (1997), also describe corporate governance as "the ways in which suppliers of finance to corporations assure themselves of getting a return to their investment". Previous empirical studies have provided the link between corporate governance and firm performance (see Yermack (1996, Claessens, Djankov, Fan & Lang, 1999; Klapper and Love, 2002; Gompers, Ishii & Metrick, 2003; Black, Jang & Kim, 2003 and Sanda, Mukaila & Garba (2003) with inconclusive results. Others, Bebchuk & Cohen (2004), Bebchuk, Cohen & Ferrell (2004) have shown that well governed firms have higher firm performance. The main characteristic of corporate governance identified in these studies include board size, board composition, and whether the CEO is also the board chairman.

There is a view that larger boards are better for corporate performance because they have a range of expertise to help make better decisions, and are harder for a powerful CEO to dominate. However, some authors have advocated for smaller boards. Jensen (1993) and Lipton & Lorsch (1992) argue that large boards are less effective and are easier for the CEO to control. When a board gets too big, it becomes difficult to co-ordinate, encourages free-riding and poses problems. Smaller boards however reduce the possibility of free riding, and increase the accountability of, individual directors. For example, Yermack (1996) documents that for large U.S. industrial corporations, the market values firms with smaller boards. Eisenberg, Sundgren & Wells (1998) also find a negative correlation between board size and profitability when using a sample of small and midsize Finnish firms. Mak and Yuanto (2003) also find similar results amongst listed firms in Singapore and Malaysia. In a Nigerian study, Sanda, Mukaila & Garba (2003) also observe that, firm performance is positively related with small, as opposed to large boards.

Though the issue of whether directors should be employees of or affiliated with the firm (inside directors) or outsiders has been well researched, no clear conclusion is reached. On the one hand, inside directors are more familiar with the firm's activities and they can act as monitors to top management if they perceive the opportunity to advance into positions held by incompetent executives. On the other hand, outside directors may act as "professional referees" to ensure that competition among insiders stimulates actions consistent with shareholder value maximization (Fama, 1980). Thus John and Senbet (1998), argue that boards of directors are more independent as the proportion of their outside directors increases. Though it has been argued (Fama & Jensen 1983, Baysinger and Butler 1985, Baysinger & Hoskinsson, 1990, Baums 1994) that the effectiveness of a board depends on the optimal mix of inside and outside directors, there is very little theory on the determinants of an optimal board composition (Hermalin & Weisbach 2002).

A number of empirical studies on outside directors support the beneficial monitoring and advisory functions to firm shareholders (see Brickley & James 1987; Weisbach 1988; Byrd & Hickman 1992; Brickley & James, 1994). Baysinger & Butler (1985) and Rosenstein & Wyatt (1990) have also shown that the market rewards firms for appointing outside directors. However, Forsberg (1989) finds no relation between the proportion of outside directors and various performance measures. Hermalin & Weisbach (1991) and Bhagat & Black 2002 also find no significant relationship between board composition and performance. Yermack (1996) also showed that, the percentage of outside directors does not significantly affect firm performance. Agrawal &

Knoeber (1996) suggest that boards expanded for political reasons often result in too many outsiders on the board, which does not help performance.

Considerable attention has also been given to the role of boards in monitoring managers and in removing non-performing CEOs. Jensen (1993) observes that a lack of independent leadership makes it difficult for boards to respond to failure in top management team. Fama & Jensen (1983) also argue that concentration of decision management and decision control in one individual reduces board's effectiveness in monitoring top management. The literature also reveals a board structure typology, the one-tier system and the two-tier system. In the one-tier system the Chief Executive Officer (CEO) is also chairman of the board, whilst the two-tier system has a different person as the board chairman is different from CEO. It has been noted though that the one-tier board structure type leads to leadership conflict of interest and agency problems (Berg & Smith 1978, Bickley & Coles 1997) thus giving preference for the two-tier system.

Agency problems tend to be higher when the same person holds both positions. Yermack (1996) argue that, firms are more valuable when the CEO and board chair positions are separate. Relating CEO duality more specifically to firm performance, researchers however find mixed evidence. Daily & Dalton (1992) find no relationship between CEO duality and performance in entrepreneurial firms. Brickley et al. (1997) show that CEO duality is not associated with inferior performance. Rechner & Dalton (1991), however, report that a sample of Fortune 500 companies with CEO duality have stronger financial performance relative to other companies. Goyal & Park (2002) examine a sample of U.S. companies and find that the sensitivity of CEO turnover to firm performance is lower for companies without CEO duality. Sanda, Mukaila & Garba (2003) find a positive relationship between firm performance and separating the functions of the CEO and Chairman.

There is a growing body of literature on a seemingly related around the importance of stakeholders in firm operations and corporate governance. This literature on stakeholder theory has argued about the importance of a firm paying special attention to the various stakeholder groups in addition to the traditional attention given to investors Freeman (1984), Gibson (2000). These various groups of stakeholders which include customers, suppliers, employees, the local community and shareholders are deemed to also have a stake in the business of a firm. Proponents of stakeholder theory thus argue for representation of all stakeholder groups on boards for effective corporate governance. Indeed potentially cogent arguments have been made regarding merits of including stakeholders in governance mechanisms of corporate bodies, a class

of firms which includes SMEs. The possible pros and cons of such advancements are issues beyond the discussion and focus of this paper.

### 2.1. Corporate governance in Ghana

The issue of corporate governance has been gaining grounds in Ghana in recent times following initiatives by the Ghana Institute of Directors (IoD-Ghana), in collaboration with the Commonwealth Association of Corporate Governance, to address corporate governance in Ghana. There have also been numerous initiatives to address issues of corporate governance. A survey, conducted and launched by IoD-Ghana in 2001, revealed that there is increasing acceptance of good corporate governance practices by businesses in Ghana.

More formal corporate governance structures and institutions are relatively not widespread though a number of laws provide for governance structures for companies in Ghana. These include:

- The Companies Code 1963 (Act 179), which provides for governance of all companies incorporated in Ghana;
- The Securities Industry Law, 1993 (PNDC 333) as amended by the Securities Industry (Amendment) Act 2000, (Act 590), which provides among other things for governance of all stock exchanges, investment advisors, securities dealers, and collective investment schemes licensed under by the Securities & Exchange Commission (SEC);

The Companies' Code stipulates a minimum of two directors for each company with no ceiling on the maximum number, whilst the Ghana Stock Exchange (GSE) Listing Regulations are silent on board size. In terms of board composition, there is no requirement under the Companies Code for the appointment of independent directors neither is there a provision for the balance of executive and non-executive directors. However there is allowance for the interests of different stakeholders to be represented on the board. This is however a requirement under The Securities and Exchange Commission's Code of Best Practices on Corporate Governance (SEC Code) for the GSE. The Companies Code makes provision for the appointment of executive directors by allowing directors to hold concurrently with the office of director, any other office or place of profit in the company, except the office of auditor. In terms of board structure based on duality or otherwise of CEO role on the board and in the company itself the Companies Code, does not prevent the appointment

of the same person to the two offices. The SEC Code on the other hand advocates for but does not insist on the two-tier board structure where the CEO is different from the board chairman. On the whole corporate governance structure development in Ghana have been somewhat modest, there is need for more advancements in corporate governance issues given the effect these have on firm performance.

### 3. Methodology

The study employs cross tabulations to determine associations between corporate governance structures and firm level variables as well as correlations to determine the level of association between corporate governance and firm performance. In addition tests between means of performance variables based on a classification of firms into different corporate structure typologies is carried out to see the significance in differences attributable to specific corporate governance types. Finally a regression analysis is carried out to determine the effect that corporate governance structures have on firm performance. The econometric model follows Miyajima et al (2003) and is given as:

$$y_{it} = \alpha X_{it} + \beta G_{it} + \lambda_t + \eta_i + v_{it} \quad (1)$$

where  $y_{it}$  represents firm performance (Return on Assets for firm  $i$  in time  $t$ )  $X_{it}$  is a vector of firm level variables debt ratio and size (number of employees) which following standard finance literature have a positive influence on firm performance (ROA)  $G_{it}$  is a vector of corporate governance variables; board size, board composition (number of outside directors/total number of directors) and a dummy variable to capture if the board chairman is the same as the CEO or otherwise  $v_{it}$  is the residual term  $\eta_i$  are individual specific effects and  $\lambda_t$  time specific effects. The regression is run in a panel manner, various options of panel data regression were run, Fixed Effects, Random Effects, OLS and a dynamic panel. The most robust of all was the OLS panel thus we report results of the OLS panel regression in table 12.

A look at the descriptive statistics show that the overall mean debt ratio is 58.5%, with minimal variations across time. The mean board size for the sample is eight, however there are wide variations in this between the cross-sections (2.0519) and substantial variation over time (0.5841).

For board composition the mean ratio is 73% implying the use of more outside directors on the board in the overall sample, however there is some amount of variation in this ratio across the cross-section of firms as seen in the standard deviation between the cross-sections. The mean profit levels represented by the return on assets ROA, is 0.11118.

From the table 2 above, majority of the firms (72.7%) have a board structure that follows the two-tier structure. Firm performance (using ROA or Size) is better in firms with the two-tier board structure. Overall, the mean values for all the variables are greater in firms where the two-tier board system operates. Board size and composition is larger for firms with the two-tier structure compared to the one-tier structure for obvious reasons.

Table 3 which looks at board size variation and ROA as a measure of firm performance reveal some interesting results. Mean ROA levels ranging from board size 8 to 11 are higher (0.13987, 0.14123, 0.12623, 0.13033) than overall mean ROA (0.11189) for the sample. This signals a range of optimum board size (8-11) that is feasible for good firm performance. Approximately 52% of the sample observations have their board size ranging between this optimum range. Indeed firms with board sizes below 8 and those above 11 are associated with rather low levels of ROA. There is a clear indication here that in line with theoretical constructs an effective board should neither be too small nor too large.

The study next conducts correlation tests between the variables; the table (4) shows that there is a positive correlation between board size and debt ratio, as well as size (an alternate measure of firm

performance). There is no significant correlation between ROA and board size. The correlation between board size and size of the firm is very strong at 76.9%. Clearly the importance of a board cannot be overemphasized

The second correlation test is done only for firms with the two-tier board structure and this shows a positive correlation again between the board size and debt ratio. More significantly the correlation between board size and the firm size is even stronger (81.54%) than that for the whole sample. In fact for firms with the one-tier board structure (table 6) there is no significant correlation between board size and firm performance, the only significant relationship being that between the board size and debt ratio.

Thus far the significance of a board is clear in the analysis; the positive correlation with debt ratio shows the ability of firms to attract debt with corporate governance structures. Whilst the positive association with size shows the ability to expand production lines and employ more with corporate governance structures in place

Further analyses are carried out to test for difference in mean values (using a t-test) based on a division of the sample into the two types of board structure identified in the sample. Table (7) above shows one of such tests, here we test for the difference in mean return on asset (ROA) between the two types of board structure. The results of the alternate hypothesis are not statistically significant (as shown by the t probability values). We can therefore not reject the null hypothesis thus showing that there is no statistically significant difference in mean ROA between one-tier and two-tier board structures.

**Table 1.** Descriptive Summary Statistics

Variable		Mean	Std. Dev.	Min	Max	Observations
Debt ratio	overall	0.5854	0.2079	0.0005	1.1017	N = 110
	between		0.1891	0.3210	0.9780	n = 22
	within		0.0938	0.0609	0.9276	T = 5
Size	overall	18.3256	1.8985	14.5760	22.6549	N = 110
	between		1.8976	15.0551	22.2899	n = 22
	within		0.3682	17.5406	19.0772	T = 5
Board size	overall	8.7727	2.0970	5	14	N = 110
	between		2.0519	5	13.2	n = 22
	within		0.5841	5.9727	9.9727	T = 5
Board comp	overall	0.7331	0.1305	3	1	N = 110
	between		0.1223	0.4955	0.9118	n = 22
	within		0.0512	0.5376	0.9042	T = 5
ROA	overall	0.1118	0.1065	-0.1408	0.3683	N = 110
	between		0.0838	-0.0203	0.2785	n = 22
	within		0.0677	-0.1020	0.3149	T = 5

N refers to overall panel observations ( $n \times T$ ), n is the cross sectional observations (firms), T is the time frame.

**Table 2.** Variation between board structure and variables

CEO	VARIABLE	Obs	Mean	Std dev	Min	Max
(two-tier)	Debt Ratio	80	0.5944929	0.2053003	0.0005308	0.9392173
(one-tier)	Debt Ratio	30	0.5612382	0.2166945	0.3326476	1.101777
(two-tier)	Size	80	18.67109	1.901618	15.37466	22.65491
(one-tier)	Size	30	17.40459	1.57827	14.57604	14.57604
(two-tier)	Board Size	80	9.3625	1.988853	6	14
(one-tier)	Board Size	30	7.2	1.494819	5	10
(two-tier)	Board Composition	80	0.7700336	0.1148942	0.5	1
(one-tier)	Board Composition	30	0.6348148	0.1198643	0.3	0.75
(two-tier)	ROA	80	0.1133164	0.1047265	-0.1025314	0.3683579
(one-tier)	ROA	30	0.1081182	0.1131767	-0.1408372	0.3384824

**Table 3.** Board size variations and mean ROA

Board size	Obs	Mean ROA	Std dev	Min	Max
5	6	0.0995683	0.0930302	0.0298311	0.2282182
6	7	0.0402885	0.0823261	-0.0774109	0.1357137
7	22	0.0947317	0.1005266	-0.1408372	0.318319
8	17	0.1398783	0.1240815	-0.0376466	0.3437524
9	21	0.1412368	0.1177517	-0.1025314	0.3683579
10	12	0.1262361	0.109639	0.0043662	0.3002661
11	12	0.1303338	0.1260831	-0.0252291	0.3500171
12	8	0.0615611	0.0229035	0.028711	0.0850091
13	4	0.0963949	0.0175887	0.0720054	0.1105709
14	1	0.0445176		0.0445176	0.0445176

**Table 4.** Correlation Table between variables

Variable	Debt Ratio	Size	Board Size	Board Composition	ROA
Debt Ratio	1.0000				
Size	0.3534*** {0.0023}	1.0000			
Board Size	0.3480*** {0.0029}	0.7693*** {0.0000}	1.0000		
Board Composition				1.0000	
ROA					1.0000

Only significant relationships are reported, figures in curly brackets are probability values for level of significance. \*\*\* implies 1% level of significance

**Table 5.** Correlation table between variables for firms with two-tier board structure

Variable	Debt Ratio	Size	Board Size	Board Composition	CEO	ROA
Debt Ratio	1.0000					
Size	0.5476*** {0.000}	1.0000				
Board Size	0.4031*** {0.0031}	0.8154*** {0.0000}	1.0000			
Board Composition				1.0000		
CEO					1.0000	
ROA						1.0000

Only significant relationships are reported, figures in curly brackets are probability values for level of significance. \*\*\* implies 1% level of significance

**Table 6.** Correlation Table for firms with one-tier board structure

Variable	Debt Ratio	Size	Board Size	Board Composition	CEO	ROA
Debt Ratio	1.0000					
Size		1.0000				
Board Size			1.0000			
Board Composition	0.5326** {0.0367}			1.0000		
CEO					1.0000	
ROA						1.0000

Only significant relationships are reported, figures in curly brackets are probability values for level of significance. \*\*\* implies 1% level of significance

**Table 7.** Difference in mean ROA by board structure

Group	Obs.	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]
Two-tier	80	0.1133164	0.0117088	0.1047265	0.0938286 0.1328041
One-tier	30	0.1081182	0.0206631	0.1131767	0.0730089 0.1432275
combined	110	0.1118987	0.0101634	0.1065942	0.0950382 0.1287592
diff		0.0051981	0.02375		-0.0346038 0.0450001

Welch's degrees of freedom: 50.0501

Ho: mean ROA (One-tier) - mean ROA (Two-tier) = diff = 0  
 Ha: diff < 0      Ha: diff ≠ 0      Ha: diff > 0  
 t = 0.2189      t = 0.2189      t = 0.2189  
 P < t = 0.5862      P > |t| = 0.8276      P > t = 0.4138  
 P = probability

**Table 8. Difference in mean size by board structure**

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]
Two-tier	80	18.67109	0.2126074	1.901618	18.31723 19.02495
One-tier	30	17.40459	0.2881513	1.57827	16.91498 17.89419
combined	110	18.32568	0.1810243	1.898599	18.02537 18.62599
diff		1.266502	0.3580965		0.6688896 1.864114

Welch's degrees of freedom: 64.4077  
 Ho: mean Size (One-tier) - mean Size (Two-tier) = diff = 0  
 Ha: diff < 0      Ha: diff ≠ 0      Ha: diff > 0  
 t = 3.5368      t = 3.5368      t = 3.5368  
 P < t = 0.9996      P > |t| = 0.0008      P > t = 0.0004  
 P = probability

**Table 9. Difference in mean board size by board structure**

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]
Two-tier	80	9.3625	0.2223606	1.988853	8.992409 9.732591
One-tier	30	7.2	0.2729153	1.494819	6.736282 7.663718
combined	110	8.772727	0.1999412	2.097001	8.441034 9.10442
diff		2.1625	0.3520326		1.57585 2.74915

Welch's degrees of freedom: 71.4338  
 Ho: mean board size (One-tier) - mean board size (Two-tier) = diff = 0  
 Ha: diff < 0      Ha: diff ≠ 0      Ha: diff > 0  
 t = 6.1429      t = 6.1429      t = 6.1429  
 P < t = 1.0000      P > |t| = 0.0000      P > t = 0.0000  
 P = probability

**Table 10. Difference in mean board composition by board structure**

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]
Two-tier	80	0.7700336	0.0128456	0.1148942	0.7486538 0.7914134
One-tier	30	0.6348148	0.0218841	0.1198643	0.5976309 0.6719987
combined	110	0.7331557	0.0124499	0.1305752	0.712502 0.7538095
diff		0.1352188	0.0253756		0.0927166 0.177721

Welch's degrees of freedom: 51.6065  
 Ho: mean board composition (One-tier) - mean board composition (Two-tier) = diff = 0  
 Ha: diff < 0      Ha: diff ≠ 0      Ha: diff > 0  
 t = 5.3287      t = 5.3287      t = 5.3287  
 P < t = 1.0000      P > |t| = 0.0000      P > t = 0.0000  
 P = probability

**Table 11. Difference in mean debt ratio by board structure**

Group	Obs	Mean	Std. Err.	Std. Dev.	[90% Conf. Interval]
Two-tier	80	0.5944929	0.0229533	0.2053003	0.5562901 0.6326956
One-tier	30	0.5612382	0.0395628	0.2166945	0.494016 0.6284605
combined	110	0.5854234	0.0198316	0.2079956	0.5525237 0.6183231
diff		0.0332546	0.0457391		-0.0433692 0.1098785

Welch's degrees of freedom: 51.0799  
 Ho: mean debt ratio (One-tier) - mean debt ratio (Two-tier) = diff = 0  
 Ha: diff < 0      Ha: diff ≠ 0      Ha: diff > 0  
 t = 0.7270      t = 0.7270      t = 0.7270  
 P < t = 0.7647      P > |t| = 0.4705      P > t = 0.2353  
 P = probability

In terms of the difference in mean sizes the results from the test statistics (table 8) show a significant difference in mean sizes between the two board structures.

This further confirms the significant correlation realized between board structure and size. There is also a significant difference in board size (table 9) between the one-tier and two-tier system. The test statistics shows that we can reject the null of no difference hence the conclusion that the difference is statistically significant.

Thus within the board structures it is clear that there is a considerable difference in size and board size.

With respect to the difference in mean board composition (table 10) the two-tier structure has a higher number of insiders as directors as compared to the one-tier system. This difference in mean values is also statistically significant as is shown by the alternate hypothesis test statistics. Clearly there is significant difference in the governance structures within the board structures themselves. Table 11 shows the difference in mean levels of the debt ratios of one-tier and two-tier board structures. In terms of significance the alternate hypothesis test statistics reveals that we cannot reject the null of no difference hence there is not statistical difference in mean debt ratios.

**Table 12.** Regression Model Results

Variable	Coefficient	Std. Err	t-value	t-prob
LSIZE	0.01531	0.01045	1.47	0.146
Debt Ratio	-0.29974	0.07036	-4.26	0.000
Board Composition	0.26635	0.1474	1.81	0.074
Board Size	-0.00617	0.01218	-0.507	0.613
CEO	0.00782	0.04665	0.168	0.867
Constant	-0.14821	0.2070	-0.716	0.476
T1999	0.00123	0.01761	0.0698	0.944
T2000	0.00092	0.02756	0.0334	0.973
T2001	0.03814	0.02737	1.39	0.166
T2002	0.01852	0.03025	0.613	0.542
Standard Error	0.01139			
R-Squared	0.08025			
No. of obs	110			
Time dummies	4			
No of individuals	22			
Longest time series	5 [1998 - 2002]			
Shortest time series	5 (balanced panel)			
Wald (joint): Chi <sup>2</sup> (5)	36.45 [0.000] **			
Wald (dummy): Chi <sup>2</sup> (5)	7.647 [0.177]			

The study further estimates the panel regression model. The most significant variables in the regression model are debt ratio (DR) and board composition (BC). Debt ratio has a negative relationship with firm performance measured by return on assets (ROA), whilst board composition has a positive relationship with firm performance. In this regard the importance of outside directors in terms of independence and external experience regarding sound financial and legal basis is revealed in the positive relationship the variable has with firm performance, thus as the ratio of board composition (number of outside board members/total board members) rises firms perform better. Clearly corporate governance (board composition) has a significant impact on firm performance and affirms earlier results.

#### 4. Conclusion

The study examined the role of corporate governance in firm performance of listed companies on the Ghana Stock Exchange. The mean board size for the sample was found to be eight; however there are wide variations in this between the cross-sections and substantial variation over time. For board composition the mean ratio is 73% implying the use of more outside directors on the board in the overall sample. The study also revealed a likely optimal board size range where mean ROA levels ranging from board size 8 to 11 are higher than overall mean ROA for the sample. This signals a range of optimum board size (8-11) that is feasible for good firm performance. Majority of the firms also have a board structure that follows the two-tier structure. Significantly, firm performance (using ROA or Size) is found to be better in firms with the two-tier board structure. The correlation between board size and size of the firm is very strong at 76.9% but even stronger (81.54%) for two-tier board structure firms. In fact for firms with the one-tier board structure there is no significant correlation between board size

and firm performance. A test between mean variables based on one-tier and two-tier board structures show that apart from mean ROA and debt ratios there is significant difference between the mean values of board size, board composition and size. The regression results show further that board composition has a positive relationship with firm performance. It is clear that corporate governance structures influence firm performance in Ghana, indeed within the governance structures the two-tier board structure in Ghana is seen to be more effective in view of the higher firm level mean values obtained compared to the one-tier system. The separation of board chairman and chief executive officer minimizes the tension between managers and board members thus influencing firm performance in Ghana.

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