

# What Drives Corporate Governance Quality in Emerging African Economies? Evidence from Ghana

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## ABSTRACT

This paper investigates the determinants of good corporate governance across Ghanaian listed firms for the study period 2000 to 2009. The Ghanaian Code of corporate governance introduced in 2003 was the first attempt to make official corporate governance guidelines on best practices not backed by the force of law of which the Ghanaian firms were encouraged to comply with its provisions. As such, firms listed on the Ghana Stock Exchange are expected to comply with the recommended governance provisions in order to promote good corporate governance. Some of the key provisions in the code are separating the posts of the Chief Executive Officer and the Chairman of the board of directors, limiting the board size to between eight and sixteen directors, having at least one-third of the total membership of the board to be independent directors, and the establishment of separate board committees to be responsible for audit and executive remuneration. Other provisions call for improvement of the relationship between shareholders and managers, and provisions on financial affairs, auditing and disclosure practices. We develop a corporate governance index and its six sub-indices to measure firm-level governance quality. Annual reports of the Ghanaian listed firms are scored according to their governance disclosure during the whole period, 2000-2009 and pre 2003 and post 2003 introduction of the Ghanaian Code. A panel data analytical framework was used to find the determinants of strong corporate governance in Ghanaian listed firms. The empirical results over the whole period, 2000-2009 show statistically significant and positive relationship between external financing needs, firm size, institutional shareholdings and governance quality measured by the Ghanaian corporate governance index. While we find no relationship between external financing needs, director shareholding and governance quality pre 2003, the result is positive and statistically significant for post 2003. The most consistent relationship we find concerns firm size and institutional shareholdings. However, growth opportunities and firm performance measures appear to have no association with strong governance in Ghanaian firms. The results have important implications for the Ghanaian firms and regulators. In particular, the Ghanaian firms with high external financing needs would have to improve their governance structures in order to attract such facility. For regulators, it is important to have clear code of corporate governance guidelines in place where firms' governance practices can be benchmarked. In addition, the study contributes to our understanding of the firm attributes affecting strong corporate governance in emerging African economies.

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## INTRODUCTION

This paper investigates the determinants of good corporate governance in the Ghanaian listed firms for the study period 2000 to 2009. Even though corporate governance has become increasingly important in realigning the shareholder and manager interest resulting from the separation of ownership and control (Berle and Means, 1932), relatively little is known about how corporate governance has evolved and the determinants of firm-level governance quality in emerging African economy like Ghana. As in Adda and Hinson (2006), there have been some inconsistencies and weaknesses in the regulation of firms in Ghana, suggesting that the level of legal protection offered to shareholders to prevent managers from expropriation of their wealth is relatively weak. Given that firm-level governance quality matter more in countries with weak legal systems (Metrick and Ishii, 2002; Klapper and Love, 2004), the implementation of good corporate governance can be seen as equilibrium response to the weak legal environment in which the Ghanaian firms operate. Fundamental to the implementation of good corporate governance is the agency theory which has identified some governance

mechanisms to realign the shareholder and manager interests in anticipation of maximizing shareholder wealth.

Consequently, the Security and Exchange Commission Ghana (SECG) has become very anxious about governance issues and in 2003 introduced corporate governance guidelines on best practices (hereafter the Ghanaian Code) with which all firms were encouraged to comply. This was in line with the implementation of codes in many countries globally, for example, UK, South Africa, US, among others. However, there is no study to date in Ghana that has analysed the governance quality and its determinants in Ghanaian firms.

This study fills the above gap in the literature. Ghana is a unique context to investigate what drives firm-level governance quality because institutions and governance structures are considered weak relatively to the developed market counterparts (Gurgler *et al.*, 2003). Given the international corporate governance debate which revolves around whether governance codes should be mandatory or voluntary (Aguilera and Cuervo-Cazurra, 2009), the introduction of the Ghanaian Code in 2003 provides a testing ground to investigate whether governance quality changes from pre 2003 to post 2003 might have been impacted by the changes in firm attributes for the first time.

This paper contributes to the corporate governance discussion in the following ways. First, the paper provides the first direct evidence of contextual changes of governance practices across Ghanaian listed firms from 2000 to 2009 by developing a comprehensive corporate governance index as a proxy to firm-level governance quality. Second, and apart from prior cross countries studies (Klapper and Love, 2004; Durnev and Kim, 2005), relatively few studies that have attempted to examine the determinants of firm-level governance quality in specific countries have focused on the Canadian (Anand *et al.*, 2006), the US (Khanchel, 2007) and the Brazilian (Da Silveira *et al.*, 2007) listed firms. This paper presents the first direct evidence across the Ghanaian listed firms' attributes that are related to their governance quality. Third, the paper provides the first direct evidence of the determinants of firm-level governance quality that focuses on the pre and post introduction of the Ghanaian Code in 2003. This is particularly important because it helps to find whether the Ghanaian firms' governance quality before (2000-2002) and after (2004-2009) the introduction of the Ghanaian Code can be explained by their attributes during the sub-periods. Anand *et al.* (2006), Khanchel (2007) and Da Silveira *et al.* (2007) do not address this problem.

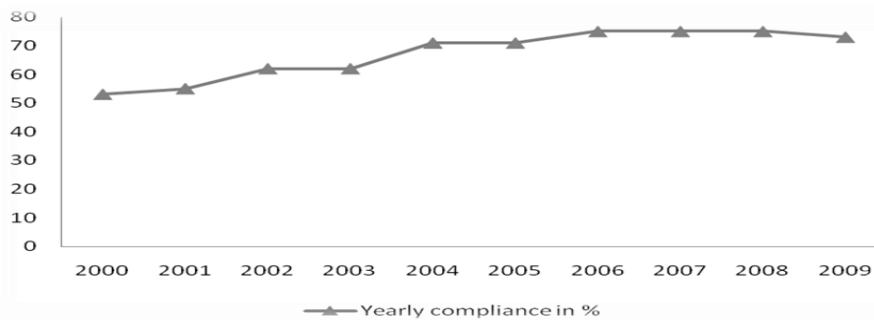
While we find no relationship between external financing needs, director shareholding, and governance quality pre 2003, the results is positive and statistically significant for post 2003. The most consistent relationship we find concerns firm size and institutional shareholdings. Our results over the whole period, 2000-2009 show that external financing needs, firm size and institutional shareholdings explain some of the changes in firm-level governance quality measured by the Ghanaian corporate governance index (GCGI).

The rest of the paper is structured as follows. Section 2 focuses on the hypothesis development. Section 3 describes the selection of sample and research design. Section 4 presents the empirical results, while section 5 concludes the paper.

## HYPOTHESIS DEVELOPMENT

Prior to developing our hypotheses, we examine how the firm-level governance quality based on the Ghanaian Code criteria has improved over time. In Figure 1, we plot the percentages of compliance with the Ghanaian Code from 2000 to 2009. The figure indicates that the Ghanaian listed firms have considerably improved their governance quality over time with the firms complying with 73% of the Ghanaian Code provisions in 2009 compared to 53% in 2000. This increase in compliance with the Ghanaian Code is in line with prior studies (Henry, 2008; Price *et al.*, 2011; Ntim *et al.*, 2012; Owusu and Weir, 2013; Abraham *et al.*, 2015; Owusu and Weir, 2016) who reported a significant increase in compliance with their country specific codes of best practices. In contrast, Gomper *et al.* (2003) using the US governance data reported a stable compliance with corporate governance among listed firms over a long period of time. The changes in Ghana provide a powerful setting to investigate why firms within the same contractual environment tend to voluntarily choose different corporate governance practices.

**FIGURE 1: PERCENTAGES OF COMPLIANCE WITH THE GHANAIAN CODE, 2000-2009**



La Porta *et al* (1998) note that better investor protection increases investors' readiness to provide financing which should be reflected in lower costs of capital. Klapper and Love (2004) build on this theory by demonstrating that the main goal of corporate governance is to improve investors' confidence of receiving greater returns on their investment. Recent studies such as Khanchel (2007) and Da Silveira *et al* (2007) show a statistically significant and positive relationship between external financing needs and firm-level governance quality. This suggests that the Ghanaian firms with greater future external financing needs are expected to improve their corporate governance quality. Assuming that greater compliance with the Ghanaian Code indicates better firm-level governance quality, we expect firms with greater external financing needs to improve their firm-level governance quality leading to hypothesis 1.

**Hypothesis 1:** *Greater external financing needs should lead to better firm-level governance quality.*

Better growth opportunities do not necessarily indicate better firm-level governance quality. For example, Khanchel (2007) find growth opportunities to have no significant impact on firm-level governance quality. However, Da Silveira *et al* (2007) show significant positive relationship between growth and firm-level governance quality, suggesting that firms with better growth prospects will need to raise external funding for expansion and may deem it necessary to improve their corporate governance quality to lower costs of capital. The same could be true for Ghanaian firms, which is why we investigate operational improvements in addition to external financing needs by investigating sales growth impact on firm-level governance quality. Our expectation is that firms with growth opportunities are likely to improve their firm-level governance quality leading to hypothesis 2.

**Hypothesis 2:** *Better growth opportunities should lead to better firm-level governance quality.*

Klapper and Love (2004) note that the effect of firm size on corporate governance quality is ambiguous, such that larger firms may have greater agency costs because it is difficult to monitor their activities or due to the 'free cash flows' argument by Jensen (1986), and therefore they need to adopt better corporate governance practices in order to mitigate the agency problems. In contrast, smaller firms may have greater growth opportunities, and therefore will need to raise more external financing. Thus, this can motivate them to improve their corporate governance quality in order to lower their costs of capital. Given that both arguments provide incentive for greater firm-level governance quality, we expect firm size to influence corporate governance quality leading to Hypothesis 3.

**Hypothesis 3:** *Firm size should lead to greater firm-level governance quality.*

Khanchel (2007) find performance to have no significant impact on firm-level governance quality, evidence supported by Da Silveira *et al* (2007). In contrast, Shabbir (2008) note that firms tend to behave in an opportunistic manner regarding the adoption

of good corporate governance practices. The author shows that firms become more compliant when their prior period stock market performance declines and less compliant when there are improvements in their operating performance. This suggests that better firm performance affect corporate governance quality to decline as there will be no incentives for firms to improve their governance quality. It is therefore interesting to establish whether better performance is associated with greater corporate governance quality across Ghanaian firms. In Ghanaian setting, I expect firms with better performance to have a negative impact on their corporate governance quality leading to hypothesis 4.

**Hypothesis 4:** *Better performance should lead to lower firm-level governance quality.*

Sheifer and Vishny (1986) note that institutional investors by virtue of their large stockholdings will have the incentives to monitor firms, which, if effective, will go a long way to improve corporate governance quality. Jensen and Meckling (1976) argue that the agency problems can be mitigated when managers have ownership interest in a particular firm. This suggests that managerial ownership helps to align managers' and shareholders' interests which could lead to improve firm-level governance quality. Durnev and Kim (2005) develop a theoretical model to analyse the potential determinants of corporate governance quality and find corroborating evidence that ownership concentration drives firms to adopt better corporate governance practices.

In contrast, Anand *et al* (2006) find that the presence of majority shareholder or executive blockholder is negatively related with better corporate governance standards. Recently, Khanchel (2007) finds a positive and statistically significant association between directors and officers ownership or institutional ownership and corporate governance quality, evidence supported by Da Silveira *et al* (2007) who also find large blockholders to have a positive impact on better corporate governance practices. They however find family ownership to have a negative impact on corporate governance quality. In general, we expect institutional shareholdings or director shareholdings to have a positive impact on firm-level governance quality among Ghanaian firms leading to hypothesis 5.

**Hypothesis 5:** *Institutional shareholdings or director shareholdings should lead to greater firm-level governance quality*

## SELECTION OF SAMPLE AND RESEARCH DESIGN

Our sample of listed firms covers the period 2000 to 2009 in Ghana. We first downloaded the list of listed firms from Ghana Stock Exchange (GSE) website. In the second stage, we verified whether all firms filed their annual reports over the sample period with the Ghana's stock exchange each year. As a result, the firms listed during each year under consideration were included in the sample based on the availability of their annual reports. Given our objective of investigating issues concerning firm attributes and corporate governance quality before and after the introduction of the Ghanaian Code in 2003, we attempt to collect data for each firm for three years to the introduction and six years after the introduction. This provides us a ten year window surrounding the introduction of the Ghanaian Code.

Corporate governance data was collected from each firm's annual report filed with the GSE from 2000 to 2009. All firm attributes data are from the 2005 and 2010 GSE Factbooks, which contain the summarized financial statement and ownership data. Our final sample of 35 out of the 38 listed firms as of December 2009 represents 92 percent of all listed firms currently traded on the GSE. As a result, we arrived at 283 firm year observations over the period 2000 to 2009.

In this study, and as in Owusu and Weir (2016), we directly measure the firm-level governance quality by developing a GCGI because there is no corporate governance data readily available from any rating agencies in Ghana. Following Gompers *et al* (2003) and Garay and Gonzalez (2008), we developed the GCGI by assigning '1' point to each aspect of compliance with the Ghanaian Code provisions complied and disclosed in the firm's annual report or '0' otherwise. With this scoring method, and given the 33 binary

objective questions, a firm's developed governance index in a particular financial year end can vary between 0 and 33, with 0 indicating perfect non-compliance and 33 indicating complete compliance. The corporate governance provisions included in the GCGI are solely based on the Ghanaian Code with six broad set of corporate governance best practices that Ghanaian listed firms are required to comply or provide explanation for non-compliance in their annual report. In this respect, the average of the six comprehensive sub-indices for each firm constitutes the developed GCGI. These sub-indices include: (1) board composition; (2) audit committee; (3) remuneration committee; (4) shareholder rights; (5) financial affairs and auditing; and (6) disclosure practices.

Similar to Anand *et al* (2006), Khanchel (2007) and Da Silveira *et al* (2007), we examine the relationship between firm attributes and governance quality. The measures of firm attributes we use are: external financing needs (*FINANCE*) defined as the ratio of total debt to capital employed, where capital employed is the sum of total debt and equity; growth opportunities (*GROWTH*) defined as the percentage of the difference between the current year's of sales and previous year's of sales divided by the previous year's of sales of each firm; firm size (*SIZE*) defined as the natural log of the book value of a firm's total assets; institutional shareholdings (*INSTHOLD*) defined as the proportion of shares held by institutional shareholders in excess of 3% of total shareholding and director shareholdings (*DIRHOLD*) defined as the proportion of shares held by board of directors to the total shareholdings.

The measures of firm performance we use are return on assets (*ROA*) defined as operating profit after tax divided by the book value of total assets; return on equity (*ROE*) defined as operating profit after tax divided by the book value of equity; and Tobin's Q (*Q-ratio*) defined as the market value of total assets divided by the book value of total assets, where the market value of total assets is measured by the market value of equity plus the book value of total assets minus the book value of equity (Gompers *et al*, 2003; Klapper and Love, 2004; Garay and Gonzalez, 2008). We also include two control variables, i.e. firm age (*AGE*) defined as the number of years since a particular firm's incorporation to the end of 2009 and year dummy variables.

Given the panel nature of the data and the need to investigate the impact of the changing firm attributes on corporate governance quality over multiple-year timeframe, we employ panel data regression model as a method of estimation which provides a means of controlling for unobserved firm heterogeneity over the sample period. After conducting a series of test, we considered fixed effects regression model to be appropriate and the fixed effects regression model we initially use to investigate the relationship between firm attributes and corporate governance quality of the Ghanaian firms is in the following general form:

$$GCGI_{it} = \alpha + \sum_{j=1}^n \beta_j (\text{Attributes}_{jit}) + \sum_{k=n+1}^{n+m} \beta_k (\text{Control}_{kit}) + \theta_t + \delta_i + u_{it}$$

where  $GCGI_{it}$  is the dependent variable;  $\alpha$  is the overall intercept;  $\text{Attributes}_{jit}$  is a set of firm attributes of interest,  $j$ , firm  $i$  in year  $t$ ;  $\text{Control}_{kit}$  is a set of firm specific control variables,  $k$ , for firm  $i$  in year  $t$ ; where  $k = 1$  to  $m$ ;  $\theta_t$  is a vector of 9 dummy variables representing the 10 sample years;  $\delta_i$  is the firm specific fixed effects, consisting of a vector of 34 dummy variables to represent the 35 sample firms; and  $u_{it}$  is the unobserved error component. In what follows, we perform similar equation to (1) for the sub-indices of the *GCGI* as dependent variables as well as the pre 2003 and post 2003 firm attributes-corporate governance quality relationship.

## EMPIRICAL RESULTS

### Descriptive Statistics

Table 1 provides the summary statistics of firm characteristics variables for the Ghanaian firms. It shows that the sample firms have an overall average size of 6.49, suggesting that they are small size firms. The annual growth and external financing needs are 0.09 and 0.269, respectively. The institutional investors have a strong presence in the Ghanaian

firms with an average ownership of 75.96 percent of the total shareholdings. We also calculate director shareholdings with an average of 8.59 of the total shareholdings. The average firm performance measures are 5.70, 18.67 and 1.13 for return on assets, return on equity and Tobin's Q, respectively, and the average firm age is around 33 years.

**TABLE 1: SUMMARY STATISTICS OF THE GHANAIA FIRM CHARACTERISTICS**

*FINANCE* is the external financing needs, *GROWTH* is the growth opportunity, *SIZE* is the firm size, *INSTHOLD* is institutional shareholdings, *DIRHOLD* is the director shareholdings, *ROA* is the return on assets, *ROE* is the return on equity, *Q-ratio* is the Tobin's Q and *AGE* is the firm age.

	Mean	Median	Std. Dev	Minimum	Maximum
<b>Overall period from 2000 to 2009 firm characteristics variables</b>					
FINANCE	0.269	0.223	0.261	0.124	0.746
GROWTH	0.0900	0.1207	0.51716	-0.5700	1.3600
SIZE	6.4980	6.5427	1.32470	4.2300	8.8300
INSTHOLD %	75.96	73.65	13.82	27.00	95.00
DIRHOLD %	8.59	0.10	18.55	0.00	87.00
ROA	5.6996	4.4010	11.32180	-9.74	31.59
ROE	18.6668	16.3414	39.76865	-31.8801	68.25
Q-ratio	1.1285	0.7249	1.67413	-0.0612	7.0100
AGE	32.78		13.9900	5.3	60.5

Table 2 presents the summary statistics of governance variables for the Ghanaian firms. It indicates that the overall firm-level governance quality measured by the GCGI is 68.16 percent on average. Firms whose governance quality is the worst have an index of 39 percent and the firms that have the best achieved 100 percent compliance level. The financial affairs and auditing sub-index is 90.93 percent on average and it is the highest firm-level governance quality among the six sub-indices, while the remuneration committee sub-index experienced the lowest of 33.81 percent. The board composition, audit committee, shareholder rights and disclosure sub-indices achieved firm-level governance quality of 65.37 percent, 60.78 percent, 74.26 percent and 87.87 percent, respectively. This suggests that the overall firm-level governance quality in Ghana (68 percent) is on average reasonably higher than 61 percent reported among South African firms (Ntim *et al*, 2012).

**TABLE 2: SUMMARY STATISTICS OF GOVERNANCE VARIABLES FOR THE GHANAIA FIRM, 2000-2009**

*BOARDINDEX* is the board composition index, *AUCOMINDEX* is the audit committee index, *RECOMINDEX* is the remuneration committee index, *SHOLDINDEX* is the shareholder rights index, *FAAINDEX* is the financial affairs and auditing index, *DISCINDEX* is the disclosure index and the *GCGI* is the Ghanaian corporate governance index.

	Mean	Median	Std. Dev	Minimum	Maximum
<b>Overall period from 2000 to 2009 governance variables (%)</b>					
BOARDINDEX	65.37	66.67	16.54	33.33	100.00
AUCOMINDEX	60.78	83.33	41.22	0.00	100.00
RECOMINDEX	33.81	16.67	29.67	16.67	100.00
SHOLDINDEX	74.26	83.33	11.41	50.00	100.00
FAAINDEX	90.93	100.00	12.64	50.00	100.00
DISCINDEX	87.87	100.00	16.13	50.00	100.00
GCGI	68.16	72.22	15.08	39.00	100.00

## Results

Table 3 presents the results for the firm attributes-governance quality relationship during the whole period. As shown in model 1, the external financing needs is found to be statistically significant and positively related to the overall governance quality measured by the GCGI, suggesting that hypothesis 1 is supported. Investigating the constituents of the GCGI suggests that the board composition, audit committee, shareholder rights and disclosure sub-indices drive the relationship. Contrary to hypothesis 2, a growth opportunity is found to have no association with the overall governance quality. The results also suggest that firm size is associated with higher overall governance quality and the relationship is influenced by audit committee, remuneration committee and disclosure sub-indices. Although the director shareholding has no relationship with the overall governance quality, there is strong relationship between board composition and shareholder rights sub-indices. The institutional shareholding is positive and statistically significant and the strong relationship is influenced by board composition, audit committee, remuneration committee and disclosure sub-indices. All the firm performance measures are found to have no association with the overall governance quality measured by the GCGI and its sub-indices.

The analysis is further developed to investigate whether the changes in firm-level governance quality might have been impacted by the changes in the firm attributes. Table 4 provides pre 2003 and post 2003 analysis of the firm attributes impact on governance quality. As Panel A and Panel B of model 1 shows, firm size and institutional shareholdings have had consistent positive and significant impact on the overall governance quality during the sub-periods. However, and as shown in Panel A of model 1, the external financing needs, growth opportunities, director shareholdings and all the firm performance measures did not have any impact on the overall governance quality during pre 2003 sub-period.

As expected, the external financial needs and director shareholdings appear to have had a positive and statically significant impact on governance quality during post 2003. However, all the firm performance measures are found to have no impact on the overall governance quality during post 2003. Although growth opportunity certainly lacks significant, these results suggest that the strong relationship reported during the whole period is generally influenced by the changes in firm attributes during the sub-periods.

## Robustness Check

One main concern in using fixed effects regression model is whether sectoral differences affect the firm-level governance quality. To check the robustness of our results, the dummy variables representing the 10 sample years (time effect) were excluded from the analysis. Instead, and in line with Gompers et al (2003), we replaced them with industry dummies to control for the sectoral effect. This procedure serves as sensitivity analyses which enable us to report more consistent and robust empirical results. As a result, we replicated Tables 4 and 5 and included 6 dummy variables to represent the 7 industries to control for sectoral effect. We find that under both specifications the results are qualitatively the same as what we reported earlier.

**TABLE 3: FIXED EFFECTS REGRESSION RESULTS OF THE IMPACT OF FIRM ATTRIBUTES ON CORPORATE GOVERNANCE QUALITY, WHOLE PERIOD**

The models provide *t*-statistics which are in parenthesis. Coefficients are on top of parenthesis.  
 Year dummy and firm specific fixed effects dummy variables are included but their coefficients are not reported.  
 \*\*\*, \*\* and \* significant at 1, 5 and 10 percent, respectively

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
	GCGI	BOARD INDEX	AUCOM INDEX	RECOM INDEX	SHOLD INDEX	FAA INDEX	DISC INDEX
FINANCE	0.094 (3.19)***	0.101 (4.30)***	0.168 (1.91)*	0.023 (0.45)	0.062 (2.54)**	0.087 (2.65)	0.054 (2.44)**
GROWTH	1.606 (1.47)	0.027 (1.23)	0.127 (1.33)	0.409 (1.36)	0.887 (1.02)	0.588 (1.23)	0.671 (1.86)*
SIZE	0.835 (2.90)***	0.575 (1.15)	0.387 (3.98)***	0.823 (1.71)*	0.382 (0.73)	0.520 (1.17)	0.956 (2.42)**
INSTHOLD	0.004 (2.04)**	0.046 (2.49)**	0.534 (1.71)*	0.543 (2.69)***	0.115 (1.16)	-0.049 (0.52)	0.090 (1.75)*
DIRHOLD	0.074 (0.78)	0.593 (3.71)***	0.521 (0.87)	-0.057 (0.17)	0.451 (2.70)***	-0.025 (0.34)	0.057 (0.59)
ROA	0.115 (1.50)	0.233 (0.91)	0.077 (0.35)	0.019 (0.15)	0.087 (1.40)	-0.134 (1.50)	-0.020 (0.40)
ROE	0.023 (1.05)	0.031 (0.79)	0.097 (1.53)	0.007 (0.20)	0.043 (0.42)	-0.011 (0.41)	-0.003 (0.11)
QRATIO	0.254 (1.61)	0.241 (0.88)	0.026 (0.02)	0.187 (0.27)	0.192 (0.58)	-0.131 (0.27)	-0.364 (0.67)
AGE	0.707 (5.36)***	-0.258 (1.60)	0.681 (9.43)***	0.150 (3.33)***	0.384 (3.19)***	0.380 (3.63)***	0.452 (3.20)***
_cons	33.228 (3.40)***	77.620 (4.46)***	-222.448 (3.50)***	22.567 (2.15)**	40.822 (4.26)**	70.918 (3.90)***	67.573 (2.98)***
R <sup>2</sup>	0.46	0.25	0.36	0.10	0.28	0.54	0.54
N	283	283	283	283	283	283	283



**TABLE 4: FIXED EFFECTS REGRESSION RESULTS OF THE IMPACT OF PRE AND POST FIRM ATTRIBUTES ON CORPORATE GOVERNANCE QUALITY**

The models provide *t*-statistics which are in parenthesis. Coefficients are on top of parenthesis. Year dummy and firm specific fixed effects dummy variables are included but their coefficients are not reported. \*\*\*, \*\* and \* significant at 1, 5 and 10 percent, respectively

*Panel A: Pre 2003 (2000-2002) firm attributes impact on corporate governance quality*

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
	GCGI	BOARD INDEX	AUCOM INDEX	RECOM INDEX	SHOLD INDEX	FAA INDEX	DISC INDEX
FINANCE	0.077 (0.99)	0.013 (1.24)	0.243 (1.19)	0.011 (1.10)	0.161 (0.68)	0.049 (0.50)	0.107 (0.85)
GROWTH	0.498 (1.06)	0.152 (0.08)	0.633 (0.88)	0.354 (1.14)	0.198 (0.80)	0.070 (1.32)	0.054 (1.01)
SIZE	0.733 (2.98)***	0.391 (1.93)*	0.363 (3.35)**	0.437 (2.09)**	0.069 (0.60)	0.069 (2.02)**	0.090 (1.53)
INSTHOLD	0.742 (2.42)**	0.171 (2.59)**	0.232 (1.94)*	0.768 (1.23)	0.634 (2.23)**	0.727 (1.39)	0.588 (0.87)
DIRHOLD	0.431 (0.43)	0.198 (0.29)	0.158 (0.34)	1.172 (0.80)	0.702 (0.58)	0.171 (0.96)	0.014 (1.01)
ROA	0.181 (1.24)	0.021 (0.22)	0.599 (1.22)	0.077 (0.37)	0.227 (1.31)	0.018 (0.10)	0.184 (0.81)
ROE	0.022 (0.65)	0.005 (0.21)	0.055 (0.48)	0.002 (0.04)	0.090 (1.20)	0.030 (0.74)	0.026 (0.49)
QRATIO	0.222 (0.64)	2.629 (2.06)	0.302 (0.36)	0.992 (0.36)	0.729 (0.32)	0.580 (0.69)	0.558 (0.19)
AGE	0.742 (2.30)**	0.964 (1.07)	0.170 (0.26)	0.320 (0.17)	0.352 (2.10)**	0.737 (1.69)*	0.011 (1.81)*
_cons	31.906 (3.62)***	23.206 (2.36)**	12.254 (4.14)**	17.503 (2.39)**	25.940 (1.69)*	23.140 (2.65)**	0.085 (1.79)*
$R^2$	0.55	0.16	0.50	0.31	0.33	0.41	0.31

*Panel B: Post 2003 (2004-2009) firm attributes impact on corporate governance quality*

FINANCE	0.017 (2.96)***	0.133 (3.67)***	0.095 (1.03)	0.069 (1.07)	0.066 (2.02)**	0.012 (1.46)	0.012 (2.30)**
GROWTH	0.004 (1.01)	0.390 (1.57)	0.424 (0.19)	0.528 (0.34)	0.011 (1.01)	0.160 (0.25)	1.098 (1.14)
SIZE	0.544 (2.27)**	0.984 (1.65)*	1.521 (1.00)	0.666 (0.63)	0.658 (2.22)**	0.493 (1.13)	0.894 (2.37)**
INSTHOLD	0.132 (2.14)**	0.137 (0.85)	0.181 (2.44)**	0.401 (1.40)	0.112 (1.77)*	0.154 (1.31)	0.117 (0.67)
DIRHOLD	0.254 (2.25)**	0.713 (4.54)***	0.084 (2.21)**	0.037 (0.13)	0.511 (3.61)***	0.097 (0.84)	0.338 (1.98)**
ROA	0.027 (1.18)	0.113 (1.27)	0.059 (2.26)	0.183 (1.16)	0.025 (0.31)	0.102 (1.66)*	0.067 (1.69)*
ROE	0.017 (1.65)	0.041 (1.14)	0.007 (1.07)	0.103 (1.57)	0.025 (0.79)	0.012 (0.44)	0.030 (0.51)
QRATIO	0.529 (0.77)	0.136 (0.18)	0.849 (0.44)	0.835 (1.13)	0.596 (0.88)	0.062 (0.11)	0.082 (0.10)
AGE	0.218 (0.91)	0.969 (2.91)***	1.031 (1.21)	0.295 (0.50)	0.361 (3.53)***	0.097 (2.50)**	0.630 (1.74)*
_cons	35.231 (3.94)***	26.062 (3.45)***	11.333 (2.47)**	16.129 (1.79)*	22.415 (2.67)**	17.759 (2.25)**	18.345 (2.09)**
$R^2$	0.29	0.21	0.24	0.36	0.26	0.28	0.17
$N$	193	193	193	193	193	193	193

## CONCLUSIONS

This paper investigates the determinants of good corporate governance in Ghana, focusing on the possible differences in findings before and after 2003. We directly measure a firm-level governance quality by developing a GCGI and its six sub-indices for the whole period (2000-2009) and the pre and post sub-periods. The empirical results over the whole period, 2000-2009 show statistically significant and positive relationship between external financing needs, firm size, institutional shareholdings and governance quality measured by the GCGI.

While we find no relationship between external financing needs, director shareholding and governance quality pre 2003, the result is positive and statistically significant for post 2003. The most consistent relationship we find concerns firm size and institutional shareholdings. However, growth opportunities and firm performance measures appear to have no association with strong governance in Ghanaian firms.

There are some limitations to this study which must be considered when interpreting our results. This study was conducted on a sample of Ghanaian listed firms and therefore generalisation should be limited to this category. Also, our firm-level governance quality was based on comments that show compliance (equally weighted) with the Ghanaian Code recommendations and disclose in each firm's annual reports but does not assess the quality of information provided. Future research may consider assigning weights to comments that show compliance with the Ghanaian Code provisions in assessing governance quality.

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