

Board Structure and Financial Performance of Commercial and Service Firms Listed at the Nairobi Securities Exchange, Kenya.

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ABSTRACT

Board structure is widely regarded as the central mechanism of internal corporate governance, shaping how firms are monitored, directed, and held accountable. In Kenya, commercial and service firms listed on the Nairobi Securities Exchange (NSE) have experienced a decline in financial performance despite the introduction of corporate governance guidelines in 2002, prompting renewed scrutiny of how boards are structured. This study examines the effect of board structure, comprising board size, board independence, board tenure, and board age, on the financial performance of commercial and service firms listed on the NSE, and further tests whether firm size moderates this relationship. The study is grounded in agency, stewardship, and stakeholder theories and adopts an ex-post facto research design. A census of the eleven commercial and service firms listed on the NSE was conducted using secondary panel data drawn from published financial statements for the period 2015 to 2022. Data were analysed descriptively and through correlation and panel regression techniques, with diagnostic tests for normality, multicollinearity, heteroscedasticity, autocorrelation, stationarity, and model specification informing the choice of a fixed-effects estimator with robust standard errors. The results show that board size has a negative but statistically insignificant effect on return on assets, while board independence has a positive and statistically significant effect. Board tenure shows a positive but insignificant effect, and board age a negative and insignificant effect. Firm size does not significantly moderate the relationship between board structure and financial performance. The findings indicate that among the structural attributes examined, the independence of the board, rather than its size, tenure, or the age of its members, is the attribute most consistently associated with stronger financial performance. The study recommends that Kenyan regulators strengthen requirements for outside-director representation on boards of listed firms and that firms themselves place greater emphasis on independence when constituting their boards

Introduction

The overall performance of firms listed on the Nairobi Securities Exchange (NSE) has generally declined since the introduction of corporate governance policies and guidelines in 2002, as measured by indicators such as return on assets and Tobin's Q, even though performance across individual sectors and firms has varied considerably over the period. Listed firms are leaders in their respective sectors, and their performance is often treated as a barometer of the wider Kenyan economy. Firm performance is shaped by several forces, including corporate governance, financial characteristics, operating costs, macroeconomic conditions, the political environment, international trade, and global shocks. Among these, board structure occupies a central place in corporate governance because the board functions as the primary internal governance organ of the firm: strategic decisions taken at board level ripple through the entire organisation.

Board structure encompasses several dimensions, including the balance of executive and non-executive directors, the presence of foreign and female directors, directors' occupational expertise, board age, and board size. Inside directors, who also hold executive roles, may be tempted to pursue decisions that serve personal rather than shareholder interests, whereas outside or independent directors are theorized to provide a check on this tendency by virtue of their distance from day-to-day management (Kacbochi, 2020). A board's occupational expertise, meanwhile, shapes how well directors understand complex transactions and, by extension, the quality of the decisions the board reaches.

Commercial and service firms play a particularly important role in the Kenyan economy, supporting trade, logistics, and consumer markets, yet several listed firms in this category have experienced sustained financial difficulty in recent years. Governance weaknesses, including boards that are poorly constituted or ineffectively monitored, have been implicated in some of the more prominent corporate difficulties on the exchange. Although a substantial body of international literature links board structure to financial performance, findings are inconsistent across countries and sectors, and very little of this evidence speaks directly to Kenya's commercial and service firms, or to whether the effect of board structure depends on firm size. This study addresses that gap.

The general objective of the study was to investigate the relationship between board structure and the financial performance of commercial and service firms listed on the NSE. The specific objectives were to: (i) determine the effect of board size on financial performance; (ii) investigate the effect of board independence on financial performance; (iii) examine the effect of board tenure on financial performance; (iv) assess the effect of board age on financial performance; and (v) determine the moderating effect of firm size on the relationship between board structure and financial performance.

The study is expected to be of value to several audiences. For regulators and policymakers, including the Capital Markets Authority and the NSE, the findings offer empirical grounds for calibrating listing rules and governance codes that touch on board composition. For boards and

executive management of commercial and service firms, the results provide guidance on which structural attributes are worth prioritizing when constituting or reconstituting a board. For scholars, the study extends the corporate governance literature into a sector and jurisdiction, Kenyan commercial and service firms, that has received comparatively little attention relative to banking and manufacturing, and it applies a formal moderated-regression test that has rarely been used in this setting. The study is scoped to the eleven commercial and service firms listed on the NSE and covers the financial years 2015 to 2022, a period chosen to capture a reasonably long panel while remaining within the availability of complete audited financial statements. As with any study based on secondary data, the findings are bounded by the accuracy and completeness of firms' published disclosures, and by the relatively small cross-sectional dimension of the panel, which limits the statistical power of the overall regression models.

Literature Review

Theoretical Foundations

The study draws on three theories. Agency theory, formulated by Jensen and Meckling (1976), characterises the relationship between shareholders (principals) and managers (agents) as a contract in which the principal delegates decision-making authority to the agent. Because managers may pursue self-interested goals that diverge from those of shareholders, information asymmetry between directors and owners can leave a firm's financial dealings vulnerable to opportunistic behaviour (Akims & Akims, 2019). The theory therefore emphasises the separation of ownership from control and positions the board, and particularly its independent, non-executive members, as the primary mechanism for monitoring management and containing agency costs. This reasoning underpins the study's expectation that board independence, in particular, should be systematically related to financial performance.

Stewardship theory, associated with Donaldson and Davis (1989), offers a contrasting account in which directors and managers are not purely self-interested but act as stewards motivated to safeguard and grow shareholder value through loyal, trust-based, and ethically grounded relationships with the firm and its stakeholders (Dharmadasa, Gamage & Herath, 2014). Rather than emphasising individual self-interest, stewardship theory focuses on the collective accomplishments of the firm as a whole, and offers a theoretical basis for expecting that continuity of board membership, or tenure, allows directors to develop the firm-specific knowledge needed to act as effective stewards, thereby supporting financial performance (Tonui & Olweny, 2018).

Stakeholder theory, developed by Freeman (1984), extends the analysis beyond shareholders to the broader set of parties, including creditors, employees, suppliers, and the communities in which a firm operates, whose interests the board must interpret and balance. The theory holds that a firm does not exist in isolation, and that the quality of its relationships with these surrounding stakeholders has a direct bearing on performance and on how smoothly operational and reputational issues are resolved as they arise (Meah & Chaudhory, 2019). Within this framework, the accumulated experience that comes with directors' age is theorised to strengthen the board's capacity to interpret and manage these relationships, providing the theoretical grounding for

examining board age as a determinant of financial performance.

Building on this theoretical base, the study conceptualises board structure, comprising board size, board independence, board tenure, and board age, as the independent variable, and financial performance, measured by return on assets, as the dependent variable. Firm size, measured as the log of total assets, is conceptualised as a moderating variable that may strengthen or weaken the relationship between board structure and financial performance, reflecting the possibility that the governance attributes which matter for a small firm may differ from those that matter for a large one.

Similar Studies

Board size is one of the most extensively studied governance attributes, largely because it is thought to shape a board's monitoring capacity. Kamukama and Fredrick (2020), studying private enterprises in Uganda, found a significant positive correlation between board size and firm performance using Pearson correlation and regression techniques. Similarly, Shukla, Narayanasamy and Krishnakumar (2020), examining Indian banks listed on the NSE (India) between 2009 and 2016, found that larger boards were associated with stronger accounting returns. Aliyu, Yahaya and Mohammed (2020) reported a significant positive effect of board size on the performance of Nigerian banks, while Tulung and Ramdani (2018) found that board size, together with board independence, positively influenced the performance of regional development banks in Indonesia. These studies, conducted in Uganda, India, Nigeria, and Indonesia respectively, leave open the question of how board size relates to performance among Kenya's listed commercial and service firms specifically.

Within Kenya, board size has attracted particular scrutiny because larger boards are sometimes associated with passive, attendance-based governance rather than active oversight, especially where director remuneration is structured around sitting allowances rather than firm performance. Musikali (2014) attributed the collapse of the retailer Uchumi Supermarkets in part to unchecked expansion plans and weak risk-management oversight at board level, illustrating how board dysfunction, independent of sheer board size, can precipitate financial distress. Sun (2012) suggests that a board of at least eight members is generally sufficient to discharge core governance responsibilities effectively, implying that the performance benefits of board size may plateau, or even reverse, once boards grow beyond a functional threshold.

The evidence on board independence is more mixed. Aluoch (2019), using a longitudinal census of 65 NSE-listed firms between 2002 and 2016, found a negative and insignificant relationship between board independence and Tobin's Q. Naciti (2019), drawing on data from 362 firms across 46 countries, found that greater board diversity and separation of the chair and CEO roles improved sustainability performance, but that a higher proportion of independent directors was, counterintuitively, associated with poorer sustainability outcomes. Shan (2019), using a panel of Australian firms spanning 9,302 firm-year observations between 2005 and 2015 and a simultaneous three-stage equation model, found that board independence and managerial ownership had opposing effects on corporate performance, with an inverse relationship also

observed between managerial ownership and the degree of board independence itself. By contrast, Tulung and Ramdani (2018) found a significant positive relationship between board independence and the performance of Indonesian regional development banks. The divergence in these findings across contexts, spanning both developed and emerging markets and both banking and non-banking sectors, underscores the need for evidence specific to the Kenyan commercial and service sector.

Aluoch (2019) found that board tenure had an inverse relationship with return on assets among NSE-listed firms generally. Arnaboldi, Casu, Kalotychou and Sarkisyan (2018), studying EU-listed banks, found a complex, non-linear relationship between board heterogeneity, including tenure, and bank performance that varied with local cultural context and the Eurozone crisis. Bennouri, Chtioui, Nagati and Nekhili (2018), using a sample of French firms, found that the tenure of female directors boosted return on assets and return on equity, although it reduced Tobin's Q. Sin, Boon, Tze and Wei (2016), studying Malaysian listed firms, found that board size and tenure had a substantial positive impact on returns on both equity and assets. Taken together, this literature suggests that the performance effect of board tenure is sensitive to context and to how tenure interacts with other board attributes.

Evidence on board age is similarly mixed. Abdullah and Ismail (2013) found that age diversity on the boards of large Malaysian firms was negatively correlated with return on assets, while Bhatt and Bhatt (2017) reported a significant positive correlation between board age and corporate performance in the Indian context. Akisimire, Masoud, Baisi and Orobia (2016), studying manufacturing firms in a developing-economy setting, similarly found that board member age diversity was linked to financial performance, though the direction and strength of the relationship varied with firm characteristics. Carroll (2018), drawing on Equilar research, observed that while older directors typically bring more executive and board-level experience, this does not translate uniformly into stronger firm performance across contexts. These contrasting findings suggest that the relationship between director age and financial performance may depend heavily on the institutional and sectoral context in which boards operate, again motivating a Kenya-specific enquiry.

A smaller strand of literature examines whether firm size alters the relationship between board structure and performance. Obaje, Abdullahi and Ude (2021) found that firm size negatively moderated the relationship between board attributes, such as gender diversity and independence, and return on assets. Tanui and Serebemuom (2021) similarly found that firm size negatively and significantly moderated the relationship between corporate diversification and financial performance, while Eyigege (2018) found that firm size had a negative but insignificant direct effect on the performance of Nigerian deposit money banks. None of these studies, however, examined the moderating role of firm size specifically among Kenya's listed commercial and service firms, a gap this study addresses using the moderated regression approach set out by Whisman and McClelland (2005).

Methods

The study adopted an ex-post facto research design, appropriate because the explanatory variables, being attributes of already-constituted boards, were not under the researcher's control. The target population comprised all eleven commercial and service firms listed on the NSE as at 31 December 2022. Given the small size of this population, a census was conducted rather than a sample survey.

Secondary data were obtained from the audited financial statements and annual reports of the eleven firms for the period 2015 to 2022, using a document review guide. Data collected included board size, board independence, board tenure, board age, firm size, and return on assets. Data were analysed descriptively and through bivariate correlation and panel regression, using SPSS and Microsoft Excel. The base regression specification was:

$$ROA_{it} = \beta_0 + \beta_1BSZ_{it} + \beta_2BIP_{it} + \beta_3BTR_{it} + \beta_4BAG_{it} + \varepsilon_{it}$$

Where ROA is return on assets; BSZ is board size; BIP is board independence; BTR is board tenure; BAG is board age; i indexes firm and t indexes time; β_0 is the constant; β_1 – β_4 are estimated parameters; and ε is the stochastic error term. To test the moderating role of firm size, the study followed the two-step procedure of Whisman and McClelland (2005). Step one regressed financial performance on a composite board structure index and firm size:

$$ROA_{it} = \beta_0 + \beta_1BST_{it} + \beta_2FSZ_{it} + \varepsilon_{it}$$

Step two added the interaction between board structure and firm size:

$$ROA_{it} = \beta_0 + \beta_1BST_{it} + \beta_2FSZ_{it} + \beta_3(BST_{it} \times FSZ_{it}) + \varepsilon_{it}$$

Where BST is the composite board structure measure, FSZ is firm size (the log of total assets), and $BST \times FSZ$ is their interaction term.

Table 1 Operationalization and Measurement of Variables

Variable	Type	Operationalization	Measurement
Financial Performance	Dependent	Financial results from resources employed	Return on Assets (ROA)
Board Size	Independent	Total membership of the board	All members of the board
Board Independence	Independent	Non-interference of board members in management	Ratio of non-executive to executive directors
Board Tenure	Independent	Duration served as an appointed board member	Number of years
Board Age	Independent	Average age of board members	Board average age
Firm Size	Moderating	Total asset holding of the firm	Log of total assets

Source: Researcher (2024)

Diagnostic Tests

Prior to estimation, the data were subjected to diagnostic tests. The Shapiro-Wilk test was used to assess whether each variable's distribution departed significantly from normality, under a null hypothesis of normal distribution and a 0.05 significance threshold. Where a variable's data were found to be non-normally distributed, the central limit theorem was invoked given that the sample size exceeded thirty observations, allowing estimation to proceed without transformation. Multicollinearity arises when explanatory variables are highly correlated with one another, inflating the variance of coefficient estimates and distorting statistical inference. The variance inflation factor (VIF) was used to assess multicollinearity, with a threshold of 10 adopted to determine a violation of this assumption: VIF values between 0 and 10 indicate weak collinearity, values between 10 and 30 indicate moderate collinearity, and values above 30 indicate severe collinearity (Besley, 1991). Heteroscedasticity occurs when the variance of the error term differs across observations, producing biased standard errors and unreliable hypothesis tests even where coefficient estimates remain unbiased. This was tested using the Breusch-Pagan/Cook-Weisberg test, under a null hypothesis of constant error variance (homoscedasticity), assessed at the 0.05 significance level. Autocorrelation, or serial correlation, occurs when a model's residuals are correlated across time periods, violating the independence assumption of regression analysis and potentially biasing standard errors. The Breusch-Godfrey test was applied under a null hypothesis of no serial correlation, at a 0.05 significance threshold. Because the data constitute a time-series panel, stationarity was assessed to avoid spurious regression results arising from variables whose mean and variance change over time. The Fisher-type unit-root test was applied, under a null hypothesis that the panel series contain a unit root, at the 0.05 significance level. The Hausman test was used to determine whether a fixed-effects or random-effects panel estimator was more appropriate, under a null hypothesis that the random-effects model is preferred. Where the null hypothesis is rejected, the fixed-effects model, which allows unobserved firm-specific effects to be correlated with the regressors, is favoured.

Results

Descriptive Statistics

Table 2 presents the descriptive statistics for the 64 firm-year observations (62 for firm size, owing to missing asset data in two firm-years). Mean financial performance, measured by return on assets, was 2.30 percent, with a standard deviation of 6.38, ranging from a low of 0.002 percent to a high of 45.87 percent, indicating wide variation in profitability across firms and years; the gap between the sample mean and the maximum observed value points to a small number of strongly performing firm-years pulling the distribution's upper tail, consistent with the non-normality later confirmed by the Shapiro-Wilk test. The average board size was approximately 9.5 directors, ranging from 4 to 16, while board independence averaged 5.2, with a range of 2 to 10, indicating that, on average, roughly half of board seats among these firms were held by non-executive directors. Board tenure averaged 3.7 years, ranging from 1 to 8 years, suggesting a moderate degree of board turnover, while board age averaged approximately 59 years, ranging narrowly from 53 to 66, a spread of only thirteen years that points to a relatively age-homogeneous director

population across the sector. Firm size, measured as the log of total assets, averaged 6.34, ranging from 3.97 to 9.11, reflecting considerable variation in scale between the smallest and largest firms in the sample.

Table 2 Descriptive Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
Financial Performance	64	2.2968	6.3769	0.0023	45.8738
Board Size	64	9.5156	3.1823	4	16
Board Independence	64	5.2344	2.1584	2	10
Board Tenure	64	3.7031	2.0754	1	8
Board Age	64	59.0781	3.6091	53	66
Firm Size	62	6.3439	1.2596	3.9746	9.1052

Source: Study Data (2024)

Correlation Results

Pearson correlation results, shown in Table 3, indicate a positive but statistically insignificant association between board size and financial performance ($r = 0.2215$), and a significant positive association between board independence and financial performance ($r = 0.4120$), the strongest bivariate relationship observed with the dependent variable. Board tenure ($r = -0.0232$) and board age ($r = -0.1852$) were both negatively but insignificantly correlated with financial performance, foreshadowing the signs later observed in the multivariate regression. Among the explanatory variables themselves, board tenure and board age were significantly positively correlated with one another ($r = 0.2913$), consistent with the intuitive expectation that directors who serve longer terms also tend to be older, while none of the pairwise correlations among the four board structure variables approached the conventional threshold of concern for multicollinearity, a conclusion later confirmed formally by the variance inflation factor results reported in section 4.3.

Table 3 Correlation Results

	Fin. Perf.	Board Size	Board Indep.	Board Tenure	Board Age
Financial Performance	1.0000				
Board Size	0.2215	1.0000			
Board Independence	0.4120*	0.1578	1.0000		
Board Tenure	-0.0232	-0.2048	0.0654	1.0000	
Board Age	-0.1852	0.2010	-0.1287	0.2913*	1.0000

Source: Study Data (2024). * denotes significance at the 5% level.

Direct Effect Regression Results

Table 4 presents the fixed-effects regression of financial performance on the four board structure variables. The model explains approximately 15.8 percent of the variation in financial performance

($R^2 = 0.1582$) but is not statistically significant overall ($F = 3.07$, $p = 0.0930$).

Table 4 Direct-Effect Regression Results (Dependent Variable: Financial Performance)

Variable	Coefficient	Robust Std. Err.	t	P> t
Board Size	-0.1971	0.7644	-0.26	0.804
Board Independence	4.6385	1.7985	2.58	0.037
Board Tenure	0.5565	0.6264	0.89	0.404
Board Age	-0.1103	0.2782	-0.40	0.704
Constant	-15.6541	16.5048	-0.95	0.374

Source: Study Data (2024). $R^2 = 0.1582$; $F(4,7) = 3.07$; $Prob > F = 0.0930$.

Board size had a negative and statistically insignificant effect on financial performance ($\beta = -0.197$, $p = 0.804$). Board independence had a positive and statistically significant effect ($\beta = 4.639$, $p = 0.037$), the only significant coefficient in the direct-effect model. Board tenure had a positive but insignificant effect ($\beta = 0.557$, $p = 0.404$), and board age had a negative and insignificant effect ($\beta = -0.110$, $p = 0.704$).

Moderation Analysis

Following Whisman and McClelland's (2005) procedure, step one regressed financial performance on a composite board structure index and firm size (Table 5). The model explained only 1.47 percent of the variation in financial performance ($R^2 = 0.0147$) and was not statistically significant ($F = 0.61$, $p = 0.5713$); firm size on its own had a positive but insignificant effect ($\beta = 0.132$, $p = 0.834$), satisfying the condition for proceeding to the interaction step.

Table 5 Moderation Analysis, Step One

Variable	Coefficient	Std. Err.	z	P> z
Board Structure	0.8675	0.7940	1.09	0.311
Firm Size	0.1324	0.6087	0.22	0.834
Constant	-15.2911	16.1263	-0.95	0.375

Source: Study Data (2024). $R^2 = 0.0147$; $F(2,7) = 0.61$; $Prob > F = 0.5713$.

Step two introduced the interaction between board structure and firm size (Table 6). The model's explanatory power remained low ($R^2 = 0.0166$) and statistically insignificant overall ($F = 0.41$, $p = 0.7489$). The interaction term was negative and insignificant ($\beta = -0.536$, $p = 0.529$), indicating that firm size does not significantly moderate the relationship between board structure and financial performance among these firms.

Table 6 Moderation Analysis, Step Two

Variable	Coefficient	Std. Err.	z	P> z
Board Structure	4.3526	5.9271	0.73	0.487
Firm Size	9.8052	14.7021	0.67	0.526
Board Structure × Firm Size	-0.5359	0.8095	-0.66	0.529
Constant	-78.9338	109.7041	-0.72	0.495

Source: Study Data (2024). $R^2 = 0.0166$; $F(3, 7) = 0.41$; $Prob > F = 0.7489$.

Hypothesis Testing

Table 7 Summary of Hypothesis Testing

Hypothesis	Outcome	Decision
H01: Board size has no significant effect on financial performance	Negative, insignificant effect found	Fail to reject H0
H02: Board independence has no significant effect on financial performance	Positive, significant effect found	Reject H0
H03: Board tenure has no significant effect on financial performance	Positive, insignificant effect found	Fail to reject H0
H04: Board age has no significant effect on financial performance	Negative, insignificant effect found	Fail to reject H0
H05: Firm size has no significant moderating effect on the board structure–performance relationship	No significant moderating effect found	Fail to reject H0

Source: Study Data (2024)

Discussion

The finding that board size has a statistically insignificant, negative relationship with financial performance contrasts with Kamukama and Fredrick (2020), Shukla, Narayanasamy and Krishnakumar (2020), Aliyu, Yahaya and Mohammed (2020), and Tulung and Ramdani (2018), each of whom found significant positive effects in other jurisdictions. Within Kenya, larger boards have historically been criticised for facilitating passive attendance-based governance rather than active oversight, with executive remuneration sometimes tied to meeting attendance rather than firm performance; this dynamic, alongside the differing sectoral and institutional context of prior studies, may explain the divergence in findings.

Board independence emerged as the only structural attribute with a statistically significant effect, corroborating Tulung and Ramdani (2018) but contrasting with Aluoch (2019), Naciti (2019), and Shan (2019). This suggests that, within Kenya's commercial and service sector specifically, the presence of non-executive directors free from day-to-day managerial entanglement provides a meaningfully stronger check on management than in some of the other contexts studied, lending support to the agency-theoretic emphasis on independent oversight.

Board tenure's positive but insignificant effect partially aligns with Sin, Boon, Tze and Wei (2016),

who found tenure to matter in the Malaysian context, but contrasts with Aluoch's (2019) finding of an inverse relationship with return on assets among Kenyan listed firms generally. Board age's negative and insignificant effect is consistent with Abdullah and Ismail (2013) but at odds with Bhatt and Bhatt (2017); the narrow age range observed among Kenyan directors in this sample (53 to 66 years) may limit the extent to which age itself, as opposed to the broader mix of experience it is meant to proxy, drives performance outcomes.

Finally, the absence of a significant moderating effect of firm size echoes Eyigege's (2018) finding of an insignificant direct effect of firm size on Nigerian bank performance, though it contrasts with Obaje, Abdullahi and Ude (2021) and Tanui and Serebemuom (2021), both of whom found firm size to significantly and negatively moderate governance–performance relationships elsewhere. This suggests that, for Kenya's relatively small population of listed commercial and service firms, scale differences between firms are not large enough, or not systematically related enough to board structure, to alter how board attributes translate into financial performance.

Two further points merit attention. First, the low overall explanatory power of the direct-effect model ($R^2 = 0.1582$) and its lack of significance at the whole-model level ($p = 0.0930$) indicate that board structure, taken as a set, is a relatively weak predictor of financial performance in this sector, even though one of its components, board independence, is individually significant. This is consistent with the wider literature's observation that financial performance is shaped by a broad array of factors, including macroeconomic conditions, sector-specific dynamics, and firm-level financial characteristics, of which board structure is only one. Second, the study's reliance on a census of eleven firms over eight years, while appropriate given the size of Kenya's listed commercial and service sector, yields a relatively small and unbalanced panel that constrains the statistical power available to detect moderate-sized effects, particularly in the moderation models where only seven degrees of freedom remained after estimation. Findings on board size, tenure, age, and the moderating role of firm size should accordingly be read as suggestive rather than conclusive, pending replication with a larger or more granular dataset.

Implications

This study examined how board structure, comprising board size, independence, tenure, and age, relates to the financial performance of commercial and service firms listed on the Nairobi Securities Exchange, and whether firm size moderates this relationship. The evidence indicates that board independence is the only structural attribute with a statistically significant, and positive, association with financial performance; board size, tenure, and age all show the expected sign in some cases but do not reach conventional levels of statistical significance, and firm size does not significantly moderate the overall relationship. The low explanatory power of the direct-effect model ($R^2 = 0.1582$) further suggests that factors beyond board structure account for the greater part of the variation in financial performance among these firms.

These findings carry two main implications. First, regulators and policymakers should prioritise strengthening requirements around board independence specifically, rather than pursuing board

size, tenure, or age as primary levers of governance reform. This could include making it mandatory for listed firms to maintain a sizeable proportion of outside, non-executive directors, consistent with practice in other jurisdictions. Second, firms constituting or reconstituting their boards should weight independence, alongside educational qualification and occupational experience, ahead of criteria such as board size or director age when seeking to strengthen financial performance. The study also found some evidence, drawn from the wider literature reviewed, that female directorship is associated with stronger performance outcomes, suggesting that gender should also feature among the criteria firms consider when appointing directors.

The study contributes to the corporate governance literature by testing agency, stewardship, and stakeholder theory in the specific context of Kenya's listed commercial and service firms, and by applying a formal moderated-regression test of firm size's role in the board structure–performance relationship, an approach not previously applied in this sector. Empirically, the study extends the evidence base on board structure and financial performance beyond the banking and manufacturing sectors that dominate the existing Kenyan literature, and it offers one of the first sector-specific tests of whether firm size moderates this relationship among NSE-listed firms. Methodologically, the use of a full battery of panel diagnostic tests, covering normality, stationarity, multicollinearity, heteroscedasticity, autocorrelation, and model specification, provides a template that future governance studies using similarly small, unbalanced panels can adopt to ensure the robustness of their regression estimates.

Future research could investigate why board size, tenure, and age show limited explanatory power in this context using primary data or qualitative methods that probe how Kenyan boards actually function in practice, extend the analysis to non-listed commercial and service firms where governance structures may differ markedly from those of listed firms, or examine the effect of board structure on broader measures of financial stability, liquidity, or growth rather than profitability alone. Researchers with access to a longer time series or a larger cross-section of firms, for instance by pooling commercial and service firms across the wider East African region, could also revisit the moderating role of firm size with greater statistical power than was available in the present study.

Appendix: Commercial and Service Firms Included in the Study

The study was based on a census of the following eleven commercial and service firms listed on the Nairobi Securities Exchange, covering the financial years 2015 to 2022: Express Kenya Ltd; Sameer Africa PLC; Kenya Airways Ltd; Nation Media Group; Standard Group Ltd; TPS Eastern Africa (Serena); Scangroup Ltd; Uchumi Supermarkets; Longhorn Publishers PLC; Deacons (East Africa) PLC; and Nairobi Business Ventures Ltd.

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