Does corporate governance structures promote shareholders or stakeholders value maximization? Evidence from African banks

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Abstract

Purpose – *The purpose of this paper is to explore the relationship between corporate governance structures and stakeholder and shareholder value maximization perspectives in 267 African banks from 2006 to 2011.*

Design/methodology/approach – *The authors used the Prais–Winsten ordinary least squares and random effect regression models to explore this relationship to ensure consistency and efficiency in results. The data for this study were collected from Bankscope.*

Findings – *The results of this study show that corporate governance structures such as CEO duality, nonexecutive members and extreme large board size lead to a reduction in both shareholder and stakeholder value maximization. However, audit independence and board size also promote both shareholder and stakeholder value maximization. Although gender diversity promotes profit maximization, it was not significant in any of the models estimated. The results further suggest that the same corporate governance structures promote and detract shareholder and stakeholder value maximization in Africa although the effect of corporate governance structures was weightier on shareholder value maximization confirming the agency theory.*

Practical implications – *From these findings, bank management must pursue the institution of good corporate governance structures and avoid weak corporate governance structures to promote shareholder and stakeholder value maximization. Also equity holders may have to pay particular attention to corporate governance structures because they benefit the most from the institution of good corporate governance structures.*

Originality/value – *This study explores and compares how corporate governance structures promote shareholder and stakeholder value maximization separately in African banks. To the best of the authors' knowledge, this is the first of such studies.*

Keywords *Africa, Corporate governance, Stakeholder theory, Bank profitability, Shareholder theory*

Paper type *Research paper*

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1. Introduction

Corporate governance involves a set of relationships between a company's management, its board, its shareholders and other stakeholders. Corporate governance also provides the structure through which the objectives of the company are set and the means through which those objectives are determined (OECD, 2004; Shleifer and Vishny, 1997). It also involves monitoring performance of firms. This means that corporate governance has emerged as a critical mechanism for accelerating firm performance and economic growth (Aggarwal *et al.*, 2011; Stafsudd, 2009; Jadhav and Katti, 2012; Hasan *et al.*, 2014).

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Corporate governance structures in prior studies are evidently represented as CEO duality, board size, board gender, audit committee independence and nonexecutive members on the board. Given the potential of corporate governance promoting economic growth and firm performance, many studies have explored these benefits associated with it at the national and firm levels (La Porta *et al.*, 2000; Hasan *et al.*, 2014). Studies including Shleifer and Wolfenzon (2002), Abdullah (2004) argued that effective or strong corporate governance structures form a corporate atmosphere that discourages corporate insiders or managers from pursuing their own value, alleviates the risk of mismanagement or negligence and hence enhances firm value or performance. In effect, in the presence of effective corporate governance structures, corporate insiders have a disincentive to pursue their own opportunistic interest, as these good corporate structures serve as a deterrent or disciplinary measure that guides the corporate dealings to maximize firm value (Eisenberg *et al.*, 1998; Epps and Cereola, 2008; Judge *et al.*, 2003). This suggests that some corporate governance structures promote firm performance.

Although corporate governance is generally accepted to enhance the firm value, this is done through two varying perspectives or theories. These two perspectives include the shareholder perspective and the stakeholder perspective (Abdullah, 2004). While the shareholder perspective has been the traditional view and of course the more dominant view, the stakeholder theory only emerged recently. Corporate governance modeling has closely followed the Anglo-American approach popularly referred to as the shareholder model (Abdullah, 2004). The proponents of the shareholder perspective argue that corporate governance structures should focus on the promotion of shareholders' value (return on equity [ROE]) because of the separation of management (control) and ownership (shareholder), as managers may pursue their own interest at the expense of the interest of shareholders (Keenan, 2004; John and Senbet, 1998; Jensen and Meckling, 1976). The proponents of the stakeholder perspective on the other hand argue that corporate governance structures should not focus on promoting the value of only the shareholder but also on promoting the value of all (shareholders, employees, creditors, tax agencies, society, government, etc.) who have a stake or interest in a firm. Following this, Aguilera and Cuervo-Cazurra (2004) posited that corporate governance structures are there to "encourage efficient and equal use of resources which requires accountability for the stewardship of these resources". Thus, its main aim is to align as closely as possible the interests of individuals, corporations and the society as a whole.

Given these perspectives to corporate governance, empirical studies have focused more on the dominant perspective, which is the agency perspective (Mensah and Abor, 2014; Abdullah, 2004; Keenan, 2004; Singh and Davidson, 2003; John and Senbet, 1998) neglecting the stakeholder perspective to corporate governance. This is somewhat strange as good corporate governance should not only serve the interest of the shareholder but also help promote the value of the stakeholder. The literature on corporate governance barely discusses which corporate governance structures promote or detract shareholder and stakeholder value maximization goals. Hence, this study takes the advantage of the lack of empirical studies especially in the context of Africa to explore and compare for the first time, to the best of our knowledge, which corporate governance structures promote shareholder and stakeholder value maximization in African banks. Given the low level of economic growth and development in Africa, the importance of this study in African banks cannot be overemphasized because the banking sector in most African countries are instrumental in the advancement of economic growth and development through the pursuit of the firm value maximization (including shareholder and stakeholder values). To do this, shareholder value is represented as ROE, whereas stakeholder value is measured as return on assets (ROA). The study focuses on banks for a number of reasons. First, data on banks are easily accessible making it easy to undertake the study. Second, the literature (Tadesse, 2002) suggests that banks facilitate economic growth and development in most countries, and hence investigating corporate governance and value maximization may help to promote the

economic growth and development. Third, banks dominate the financial sector of most countries, and hence an investigation into corporate governance and value maximization may lead to a stable banking and financial sector at large.

2. Literature review

Until recently, corporate governance thrived on the shareholder theory. However, in recent times, the stakeholder theory has emerged as another theoretical perspective to corporate governance. These two theoretical perspectives to corporate governance argue from diverse angles.

The shareholder theory originated from Milton Friedman's (1970) article titled "The social responsibility of business is to increase profit". In this paper, Friedman argued that the sole responsibility of business is to increase profit for its shareholders. That is, once businesses belong to shareholders, it must be run in their interest. Hence, the shareholder theory is a dominant theory that preaches the doctrine that the sole objective of management is to maximize shareholder value. The shareholder theory is premised on the fact that managers are hired as the agent of the shareholders to run the business of the corporation for their principal's benefit and, therefore, have legal and moral obligation to serve the interest of shareholders. Although the shareholder theory is seen as a historic way of doing business, it has not gone without criticisms. The shareholder theory has been criticized mainly for concentrating solely on the interest of shareholders as against the interest of all other parties who have interest in a business (Green, 1993). Furthermore, critics argue that the shareholder theory seems to have contributed to the corporate scandal (manipulation of company accounts) of Enron and WorldCom, as managers were continuously pressured to maximize shareholders' value. This has led to the emergence of the stakeholder theory (Aguilera and Cuervo-Cazurra, 2004).

The stakeholder theory was propounded by Edward Freeman to take care of the flaws in the shareholder theory (Edward, 1984; Freeman and Gilbert, 1988; Dodd, 1932). The stakeholder theory argues that although shareholders are the owners of business corporations, corporate managers have a wider responsibility to any other person or group whom the actions of the business may or can affect. These persons or groups may include suppliers, creditors, employees, competitors, customers and the community in which the business corporation operates at large. This means that the stakeholder theory recognizes the responsibilities of managers beyond mere economic and legal perspective to cover the ethical and philanthropic perspective, where corporate managers take into account the interest of all parties who have a stake or interest in the operation of the business corporation and not only the interest of shareholders (Kochan and Rubinstein, 2000). Table I summarizes the views of the two theories.

Kochan and Rubinstein (2000) provided perspectives for differentiating between shareholder and stakeholder values as shown in Table I. The categories for differentiating

Table I Corporate governance in the light of shareholder (ROE) and stakeholder (ROA) theories

Corporate governance	*Shareholder theory (ROE)*	*Stakeholder theory (ROA)*
Purpose	Maximize shareholder value or interest	Pursue multiple objectives of parties with different interests
Governance structure	Principal-agent model (managers are agents of shareholders)	Team production model
Governance process	Control and ownership	Coordination, cooperation and conflict resolution
Performance metrics	Shareholder value sufficient to maintain investor commitment	Fair distribution of value created to maintain commitment of multiple stakeholders
Residual risk holders	Shareholders	All stakeholders

Source: Adapted from Kochan and Rubinstein (2000)

shareholder and stakeholder values include purpose, governance structure, governance process, performance metrics and residual risk holders. Kochan and Rubinstein (2000) showed that while the shareholder theory focuses on maximizing the interest or value of shareholders, the stakeholder theory emphasizes on maximizing the interest or value of all interested parties in a corporate setup. Based on governance structure, the shareholder theory is built on principal-agent model or structure, whereas the stakeholder theory is built on a team production structure or model. In a shareholder theory setup, the governance process is based on control (managers) and ownership (shareholders), whereas in a stakeholder theory setup, governance process is based on proper coordination, cooperation and conflict resolution amongst all stakeholders. From a performance metrics perspective, while the shareholder theory emphasizes that shareholder value is sufficient to maintain investor commitment, the stakeholder theory emphasizes that fair distribution of value creates commitment of multiple stakeholders. Finally, while shareholders are the residual risk holders under the shareholder theory, all stakeholders are the residual risk holders under the stakeholder theory.

Empirical literature on how corporate governance affects firm value maximization has largely been represented with ROE (Lo, 2003; Brown and Caylor, 2006) and ROA (Klein, 1998; Epps and Cereola 2008; Brown and Caylor, 2006), both of which communicate profitability of firms (Dietrich and Wanzenried, 2011; Athanasoglou *et al.*, 2008; Goddard *et al.* 2004; Demirgüç-Kunt and Huizinga, 1999). Although prior studies used these two profitability measures, they failed to highlight and distinguish between the proxies for shareholder and stakeholder value maximization. Hence, following corporate finance literature (Ross, 2008; Brealey and Myers, 2003), ROE remains the focal point for shareholder value for which managers must maximize and protect, whereas ROA represents stakeholder value for which managers must also maximize and protect as per shareholder and stakeholder theories, respectively. That is, ROE (computed as earning after interest and tax [the ratio of net income to total equity]) represents the profit distributable to shareholder, whereas ROA (computed as the ratio of earnings before interest and tax to total assets) represents the profit distributable to all parties (including government, bondholders, creditors and shareholder) who have interest in the firm (stakeholders).This assertion stems from the evolution of the DuPont identity (Kusi *et al.*, 2015) and shows that ROE and ROA are good measures for shareholder and stakeholder value in a firm, respectively.

From an accounting and finance perspective (especially in the preparation of income statements), maximization of shareholder value implies maximizing stakeholder value. That is to say, increase in shareholder value first increases stakeholder value. This is because of the fact that stakeholders (such as governments and its agencies, creditors and employees) are the first claimants on the assets of the firm, whereas shareholders are the last claimants on the assets of the firm. This indicates that factors that promote shareholder value first promote stakeholder value. Hence, although governance structures appear to tilt toward the Anglo-American approach or the shareholder theory (Abdullah, 2004) thus promoting shareholder value, these corporate governance structures first improve stakeholder value.

3. Data and methodology

The data for this study are panel gathered from Bankscope and World Development Indicators databases. The data cover 270 banks in 29 countries in Africa from 2006 to 2011. Brooks (2008) asserted that the panel data technique reports more convincing results than the time series and cross-sectional techniques because the panel technique exploits the advantages of the time series and cross-sectional data and at the same time corrects for the disadvantages of the two estimation techniques, respectively. Also, using the panel data has the ability to control for omitted variables and bank-specific effects. It also allows

for both long- and short-run effects, which helps to overcome the shortcomings of the cross-sectional and time series estimation techniques (Wooldridge, 2009). The universal form of a panel data model is stated as:

$$Y_{it} = \alpha_i + \gamma_t + \beta X_{it} + \varepsilon_{it} \quad (1)$$

The study adapts and contextualizes the general panel modeling form to capture the modern portfolio theory (MPT) in which ROE or ROA (profitability) is assumed to be influenced by both internal (firm or bank) and external (macroeconomic) factors. This basic model is stated as:

$$ROE_{it}/ROA_{it} = \beta_1 Bank\ Specific\ Variables_{it} + \beta_2 Macroeconomic\ Variables_t + \varepsilon_{it} \quad (2)$$

To investigate how corporate governance structures influence shareholder views or stakeholder views, we augment our basic model with measures of corporate governance structures. Our shareholder or agency and stakeholder models are estimated as:

$$\begin{aligned} ROE_{it} = {} & \beta_1 CEODUAL_{it} + \beta_2 BODSIZE_{it} + \beta_3 SQBODSIZE_{it} + \beta_4 NONEXE_{it} \\ & + \beta_5 BODGEN_{it} + \beta_6 AUDIT_{it} + \beta_7 SIZE_{it} + \beta_8 TAN_{it} + \beta_9 CAP_{it} \\ & + \beta_{10} CRISK_{it} + \beta_{11} NON\text{-}INT_{it} + \beta_{12} EFFI_{it} + \beta_{13} INFL_{it} + \varepsilon_{it} \end{aligned} \quad (3)$$

$$\begin{aligned} ROA_{it} = {} & \beta_1 CEODUAL_{it} + \beta_2 BODSIZE_{it} + \beta_3 SQBODSIZE_{it} + \beta_4 NONEXE_{it} \\ & + \beta_5 BODGEN_{it} + \beta_6 AUDIT_{it} + \beta_7 SIZE_{it} + \beta_8 TAN_{it} + \beta_9 CAP_{it} \\ & + \beta_{10} CRISK_{it} + \beta_{11} NON\text{-}INT_{it} + \beta_{12} EFFI_{it} + \beta_{13} INFL_{it} + \varepsilon_{it} \end{aligned} \quad (4)$$

4. Variables definition and selection

Following finance literature (Ross, 2008), we measure return on equity (*ROE*) as net profit scaled by total equity and return on assets (*ROA*) as earnings before interest and tax scaled by total assets. In corporate finance and accounting, *ROE* represents the value of shareholders which captures the agency perspective, whereas *ROA* represents the stakeholders' perspective. These two are our dependent variables.

CEO duality (*CEODUAL*) is a dummy which takes a value of 1 when the CEO doubles as the Board Chairman and 0 otherwise. CEO duality should be negatively related to the value of shareholders and stakeholders (Judge *et al.*, 2003). This is because too much power will be concentrated in one person if the CEO also doubles as board chair. In such a situation, we expect a negative effect on both *ROE* and *ROA*. A positive relationship will suggest that shareholder (*ROE*) and stakeholder (*ROA*) values are maximized where the CEO also doubles as the board chair. CEO duality is an evidence of concentration of corporate power, which increases the chance of CEO pursuing his personal gains at the expense of shareholder and stakeholder values.

BODSIZE signifies the total number of board members. A positive relationship advocates that an increase in the number of board members leads to an increase in the value of shareholders and stakeholders because the skills, experience and capacity of the board may increase in the event of an increase in the board membership. That is, active boards reduce the opportunistic behavior of corporate managers to increase value maximization (Gillan, 2006; Abdullah, 2004). The board comprises of representatives from shareholders and other stakeholders (employees, government, tax agencies and creditors); hence, expected to take decisions boost both shareholder and stakeholder value maximization. To account for nonlinearity in *BODSIZE* (owing to diminishing marginal returns), the study includes *SQBODSIZE* which is the square of *BODSIZE*. That is, even though initial increases in board size may lead to increase in shareholder and stakeholder values, further

increases may render the board ineffective in decision-making and increase the cost of running the board, which may negatively affect the values of shareholders and stakeholders (Cheng, 2008). *SQBODSIZE* is thus expected to have a negative sign when *BODSIZE* is positive.

NONEXE is the proportion of nonexecutive directors to the total board size (Zubaidah *et al.*, 2009). A positive sign advocates that improvement in corporate governance results in an increase in shareholder and stakeholder values (Dahya and McConnell, 2005; Dehaene *et al.*, 2001). However, a negative relationship may suggest that good corporate governance leads to reduction in the value of shareholders and stakeholders. Nonexecutive members are expected to challenge and check the opinions and selfish nature of managers not to pursue activities that will enhance the personal gains of managers. Hence, nonexecutive members should promoter shareholder value.

BODGEN denotes the proportion of female board members to the board size. A positive relationship means that an increase in the number of women on a board will increase the value maximization of shareholders and stakeholders of a bank (IFC, 2014). However, a negative relationship connotes that an increase in the proportion of women leads to a reduction in the values of shareholders and stakeholders. The inclusion of women on corporate boards has come as a result of public cry for gender equality where women are deemed to be more considerate in taking decision which does not only improve shareholder value.

AUDITIND connotes the independence of the audit committee. This is a dummy variable that takes a value of 1 when the audit committee is chaired by a nonexecutive director and 0 otherwise. A positive relationship suggests that shareholder and stakeholder value is maximized when the audit committee is chaired by a nonexecutive director. Thus, nonexecutive members chairing the audit committee suppress the opportunistic attitude of corporate managers (evidence of good corporate governance) (Zubaidah *et al.*, 2009; Dahya and McConnell, 2005), which leads to increased shareholder and stakeholder value maximization. On the contrary, a negative relationship suggests that good corporate governance leads to a reduction in shareholder and stakeholder values. The chairing of the audit committee by a nonexecutive member is to ensure proper reporting and reduce incidence of misappropriation of funds. Hence, audit committee independence should promote shareholder value more than stakeholder value.

Capital adequacy (*CAP*) is measured as total equity to total assets. Capital adequacy shows how much of a bank's assets is financed with the owner's capital and forecasts the ability of a bank to soak up losses. In line with risk-return hypothesis (Berger, 1995), we anticipate a positive relationship between bank profitability and capital adequacy.

Size (LSIZE) is measured by the natural log of total assets. This measure reduces scale biases to ensure efficient, consistent and unbiased estimates. The relationship between bank size and shareholder or stakeholder values has mixed findings. First, large banks have high cost of operations and slower decision-making processes to the bureaucracy associated with large size. Hence, high cost of operations and slowdown in decisions lead to lower profits (Athanasoglou *et al.*, 2008). However, recent intermediation theory foretells that there are efficiency gains, such as economies of scale and scope for banks with large size (Athanasoglou *et al.*, 2008),

especially when larger banks dominate the domestic financial market and operate in a less competitive environment where lending rates may be high. This gives higher profit for stakeholders and shareholders.

Bank management efficiency (*EFFI*) is measured as operating expenses divided by total assets (Athanasoglou *et al.*, 2008). Following the study by Athanasoglou *et al.* (2008), an improvement in the management of these expenses will increase the efficiency and consequently raise the profits. This suggests a negative relationship. However, if banks are

able to pass on their cost of operations to their clients through the rates they charge, bank management efficiency could be positively related to shareholder and stakeholder profitability (Iannotta *et al.*, 2007; Naceur and Omran, 2011).

Bank credit risk (*CRISK*) is used and measured as impaired loans divided total assets (Chaibi and Ftiti, 2015). This credit risk indicator measures the actual amount of loans that were not recovered in the current or given year. Chaibi and Ftiti (2015) posited that credit risk measured with impaired loans is a better measure of credit risk as it reflects actual credit losses that pertain to a given period. However, unlike nonperforming loans and provision for bad debts (other credit risk indicators), the two are backward- and forward-looking, respectively, and do not reflect actual credit loss in the current year. Following the study by Berger and DeYoung (1997), an increase in profitability means more loans and advances are recovered, and hence decrease in loans and advance loss leading to lower bank credit risk. Hence, a negative relationship between bank credit risk and profitability is expected (Alhassan *et al.*, 2014).

Noninterest income (*NON-INT*) is used for proxy diversification, which aims at reducing risk and improving profitability or return on investment following the MPT and the arbitrage pricing theory. Corporate finance literature (Ross, 2008) suggests that diversification reduces risk and at the same time improves the return of investors. Following the two theories, the study anticipates a positive relationship between shareholder and stakeholder profitability and noninterest income.

Tangibility (*TANG*) is measured as fixed assets to total assets and also called asset structure. Following the study by Himmelberg *et al.* (1999) and Margaritis and Psillaki (2010), there could be a negative or a positive relationship between tangibility and profitability. They argued that tangibility provides evidence of good collateral and resources that assist in the tracking and monitoring of bank clients. This, therefore, enhances effective and efficient screening of clients and recovering of loans leading to higher profitability. However, where bank's physical assets are idle, obsolete, worn out and require major repairs and maintenance, this could lead to increased cost of operations, and hence lower profitability.

Finance literature argues that bank performance is responsive to macroeconomic sensitivities (Nguena and Tsafack-Nanfosso, 2014). The effect of inflation (*INFL*) on shareholder and stakeholder profitability is dependent on bank management ability to forecast fluctuation in inflation rates (Bourke, 1989; Molyneux and Thornton, 1992; Demirgüç-Kunt and Huizinga, 1999). Where bank management is proactive in anticipating changes in inflation rates and accordingly adjust their rates, this leads to higher shareholder and stakeholder profitability. On the contrary, if bank management is sluggish to changes in inflation and do not adjust their interest rates, this may lead to reduced shareholder and stakeholder profits. Hence, the effect of inflation rate on profitability is unclear.

We summarize how the variables are measured in Table II below.

5. Estimation technique

The study uses the Prais–Winsten (PW) generalized least squares (GLS) estimation technique given the problems of autocorrelation and heteroscedasticity in the ordinary least squares (OLS) and random effect (RE) GLS estimates. Prais and Winsten (1954) suggested that PW linear regression provides room for correcting serially correlated residuals and heteroskedastic estimates. The Prais–Winsten GLS estimation is used for a number of reasons. First, the PW model provides the opportunity to control for autocorrelation and heteroscedasticity. Second, the PW approach is more effective in dealing with serial correlation, especially when the serial correlation is closer to one. Third, the PW method affords the opportunity to suppress the constant (in a panel data form) for efficient estimates unlike the GLS fixed effect (FE) regression. Finally, the asymptotic results suggest that the

Table II Summary of variables

Variable	*Measurement*	*Indicator*	*Source*	*Expected sign*
Dependent variables				
ROE	Net income/total equity	Shareholder profit	Computed by author based on data from Bankscope	
ROA	Earnings before interest and tax/total assets	Stakeholder profit	Computed by author based on data from Bankscope	
Independent variables: interest variables				
CEODUAL	Dummy of 1 when CEO doubles as board chairman and 0 otherwise	Weak corporate governance	Coded by author based on data from Bankscope	−
BODSIZE	Natural log of number of board members	Good corporate governance	Computed by author based on data from Bankscope	+
SQBODSIZ	Natural log of square of number of board members	Weak corporate governance	Computed by author based on data from Bankscope	−
NON-EXE	Ratio of nonexecutive members to total board size	Good corporate governance	Computed by author based on data from Bankscope	+
BODGEN	Ratio of female board members to total of board size	Good corporate governance	Coded by author based on data from Bankscope	+
ADUITIND	Dummy of 1 when audit committee is chaired by a nonexecutive member and 0 otherwise	Good corporate governance	Computed by author based on data from Bankscope	+
Independent variables: control variables				
LSIZE	Natural log of total assets	Size	Computed by author based on data from Bankscope	±
CRISK	Impaired loans/total asset	Credit risk	Computed by author based on data from Bankscope	−
NON-INT	Noninterest income/total assets	Diversification	Computed by author based on data from Bankscope	+
CAP	Total equity/total assets	Capitalization	Computed by author based on data from Bankscope	±
TAN	Fixed assets/total assets	Tangibility	Computed by author based on data from Bankscope	±
EFFI	Operating expenses/operating income	Management quality	Computed by author based on data from Bankscope	±
INFL	Consumer price index	Macroeconomic stability	World Development Indicators database	±

feasible PW estimator is the best estimator in most applied situations (Judge *et al.*, 1985). The study further estimates OLS and RE estimation techniques for consistency of estimates.

6. Robustness and diagnostic checks

To check whether the results are robust, we use several strategies and techniques to ensure consistent, efficient and unbiased estimates. The study tests for assumptions that need to be met for a regression analysis. The tests conducted include normality, multicollinearity, acceptability, heteroscedascity and autocorrelation. First, using the Shapiro–Wilk normality test with null hypothesis of no normal distribution, the test rejects the null hypothesis of no normal distribution for all variables (Table III). This leads to the conclusion that the variables are normally distributed. The study estimates the models using OLS at the initial stage (Models 5 and 6). However, given the problem of heteroscedasticity within the OLS models, the study further estimates the RE (Models 3 and 4). Second, using the mean, maximum and minimum values, there is no evidence of outliers which have the potential to bias the results. Third, using the Pearson's correlation matrix (Table IV), the study screens for multicollinearity among the variables and found no evidence of multicollinearity (following Kennedy, 2008). The RE was estimated ahead of the FE because of the fact that controlling for within effect under the FE estimation technique was difficult as most of the proxies for corporate governance did not change or vary over the period of

Table III Descriptive statistics

Variables	*No. of observations*	*Mean*	*SD*	*Minimum*	*Maximum*	*VIF*	*SWILK*
ROA	985	0.0194	0.0281	−0.1942	0.1593	–	0.0000***
ROE	985	0.1457	0.2831	−3.8768	1.1232	–	0.0000***
CEODUAL	985	0.0579	0.2336	0	1	1.08	0.0000***
BODSIZE	985	8.8284	7.1978	0	46	6.82	0.0000***
SQBODSIZE	985	129.6975	237.7744	0	2116	6.34	0.0000***
NONEXEC	985	0.1570	0.2523	0	0.9	1.73	0.0000***
BODGEN	985	0.1125	0.1430	0	1	1.17	0.0000***
AUDITIND	985	0.1624	0.3690	0	1	1.73	0.0000***
LSIZE	985	6.1707	1.7376	1.9459	11.7498	1.43	0.0000***
CAP	985	0.1516	0.1288	−0.4584	1	1.22	0.0000***
NONINT	985	0.0385	0.0391	−0.0230	0.4795	1.22	0.0000***
CRISK	985	0.0447	0.0629	0	0.4818	1.09	0.0000***
TANG	985	0.0294	0.0271	0	0.1852	1.36	0.0000***
EFFI	985	0.6478	0.3993	0.055	5.7877	1.29	0.0000***
INFL	985	0.0947	0.0556	−0.0105	0.4439	1.04	0.0000***

Notes: Significant levels: *, < 10%; **, < 5%; ***, < 1%; SWILK test (H_O = No normal distribution)

study, hence dropping all the corporate governance variables in the FE model even after controlling for year effects (see Appendix). However, there was still evidence of heteroscedasticity and autocorrelation in the RE models estimated (Table V). Hence, to ensure that our models are fit for generalization and robust coefficients, we adopt the GLS Prais–Winsten estimation technique (Models 1 and 2), which gives us the opportunity to resolve the problem of heteroscedastic and autocorrelation. Thus, the study discusses and relies on the estimates from the PW in Models 1 and 2. The coefficients are generally consistent across the models indicating the fitness of the models. The *F* test and the R^2 are all indications that the model is fit and sound for generalization (Table V).

Table III presents the descriptive statistics, acceptability and normality of all variables used in this study. The descriptive statistics cover the mean, standard deviation, minimum, maximum and the number of observations. These measures enable the elimination of outliers for efficient, consistent and unbiased estimates.

From Table III, ROA and ROE (profitability measures) that represent stakeholder and shareholder values, respectively, recorded an average of 1.49 per cent and 14.57 per cent over the period under study (2006-2011). Over the period of study, banks that had their CEO doubling as board chairman constituted 5.79 per cent of all the banks. CEO being the same as the board chairman is an indication of weak corporate governance. Thus, it is welcome news that very few CEOs also chair their banks board. On the average, banks had a board with nine members over the period of the study. A bank had 46 directors serving as board members. This makes it difficult for speedy and efficient decision-making. Nonexecutive members on the board of banks in this study were 15.70 per cent of the total board members on average. This is an indication that executive members outweigh nonexecutive members on boards of African banks. This suggests that boards may not get sufficiently diverse opinions on issues. The number of women on a board to the total number of board members on average was 11.25 per cent. This shows that the presence of women on boards of banks in Africa is moderately low. This is not shocking as women in Africa are discriminated against at the workplace and have low formal education which is required for board membership. Also, about 16.24 per cent of bank audit committees were chaired by nonexecutive members. This is quite low and may lead to compromised financial reporting as majority of audit committees are chaired by executive members.

On the average, bank equity in Africa was 15.16 per cent, which indicates that equity formed a low proportion of the financing options available to banks in Africa. This is normal

Table IV Pearson's correlation matrix

Variables	ROE	ROA	CEODUAL	BODSIZE	SQBODSIZE	NONEXEC	BODGEN	AUDITIND	LSIZE	CAP	NONINT	CRISK	TANG	EFFI	INFL
ROE	1														
ROA	0.7224***	1													
CEODUAL	0.0171	0.0300	1												
BODSIZE	0.0300	0.0563	−0.1119***	1											
SQBODSIZE	0.0290	0.0364*	−0.0731**	0.9067***	1										
NONEXEC	−0.0783**	−0.0173	−0.1064***	0.2360***	0.1093***	1									
BODGEN	0.0460	0.0423	−0.1138***	0.2841***	0.1890***	0.2013***	1								
AUDITIND	−0.0107	0.0936***	−0.0031	0.3193***	0.2660***	0.5688***	0.1941***	1							
LSIZE	0.1761***	0.1127***	0.1023***	0.2641***	0.2526***	0.1340***	0.1168***	0.0127	1						
CAP	−0.0668**	0.1377***	−0.0454	0.0790**	0.0309	0.1018***	0.0742**	0.2055***	−0.2456***	1					
NON-INT	0.0363	0.2228***	0.0291	0.0077	−0.0426	0.0920***	0.0391	0.1587***	−0.1964***	0.2519***	1				
CRISK	−0.1819***	−0.0826***	−0.0029	0.0047	−0.0164	−0.0041	0.0410	0.0910***	−0.1000***	0.1626***	0.2453***	1			
TANG	−0.2204***	−0.2362***	−0.0679**	−0.1491***	−0.1315***	−0.1180***	0.0025	−0.1430***	−0.3317***	0.1100***	0.2157***	0.1044***	1		
EFFI	−0.5742***	−0.6559***	−0.0652**	−0.0811**	−0.0732**	0.0864***	−0.0415	−0.0050	−0.2722***	−0.0777**	0.0177	0.0305	0.3821***	1	
INFL	−0.0030	0.0223	−0.0752**	0.0406	0.0325	−0.0549*	−0.1052***	−0.0419	−0.1648***	0.0523	0.218	0.0372	0.0637**	−0.0397	1

Notes: Significant levels: *, < 10% ; **, < 5%; ***, < 1%

Table V Heteroscedasticity and autocorrelation tests

Regression tests	*Ordinary least squares*	*Generalized least square random effect*
Heteroscedasticity test	Breusch-Pagan/Cook-Weisberg	Breusch and Pagan Lagrangian multiplier
H0	Constant variance (Var = 0)	Constant variance (Var = 0)
ROA	χ^2 (1) = 403.07	chibar^2 (01) = 179.37
	Prob > χ^2 = 0.000***	Prob > chibar^2 = 0.000***
ROE	χ^2 (1) = 2879.45	chibar^2 (01) = 26.01
	Prob > χ^2 = 0.000***	Prob > chibar^2 = 0.000***
Autocorrelation test		Wooldridge test
H0		No first-order autocorrelation
ROA		F(1, 168) = 0.036
		Prob > F = 0.8498
ROE		F(1, 168) = 7.380
		Prob > F = 0.0073***

Notes: Significant levels: *, < 10%; **, < 5% ; ***, < 1%

as most bank assets are financed with deposits. For example, the capital adequacy ratio in Ghana by regulation is specified as 10 per cent of risk-weighted assets. Alternative source of income for banks in Africa was averagely 3.85 per cent. This indicates that banks in Africa have less diversified income sources. On the average, bank credit risk was 4.47 per cent. Given that credit risk is the primary risk that banks are exposed to, 4.47 per cent of credit risk exposure appears to be moderately acceptable. Fixed assets that are used by banks to assist operational duties recorded an average of 2.94 per cent. This is an indication that banks in Africa have relatively low physical assets to assist in the daily operations of the banks. Management efficiency recorded an average of 64.78 per cent, which is an indication that operating expenses constituted 64.78 per cent of operating income. This is a sign that management is inefficient in its operation. Inflation was averagely 9.78 per cent over the period of study. This is an indication that inflation, which is a macroeconomic variable, was quite unstable during the period of this study (Table IV).

7. Results and discussions

Table VI shows estimates of how corporate governance structures promote shareholder and stakeholder value using different estimation models (PW, RE and OLS. As discussed in the previous section, although different estimation models are used, the PW estimates (Models 1 and 2) are the preferred models because econometric problems such as heteroscedasticity and autocorrelation are controlled for, unlike the estimates from the RE and OLS models. Hence, the discussion is focused on Model 1 and Model 2. While Model 1 represents shareholder value, Model 2 represents stakeholder value in banks in Africa. CEO duality is negatively and significantly related to shareholder (Model 1) and stakeholder (Model 2) values. That is, banks that have their CEOs being the board chairman are likely to experience a reduction in bank profitability. This indicates that weak corporate governance does not promote stakeholder value in banks in Africa. This finding is in line with prior studies that argued that good corporate governance promotes firm performance (Shleifer and Wolfenzon, 2002).

From Models 1 and 2, board size is positively and significantly related to both shareholder and stakeholder value in banks in Africa, respectively. That is, an increase in bank board size leads to an increase in bank shareholder and stakeholder values, respectively. An increase in board size may increase the abilities, skills, experience, capability and competence of the board of directors, which enhances shareholder and stakeholder values. This finding supports the findings of Mensah and Abor (2014) and Castrillo *et al.* (2010) who posited that good corporate governance promotes firm performance. However, additional

Table VI Empirical results

	Prais–Winsten generalized least squares		*Random effect generalized least squares*		*Ordinary least squares*	
	Model 1	*Model 2*	*Model 3*	*Model 4*	*Model 5*	*Model 6*
Variables	*ROE*	*ROA*	*ROE*	*ROA*	*ROE*	*ROA*
CEODUAL	−0.0992 (0.0473)**	−0.0040 (0.0024)*	−0.0400 (0.0514)	−0.0021 (0.0044)	−0.0408 (0.0317)	−0.0021 (0.0028)
BODSIZE	0.0071 (0.0032)**	0.0005 (0.0002)**	0.0007 (0.0044)	−3.04E-06 (0.0004)	−0.0005 (0.0026)	−9.03E-06 (.0002)
SQBODSIZE	−0.0003 (0.0001)***	−1.97E-05 (6.67E-06)***	−5.79E-5 (0.0001)	−8.07E-07 (1.15E-5)	1.53E-05 (7.55E-05)	2.22E-06 (6.62E-06)
NONEXEC	−0.2665 (0.1248)**	−0.0134 (0.0045)***	−0.1754 (0.0617)***	−0.0111 (0.0052)**	−0.0681 (0.0372)*	−0.0037 (0.0033)
BODGEN	0.0823 (0.0800)	0.0044 (0.0051)	0.1329 (0.0939)	0.0072 (0.0080)	0.0824 (0.0539)	0.0019 (0.0047)
AUDITIND	0.1198 (0.0637)*	0.0075 (0.0030)**	0.0633 (0.0416)	0.0037 (0.0035)	0.0314 (0.0253)	0.0056 (0.0022)**
LSIZE	0.0449 (0.0039)***	0.0040 (0.0004)***	0.0004 (0.0076)	−0.0004 (0.0006)	0.0025 (0.0049)	−0.0002 (0.0004)
CAP	0.0574 (0.0703)	0.0353 (0.0146)**	−0.0930 (0.0900)	0.0279 (0.0075)***	−0.2716 (0.0616)***	0.0101 (0.0054)*
NON-INT	1.1474 (0.2401)***	0.2212 (0.0598)***	0.5887 (0.2577)**	0.1855 (0.0213)***	0.8998 (0.2015)***	0.1780 (0.0177)***
CRISK	−0.8519 (0.1994)***	−0.0613 (0.0147)***	−0.9035 (0.1465)***	−0.0682 (0.0121)***	−0.8031 (0.1183)***	−0.0633 (0.0104)***
TANG	0.4454 (0.5599)	−0.0362 (0.0508)	−0.3083 (0.4277)	−0.1413 (0.0357)***	−0.0414 (0.3092)	−0.0312 (0.0270)**
EFFI	−0.3524 (0.0473)***	−0.0353 (0.0037)***	−0.3506 (0.0225)***	−0.0346 (0.0019)***	−0.4130 (0.0205)***	−0.0443 (0.0018)***
INFL	0.3657 (0.0809)***	0.0444 (0.0093)***	0.1415 (0.1306)	0.0154 (0.0107)	0.1569 (0.1309)	0.0243 (0.0115)**
CONS			0.3896 (0.0630)***	0.0383 (0.0053)***	0.4316 (0.0442)***	0.04256 (0.0039)***
No. of observations	985	985	985	985	985	985
No. of groups	267	267	267	267		
R^2	0.4465	0.6121	0.3682	0.4764	0.3838	0.4992
Adj. R^2					0.3756	0.4925
Wald χ^2	13 (658.71)	13 (1381.38)	383.07	686.19		
Prob > χ^2	0.0000***	0.0000***	0.0000***	0.0000***		
$F(13, 979)$					46.52	74.46
Prob > F					0.0000***	0.0000***
Hausman			47.08	97.92		
Prob > χ^2			0.0000	0.0000		

Notes: Significant levels: *,< 10%; **, < 5%; ***, < 1%

or further increases in board size (represented as square of board size) may render the board ineffective in decision-making and increase the cost of running the board. As a result, square of board size is negatively related to shareholder and stakeholder value implying that additional increases in board size may result in a reduction in shareholder and stakeholder values, respectively. This finding supports the diminishing marginal return concept. From Table VI, it is interesting to note that the effect of all the corporate governance structures is weightier on shareholder value compared to stakeholder value.

Contrary to prior empirical studies, an increase in nonexecutive members on the board, which indicates increased diversity of opinions and perspectives to issues (evidence of good corporate governance), is negatively and significantly related to both shareholder and stakeholder values. This implies that good corporate governance structures rather reduce shareholder and stakeholder values. We explain this results following the organization demography concept to mean that, as representation of nonexecutive members' increases on the board, diverse opinions arises leading to prolonged deliberations on matters which slow down decision-making. In some cases, this could lead to boardroom conflicts and fighting. This may reduce both shareholder and stakeholder values.

Audit independence, a situation where the audit committee is chaired by a nonexecutive member, is positively and significantly related to both shareholder and stakeholder values. That is, when the chairman of the audit committee is a nonexecutive member, both shareholder and stakeholder values improve. This finding is similar to that of Zubaidah *et al.* (2009) and Dahya and McConnell (2005). They argued that a nonexecutive member chairing the audit committee suppresses the opportunistic and selfish nature of inside directors and ensures judicious use of resources, which improves the bank profitability.

Bank size measured as log of total assets reports a positive and significant relationship with both shareholder and stakeholder values in Models 1 and 2, respectively. An increase in bank size leads to an increase in shareholder value. In a similar fashion, an increase in bank size leads to an increase in bank stakeholders' value. This is an indication that shareholders and other stakeholders in banks in Africa enjoy the benefits (economies of scale and scope) associated with bank size (Athanasoglou *et al.*, 2008). Bank noninterest income, which is scaled by total assets, is used as a proxy for diversification. From the results, diversification improves bank shareholder and stakeholder values. This finding is consistent with the MPT which states that diversification reduces firm-specific risk and at the same time improves return or value maximization (Ross, 2008). As expected, an increase in bank credit risk reduces bank shareholder and stakeholder value maximization. Berger and DeYoung (1997) and Alhassan *et al.* (2014) reported similar findings arguing that an increase in bank profitability implies increased recovery of bank loans and advances, which leads to decreased credit risk (impaired loans). Our finding is thus consistent with previous studies.

Bank management efficiency is measured as operating expenses scaled by total assets. This is an indirect measure for efficiency; hence measures inefficiency rather than efficiency. A negative relationship is reported between bank efficiency and shareholder and stakeholder values. That is, an increase in bank operating expenses (an indication of management inefficiency) leads to a reduction in shareholder and stakeholder value, respectively. Inflation is used to capture the stability of the macroeconomic environment. The results suggest that inflation is positively related to shareholder and stakeholder value maximization. This implies that inflation leads to an increase in shareholder value maximization and stakeholder value maximization. This finding shows that banks in Africa are able to anticipate future unfavorable changes in inflation and pass it on to their clients, hence reducing the adverse effect of inflation changes on shareholder and stakeholder value maximization (Nguena and Tsafack-Nanfosso, 2014). Again, it is interesting to note from Table VI that the effect of all the control variables is weightier on shareholder value compared to stakeholder value.

8. Conclusion and policy recommendations

Improving firm performance and ultimately maximizing shareholder value have remained dominant and core to most financial studies and discussions. Several strategies including good corporate governance have emerged as mechanisms for improving firm performance and ultimately maximizing shareholder value. The discussions on how corporate governance affects firm performance have mostly remained in the domain of shareholder theoretical framework. However, given the less discussed effect of corporate governance in the stakeholder theoretical framework, this study attempts to identify which corporate governance structures promotes or protects stakeholders and shareholders value maximization. To do this, the study represents shareholder value with ROE, while representing stakeholder value with ROA.

From the results, it is evident that the same corporate governance structures affect both shareholder and stakeholder value maximization including bank and macroeconomic factors, such as bank size, diversification, credit risk, management inefficiency and inflation. Board size positively influences bank value maximization to shareholders and stakeholders, whilst the square of board size (signifying extreme increase in board size) and nonexecutive membership are negatively related to shareholder and stakeholder value maximization in Africa. These results suggest that as the square of board size and representation of nonexecutive members increase, diverse ideas and opinions arise leading to board room struggles and prolonged deliberations on matters which slow down decision-making. This reduces both shareholder and stakeholder values. The study identifies that good corporate governance in the form of independent audit committee promotes or protects shareholder and stakeholder value maximization. The study further finds that CEO duality (the CEO also being the chairman of the board) leads to a reduction in shareholder and stakeholder value maximization. In terms of the control variables, we find that factors such as bank size, income-diversification and inflation improve both shareholder and stakeholder value maximization, whereas bank credit risk and inefficiency reduce both shareholder and stakeholder value maximization. Also, well-capitalized banks tend to promote stakeholder value maximization. Although, the same corporate governance structures affect both shareholder and stakeholder value maximization, the effect of corporate governance on shareholder value maximization is weightier than that of stakeholder value maximization in Africa.

These findings have relevant and practical implications for banks in Africa. First, bank managements in Africa must implement good corporate governance structures to promote both shareholder and stakeholder value maximization and avoid weak corporate governance structures as much as possible, which reduce both shareholder and stakeholder value maximization. Also, in an attempt to promote shareholder and stakeholder value maximization, banks in Africa must not only focus on instituting good corporate governance structures but also consider other bank-specific and macroeconomic factors, such as bank size, diversification, management quality, credit risk and inflation. Future research into corporate governance and profit maximization may consider if contextual differences will have any impact on the effect of corporate governance on profit maximization perspectives.

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Appendix

Table AI List of number of banks per country in the sample

No.	*Country*	*No. of banks*
1	Algeria	17
2	Benin	10
3	Botswana	13
4	Burkina	9
5	Cameroon	12
6	Cote D'Ivoire	19
7	Egypt	33
8	Ethiopia	24
9	Ghana	23
10	Kenya	53
11	Malawi	14
12	Mali	10
13	Mauritania	8
14	Mauritius	18
15	Morocco	20
16	Mozambique	13
17	Namibia	8
18	Nigeria	31
19	Rwanda	8
20	Senegal	12
21	Sierra Leone	13
22	South Africa	34
23	Sudan	15
24	Swaziland	6
25	Tunisia	21
26	Uganda	17
27	Tanzania	34
28	Zambia	24
29	Zimbabwe	23

Table AII Robust fixed effect regression with country-level cluster: stakeholder profitability with year dummies

ROAA	*Coefficient.*	*Robust SE*	*t*	*p > t*	*95% confidence interval]*
CEODUAL	0	(omitted)			
BODSIZE	0	(omitted)			
SQBODS	0	(omitted)			
NONEXEC	0	(omitted)			
BODGEN	0	(omitted)			
AUDITIND	0	(omitted)			
LSIZE	−0.0045	0.0064	−0.7100	0.4860	[−0.0177, 0.0087]
CAP	0.0596	0.0163	3.6500	0.0010	[0.0260, 0.0931]
NONINT	0.2002	0.0319	6.2700	0.0000	[0.1346, 0.2658]
CRISK	−0.0749	0.0382	−1.9600	0.0610	[−0.1535, 0.0037]
TANG	−0.2904	0.1438	−2.0200	0.0540	[−0.5859, 0.0052]
EFFI	−0.0246	0.0077	−3.2100	0.0040	[−0.0403, −0.0088]
INFL	−0.0004	0.0167	−0.0300	0.9800	[−0.0348, 0.0339]
Yr1	−0.0009	0.0020	−0.4300	0.6680	[−0.0049, 0.0032]
Yr2	0	(omitted)			
Yr3	0.0005	0.0015	0.3000	0.7680	[−0.0027, 0.0036]
Yr4	−0.0057	0.0017	−3.4200	0.0020	[−0.0091, −0.0023]
Yr5	−0.0021	0.0020	−1.0500	0.3050	[−0.0062, 0.0020]
Yr6	−0.0011	0.0026	−0.4100	0.6820	[−0.0065, 0.0043]
_Cons	0.0604	0.0402	1.5000	0.1450	[−0.0223, 0.1431]
No. of observations	985				
No. of groups	267				
R^2	0.3125				
F(12, 26)	63.7900				
Prob > *F*	0.0000				

Table AIII Robust fixed effect regression with country-level cluster: shareholder profitability with year dummies

ROEE	*Coefficient.*	*Robust Std. Err.*	*t*	*p > t*	*95% confidence interval*
CEODUAL	0	(omitted)			
BODSIZE	0	(omitted)			
SQBODS	0	(omitted)			
NONEXEC	0	(omitted)			
BODGEN	0	(omitted)			
AUDITIND	0.0000	(omitted)			
LSIZE	0.0294	0.0416	0.7100	0.4860	[−0.0561, 0.1149]
CAP	0.2616	0.1552	1.6900	0.1040	[−0.0574, 0.5806]
NONINT	0.3979	0.3685	1.0800	0.2900	[−0.3596, 1.1554]
CRISK	−0.9933	0.4727	−2.1000	0.0450	[−1.9648, −0.0217]
TANG	−0.3828	1.7651	−0.2200	0.8300	[−4.0110, 3.2453]
EFFI	−0.2646	0.1110	−2.3800	0.0250	[−0.4927, −0.0365]
INFL	0.0621	0.2359	0.2600	0.7940	[−0.4227, 0.5469]
Yr1	−0.0007365	0.0270441	−0.03	0.978	[−0.056327, 0.0548536]
Yr2	0.0000	(omitted)			
Yr3	−0.0175	0.0185	−0.9500	0.3530	[−0.0555, 0.0205]
Yr4	−0.0868	0.0223	−3.8800	0.0010	[−0.1327, −0.0409]
Yr5	−0.0623	0.0262	−2.3800	0.0250	[−0.1161, −0.0084]
Yr6	−0.0574	0.0319	−1.8000	0.0830	[−0.1229, 0.0081]
_Cons	0.1745	0.2821	0.6200	0.5410	[−0.4053, 0.7544]
No. of observations	985				
No. of groups	267.0000				
R^2	0.3087				
F(12, 26)	83.8900				
Prob > *F*	0.0000				