Corporate governance and financial performance of insurance firms in Kenya

Isaac Kibet Kiptoo¹, Samuel Nduati Kariuki¹ and Kennedy Nyabuto Ocharo¹

Abstract: This study examined the relationship between corporate governance and the financial performance of insurance firms in Kenya over the period 2013–2018. The data were collected from 51 Insurance firms licensed to operate in Kenya as of 31 December 2018. Regression analysis was used and the results showed that corporate governance significantly affects the financial performance of insurance firms. In particular, the findings showed that board composition negatively and significantly affects financial performance. This implied that insurance firms with a bigger ratio of non-executive directors do not perform better than those with a less proportion of non-executive directors. Insurance firms should therefore reduce the ratio of non-executive directors in order to achieve better performance. The results also showed that board diversity positively and significantly affects financial performance. This implied that insurance firms with a bigger ratio of professional directors perform better than the firms with less proportion of professional directors to the board. Insurance firms should therefore engage more professional directors in order to provide professional guidance and enhance financial performance. The findings also indicated that board independence positively and significantly affects financial performance. This implied that firms with a bigger ratio of independent directors perform better than those with a smaller proportion of independent directors.

ABOUT THE AUTHOR
Isaac Kibet Kiptoo is a Ph.D. student in the Department of Business and Economics, University of Embu. His research interests focus on Corporate Finance and Financial Accounting. Email: kibet.isaac@embuni.ac.ke
Samuel Nduati Kariuki is a Senior Lecturer and Chairman of the Department of Business and Economics, University of Embu. He holds a Ph.D. in Business Administration from Jomo Kenyatta University of Agriculture and Technology. His research interests focus on Investment and Portfolio Management, Financial Innovations, Financial Risk Management, Strategic Management, Accounting, and Corporate Finance.
Kennedy Nyabuto Ocharo is a Senior Lecturer and Dean of the School of Business and Economics, University of Embu. He holds a Ph.D. in Economics from Kenyatta University. His research interests focus on International Economics.

PUBLIC INTEREST STATEMENT
The insurance sector contributes significantly to the development of an economy by facilitating the mobilization of savings and investments in various sectors. Good governance of insurance providers is thus critical for its stability to promote the interest of the public in the industry and translate into economic growth. In recognition of the fact that good corporate governance is key, corporate guidelines have been introduced by various regulators. However, cases of malpractices and failure of insurance firms persist despite the introduction of the guidelines. Extant literature on the effectiveness of the various governance structures is scanty, especially in developing countries. This study contributes to the literature by investigating the effect of the various governance structures on the performance of insurance firms in Kenya, which is a developing country. The findings indicate that corporate governance significantly affected the performance of insurance firms. Appropriate governance structures should thus be put in place to enhance performance.
independent directors. Insurance firms should thus ensure that the board has an adequate number of independent directors in order to ensure independent or unbiased board decisions that will boost financial performance. The results also indicated that board size negatively and significantly affects financial performance. This implied that firms with bigger board sizes do not perform better than firms with smaller board sizes. The board size should thus be smaller to ensure efficiency and effectiveness of the board and better financial performance. This study concludes that proper corporate governance structure significantly affects the performance of a firm. Therefore, the study recommends that directors and other stakeholders should put in place appropriate governance structures in order to boost financial performance. Regulators and policymakers should also come up with policies and regulations that will ensure firms adopt appropriate governance structures to enhance performance. This study contributes to corporate governance literature by providing insight on the effect of corporate governance on performance from a developing country perspective. The study also provides an empirical examination of the effect of the various governance structures adopted by insurance firms and gives recommendations that can be utilized by policymakers in assessing and reviewing corporate governance policies. The study also gives recommendations to managers and other stakeholders regarding the board structure that can be adopted to boost the performance of a firm.

**Subjects:** Corporate Finance; Corporate Governance; Corporate Social Responsibility & Business Ethics

**Keywords:** corporate governance; board independence; board composition; board diversity; board size; financial performance

1. Introduction

Corporate governance refers to the structure adopted in controlling and directing organizations (Jiang et al., 2012). It entails the obligations of an organization's board and the association between the directors and the shareholders. Directors perform a crucial role in an organization by monitoring performance, providing resources, and offering advisory services (Ntim, 2015). Stewardship theory asserts that directors of a firm are expected to act as stewards and will strive towards achieving organizational objectives (Davis et al., 1997). However, when the ownership and control of the firms are separated, directors (agents) entrusted in undertaking transactions of the firm may not discharge their functions in the best interest of the principals (owners) of the firm (Berle & Means, 1932). Agency theory stresses that directors (agents) are self-centered and will act opportunistically when their interest diverges from the interest of the investors (principals) (Jensen & Meckling, 1976).

The persistence of agency issues in every institution has motivated studies aimed at finding out the actual causes and remedies. Several studies (Eisenhardt, 1989; Jackling & Johl, 2009; Kiel & Nicholson, 2003) recommended that an appropriate governance structure can help in mitigating the agency conflict. Proper corporate governance practices reduce investors’ risks, attract capital investments and improve performance (Wakaisuka-Isingoma et al., 2016). Corporate governance is a method of management that minimizes agency conflicts, increases shareholders’ wealth, boosts investors’ confidence, firm goodwill, and investment opportunities (Ngatno & Youlianto, 2021). In cognizance of the recommendations, many countries formulated policies and regulations that would promote proper governance. The United States government, for instance, introduced the Sarbanes-Oxley Act in the year 2002 with the objective of mitigating conflict of interest by those entrusted to manage a firm (Act, 2002). In the United Kingdom, a corporate governance code was established in the year 2003 (Council, 2003). The Republic of South Africa reviewed the
King code of governance in the year 2009 to resolve governance issues (King, 2009). In Kenya, the insurance regulatory authority (IRA), in recognition of the fact that corporate governance is key for the stability and development of the insurance industry, developed corporate governance guidelines in the year 2011 to promote prudent management of insurers in Kenya (Authority, 2017).

The efforts made by the various countries and regulatory bodies to ensure that institutions put in place good corporate governance practices have, however, not fully resolved the cases of corporate malpractices and failures. Some of the firms found engaged in scandals in the recent past include Colonial Bank and Wells Fargo Bank in the USA in the year 2018, Carillion in the UK in 2018, Petrobras in Brazil in 2017, BT in Italy in 2017, Alberta Motor Association in Canada in 2016 and Toshiba in Japan in 2015 (Bhaskar & Flower, 2019). In Kenya, there have been cases of customer complaints due to malpractices by insurance firms. Some insurance firms, for instance, Blue Shield Insurance, United Insurance, Standard Assurance, and Concord Insurance, were also put under statutory management (Authority, 2017).

The continued scandals and corporate failures have motivated studies to examine the effectiveness of the various corporate governance structures (Ntim, 2015). The results of the studies are, however, inconclusive and give mixed results. Some of the studies indicate a positive effect of some of the corporate governance indicators like board size, composition, diversity, and board independence on performance (Chen et al., 2005; Jackling & Johl, 2009; Khan et al., 2019; Riyadh et al., 2019). In contrast, findings of other studies indicate a negative relationship (Afrifa & Tauringana, 2015; Conyon & Peck, 1998; Guest, 2009; Mak & Kusnadi, 2005; Malik & Makhdoom, 2016; O’connell & Cramer, 2010), while others indicate that there is no relationship (Bhagat & Black, 2002; Ferrer & Banderlpe II, 2012; Ghazali, 2010; Haji, 2014). Also, most of these studies focus on developed nations which might not be generalized to other nations because the cultures and corporate governance structures differ (Arora & Sharma, 2016; Tricker & Tricker, 2015). This begs the question of which board structure is ideal and to which type of organization. This study thus attempts to address this gap by examining the effect of corporate governance on the financial performance of insurance firms in Kenya, which is a developing nation. Specifically, the study investigates the effect of board independence, board size, board diversity, and board composition on the performance of insurance firms in Kenya.

The study contributes to corporate governance literature in many ways. First, the study provides empirical evidence on the relationship between corporate governance and financial performance using data from the insurance sector in Kenya, which is a developing country. The findings thus provide insight into the effect of corporate governance on performance from a developing country perspective. Second, the study covers a period of six years (2013–2018), which is the period that has elapsed since the introduction of corporate governance guidelines in the insurance sector in Kenya. The guidelines recommended the restructuring of the board in terms of composition, size, independence, and diversity. To the best of our knowledge, no study has been done to determine the effect of these structures on the performance of insurance firms. This study thus provides an empirical examination of the effect of the various governance structures and gives recommendations that can be utilized by policymakers in assessing and reviewing the corporate governance policies. Third, the study gives recommendations to managers and other stakeholders regarding the board structure that can be adopted to boost the performance of insurance companies.

The rest of this paper is structured as follows: background of the study is presented in section 2, theoretical review in section 3, and empirical review and hypothesis development in section 4. Research design is presented in section 5, empirical results and discussion are presented in section 6, and summary and conclusion are presented in section 7.

2. Background
The insurance regulatory authority (IRA) regulates the insurance industry in Kenya. The number of registered insurance firms in Kenya as of December 2018 was 55. The sector plays a crucial role by
facilitating capital formation, funding development, and financial security and promoting trade and commerce. Despite the contribution made by the insurance sector to the Kenyan economy, the penetration of insurance in Kenya is 2.73 percent, which is low in comparison with the global average of 6.28 percent (Re, 2016). The reputation of the sector has also been eroded over the years due to malpractices. Some of the insurance firms have also been put under statutory management due to the inability to honor customer claims (Authority, 2017).

The continuous cases of malpractices and failure of insurance firms in Kenya made the insurance regulatory authority develop and introduce corporate governance guidelines in the year 2011. The guidelines were aimed at promoting the corporate governance of the insurers. The guidelines proposed the directors’ responsibilities and governance structure. The guidelines recommended that the board should be composed of at least five members, a third of which shall be independent directors, some board members should be non-executive and some should be professionals. However, cases of malpractices and failures persist in the insurance sector despite the introduction of the guidelines, for instance, the IRA received complaints against insurance companies in Kenya each year. Some of the insurance firms have also been reporting losses, for instance, in the year 2016, the combined underwriting loss for the sector was USD 0.02 billion and in the year 2017, the combined loss was USD 0.01 billion. The return on assets has also been decreasing, for instance, in the year 2016, the ROA was 14.2 percent, which decreased to 10.4 percent in the year 2017 (Authority, 2017). This then raises the question of whether the insurance firms have implemented the provisions of the IRA code of governance and what effect do these provisions have on the performance of the insurance firms. This study thus attempts to determine the board structures adopted by the various insurance firms in Kenya and how the structures affect the performance.

3. Theoretical literature review
This study adopted stewardship theory, agency theory, and resource-dependency theory.

3.1. Stewardship theory
The theory asserts that directors of a firm act as stewards and will not focus on fostering their interests, but will be committed to ensuring the interest of the company is achieved. Besides, the directors will discharge their roles in a way that ensures collectivism or achievement of organizational utility instead of individual benefits (Donaldson & Davis, 1991). As the directors work towards achieving organizational objectives, their personal needs are also fulfilled (Kluvers & Tippett, 2011). The directors act as honest stewards of the firm and are committed to the collective good of the stakeholders in the firm regardless of the directors’ interests (Donaldson & Davis, 1991). However, the stewards’ performance depends on whether the organizational structure facilitates proper action (Davis et al., 1997).

This theory underscores the fact that managers or executives of a firm act as stewards and thus they should be part of the board of directors of a company. Extant literature supports this view and advocates that a proportion of the board should be executive directors (Coles et al., 2008; Harvey Pamburai et al., 2015; Mashayekhi & Bazaz, 2008). However, it is not clear what proportion of executive directors is ideal. This study analyses how the boards of various insurance firms are composed in terms of executive and non-executive directors and investigates the effect it has on the financial performance of the firms.

3.2. Agency theory
The theory arose from the work of Smith (1776) who opined that if a firm is managed by persons who are not the shareholders, then there is a possibility that the managers may not work for the owners’ benefit. Agency relationship occurs when the shareholder(s) (principal) engages another individual(s) (the agent) to undertake some assignments on their behalf. If the principal and the agent are utility maximizers, the agent may not perform in the best interests of the shareholders (principal) at all times (Jensen & Meckling, 1976). Berle and Means (1932) indicated that there are
groups and individuals in an organization who have different risk preferences and their actions differ. The principal invests their funds in a firm and accepts risks to attain financial benefits. However, managers (agents) are risk-averse and focus on maximizing their benefits. Therefore, the risk tolerance of the agent and the principal is not aligned, thus creating agency conflict.

The agency theory thus suggests that non-executive directors should be included in the board to monitor the work of managers. The board should also be composed in a way that will guarantee independence in decision-making, for instance, inclusion of independent directors to mitigate conflict of interest. Studies by Malik and Makhdoom (2016) affirmed that a board with independent directors positively affects the performance of a firm. This study investigates the effect of board independence on the financial performance of insurance firms in Kenya.

3.3. Resource-dependency theory
The theory argues that a board of a firm is critical because it provides resources to the managers who in turn utilize them to achieve organizational objectives (Hillman & Dalziel, 2003). The theory recommends the board to provide support to the executives, for instance, financial, human, and intangible support. The board members who have the expertise and professional training should offer training and mentoring services to the executives to enhance their skills and improve performance. The board members can also link the organization with their network and attract valuable resources into the firm. The theory also recommends that the executives should be allowed to make most of the firms’ decisions and some be presented to the board for approval.

The resource-dependency theory thus advocates for the inclusion of professionals in a board of a firm and emphasizes that directors drawn from outside the firm are critical since they bring along best practices applied elsewhere and linkages. The theory also advocates for an increase in board size to accommodate more directors with diverse knowledge and expertise. A firm should thus incorporate in their boards’ non-executive directors and professionals with diverse experience and skills. This view is supported by Cheng et al. (2010), Ujunwa (2012), Francis et al. (2015), and Mori (2014). This study investigated the effect of board diversity and board size on the performance of insurance firms in Kenya.

4. Literature review and hypotheses development

4.1. Board size
The board of directors plays an important role in an institution by offering policy direction and strategic guidance. Resource dependence theory advanced by Pfeffer (1972) argues that an institution can gain immense and valuable resources from its board of directors which in turn reduces dependency on the environment. The theory further argues that firms, which have large board size, can gain access to more resources from the external environment. Some studies on corporate governance affirm this theory and indicate that increasing the size of the board positively impacts the performance of a firm (Chen et al., 2005; Jackling & Johl, 2009; Khan et al., 2019; Kiel & Nicholson, 2003; Kyereboah-Coleman & Biekpe, 2006; Riyadh et al., 2019). However, Jensen (1993) argued that an organization with a big board size may experience problems in coordinating the group and ineffectiveness in arriving at decisions.

Some studies support this view and in contrast to resource dependency theory, the studies have found a negative relationship between the size of a board and performance (Afrifa & Tauringana, 2015; Arora & Sharma, 2016; Guest, 2009; Mak & Kusnadi, 2005; Malik & Makhdoom, 2016; O’connell & Cramer, 2010). However, some studies found that there is no relationship between the size of a board and the performance of a firm (Ferrer & Banderlpe II, 2012; Garba & Abubakar, 2014; Ghazali, 2010; Haji, 2014).

The corporate governance guideline issued by IRA recommends that insurance firms in Kenya should have at least five board members. However, the guideline does not provide the maximum
number of members that a board can have. This raises the question of what board size do the various insurance firms maintain and how does it affect financial performance. Given the resource dependency theory that firms that have large board sizes can access more resources from the external environment, we hypothesize that

H01: There is a positive relationship between board size and the financial performance of insurance firms in Kenya.

4.2. Board independence

Agency theory by Jensen and Meckling (1976) asserts that agency conflicts occur in a firm because top management (agents) is responsible for implementing policies, while the shareholders (principals) assume the huge portion of the risk associated with the decisions made by the management. The management, therefore, does not bear the significant portion of the effects of their decisions, unlike shareholders, thus creating a conflict of interest. The management may also undertake projects that will benefit them more than the shareholders. The board of directors is thus entrusted by shareholders to control and monitor the actions of the management. Fama (1980) argued that the agency problem can be mitigated if the board comprises independent directors. Extant literature on board independence indicates mixed results with some (Bhagat & Bolton, 2013; Malik & Makhdoom, 2016) affirming that having independent directors in a board positively impact the financial performance of a firm while others (Arora & Sharma, 2016; Berthelot et al., 2012; Kumar & Singh, 2013) indicate that the relationships between board independence and financial performance are negative. However, Bhagat and Black (2002), Assenga et al. (2018), and Khan et al. (2019) indicated that there is no relationship between independent directors and the financial performance of a firm.

The IRA corporate governance guideline recommends that a third of the directors should be independent directors. Given this recommendation and the agency theory, we hypothesize that

H02: There is a positive relationship between board independence and the financial performance of insurance firms in Kenya.

4.3. Board diversity

Resource dependency theory argues that a board is vital in a firm because it provides resources to the management due to its linkage with the external environment (Pfeffer, 1972). The theory further argues that a larger board consisting of more professionally qualified directors may provide guidance and acquire resources better than a smaller board. Some of the key resources include diverse knowledge and skills that will enable managers to discharge their duties and responsibilities (Tricker & Tricker, 2015).

A good mix of directors with diverse skills and expertise significantly improves the performance of a firm (Asogwa et al., 2019). Some empirical studies on board diversity support the view that having professionals on a board positively impacts the performance of the firm (Cheng et al., 2010; Darmadi, 2013; Francis et al., 2015; Khan et al., 2019; Khan & Subhan, 2019; Mori, 2014; Ujunwa, 2012). However, some studies found a negative relationship between board diversity and performance (Assenga et al., 2018; Jhunjhunwala & Mishra, 2012; Van Ness et al., 2010), while some studies did not find any relationship between board diversity and performance (Engelen et al., 2012; Kim & Rasheed, 2014).

The corporate governance guideline issued by IRA recommends that the board should have professionals to offer advisory services and chair key committees. Based on the recommendation and the views of resource dependency theory, we hypothesize that
H₀₃: There is a positive relationship between board diversity and the financial performance of insurance firms in Kenya.

4.4. Board composition
Stewardship theory argues that executives are stewards of the owners and both groups do share common interests (Davis et al., 1997). The relationship between the board and the executives should thus involve shared decision-making, training, and mentoring (Sundaramurthy & Lewis, 2003). The board of directors can thus be composed of executives and non-executive directors. However, it is not clear on what proportion of non-executive directors is optimal. Agency theory argues that a board composed of a bigger ratio of non-executive directors enhances independence in decision-making and curb cases of conflict of interest from the executives (Fama, 1980).

Some empirical studies on board composition have supported the agency view that a bigger ratio of non-executive directors in a board positively affects the performance of a firm (Coles et al., 2008; Harvey Pamburai et al., 2015; Mashayekhi & Bazaz, 2008; O’connell & Cramer, 2010). However, some studies indicated that board composition negatively affects performance (Agrawal & Knoeber, 1996; Andres et al., 2005; Wintoki et al., 2012; Yermack, 1996), while some studies indicated that board composition does not affect performance (Haniffa & Hudaib, 2006; Kajola, 2008; Ehikioya, 2009; Borlea, Achim & Mare, 2017). IRA corporate governance guidelines recommend that insurance firms should have a board composed of non-executive and executive directors. Given the recommendation of the studies and agency theory argument that a board composed of a bigger ratio of non-executive directors enhances independence in decision-making and curb cases of conflict of interest from the executives, we hypothesize that

H₀₆: There is a positive relationship between board composition and the financial performance of insurance firms in Kenya.

5. Research design
5.1. Sample selection and data sources
The data were obtained from the audited financial reports of the insurance companies in Kenya. The target population for the study was all the 55 insurance companies licensed to operate in Kenya by IRA as of 31 December 2018. The data required for analysis were obtained from the audited financial report for a period of six years (2013 to 2018). The period of six years was chosen because this was the period that had elapsed since the corporate governance guidelines for insurance firms in Kenya were introduced by IRA. The final sample of firms used in the study was 51 insurance firms that met the criteria of complete audited financial reports for the period from 2013 to 2018. This ensured that the data meet the requirements for panel data analysis.

5.2. Research model and measurement of variables
The study adopted regression analysis to determine the relationship between the variables. The dependent variable was financial performance, while the independent variables were four corporate governance variables, namely, board independence (BI), board composition (BC), board size (BS), and board diversity (BD). Firm characteristics, which were the age of the firm (AGE), leverage (LEV), and size of the insurance firm (SIZE), were used as the control variable. The summary of how the variables were operationalized is presented in Table 1.

The following model was used to determine the relationship between the variables:

Model:

\[
ROA_t = \beta_0 + \beta_1 BC_t + \beta_2 BI_t + \beta_3 BS_t + \beta_4 BD_t + \beta_5 Age_t + \beta_6 LEV_t + \beta_7 SIZE_t + \varepsilon
\] (1)
Table 1. Operationalization of the variables

| Variable       | Indicator(s)         | Operationalization                                      |
|----------------|----------------------|---------------------------------------------------------|
| Dependent      | ROA                  | Net profit after tax *100                                |
|                |                      | Total Assets                                            |
| Independent    | Board composition    | The proportion of executive directors on the board.     |
| Independent    | Board independence   | The proportion of independent non-executive directors   |
| Independent    | Board size           | The number of members on a board                        |
| Independent    | Board diversity      | The proportion of professionals in the board (members registered by a professional body) |
| Control        | Leverage             | Long term debt *100                                    |
|                |                      | Equity or Net worth                                     |
| Control        | Size of an insurance firm | Log of total assets.                                      |
| Control        | Age of insurance firm | Log of the number of years since incorporation           |

Where

ROA is the return on assets, \( \theta_0 \) is the regression constant, \( i \) is 1, \ldots, 51 firms, \( t \) is 1, \ldots, 6 years, \( \theta_1, \ldots, \theta_7 \) are coefficients estimated, \( BC \) is board composition, \( BI \) is board independence, \( BS \) is board size, \( BD \) is board diversity, \( AGE \) is the age of the firm, \( LEV \) is the leverage of the firm, \( SIZE \) is the size of the firm and \( \varepsilon \) is the error term.

6. Empirical results and discussion

6.1. Descriptive statistics

The descriptive results of board characteristics and financial performance are presented in Table 2. The results showed that the return on assets was between \(-4.71\) and \(5.66\) with a mean of \(1.61\). This implied that the majority of insurance firms in Kenya registered positive returns. The board size of the firms was between 5 and 9 members with a mean of 7 members. This showed that the firms have adhered to the IRA guideline that the firms should have a minimum of five members. The findings also showed that the ratio of independent non-executive directors to the board was between \(0.33\) and \(0.60\) with an average of \(0.41\). This implied that the firms had adhered to the code of governance, which recommended that a third of the board should be independent. In terms of board diversity, the proportion of directors with professional qualifications was between \(0.28\) and \(1\) with an average of \(0.66\). This implied that the majority of board members were professionals in line with the guideline that the firms should have some professionals to provide technical or professional advice and chair key committees. The ratio of non-executive directors was between \(0.66\) and \(0.88\) with a mean of \(0.77\). This suggested that the insurance firms had implemented the corporate governance guidelines, which recommended that a board should consist of executive and non-executive directors.

6.2. Correlation and diagnostic test results

The correlation results in Table 3 indicate that the correlation between the return on assets and board size is negative and significant \((r = -0.137, p\text{-value} < 0.05)\). The results suggest that increasing the board size results in a decrease in ROA. The correlation results also show that the correlation between ROA and board independence is positive but not significant \((r = 0.061, p\text{-value} \)
Table 2. Descriptive statistics

| Variable   | Indicator                  | Mean | Maximum | Minimum | Std. Dev. |
|------------|----------------------------|------|---------|---------|-----------|
| Observations | Return On Assets           | 1.61 | 5.66    | ~4.71   | 2.36      |
| Independent| Board composition          | 7.12 | 9.00    | 5.00    | 1.68      | 306       |
| Independent| Board independence         | 0.60 | 0.33    | 0.03    | 0.04      | 306       |
| Independent| Board size                 | 0.66 | 1.00    | 0.28    | 0.21      | 306       |
| Independent| Board diversity            | 0.77 | 0.88    | 0.66    | 0.04      | 306       |
| Control    | Leverage                   | 0.62 | 0.94    | 0.10    | 0.13      | 306       |
| Control    | Size of an insurance firm  | 7.06 | 9.91    | 0.34    | 2.28      | 306       |
| Control    | Age of insurance firm      | 3.26 | 4.58    | 0.69    | 0.83      | 306       |

> 0.01. The results suggest that increasing the proportion of independent non-executive directors to the board results in an increase in ROA. The correlation between return on assets and board diversity is positive and significant (r = 0.176, p-value < 0.01). The results imply that increasing the proportion of professionals to the board results in an increase in ROA. The correlation between board composition and return on assets is negative and significant (r = −0.213, p-value < 0.01). The results suggest that increasing the proportion of non-executives to the board results in a decrease in ROA.

The correlation results also show that the correlation between ROA and leverage is positive and significant (r = 0.525, p-value < 0.01). The results suggest that increasing the leverage results in an increase in ROA. The correlation between return on assets and size of the firm is also positive and significant (r = 0.408, p-value < 0.01). The results imply that increasing the size of the firm results in an increase in ROA. The correlation between the age of the firm and return on assets is negative but not significant (r = −0.0727, p-value > 0.01). The results suggest that the older the firm gets the lower the ROA.

The results of the correlation matrix presented in Table 3 also show that the correlation between the variables is below 0.80. The results imply that there was no multi-collinearity problem. Gujarati (1995) suggested that when the correlation between variables exceeds 0.80, then there may be a problem of multi-collinearity. Variance inflation factor (VIF) was also generated for the variables to determine further if there is multi-collinearity. The results presented in Table 4 further shows that the VIF values were below 10, suggesting that there was no multi-collinearity problem.

To determine whether pooled OLS, random-effects, or fixed-effects model was appropriate, Breusch and Pagan Lagrangian multiplier test was carried out. The results indicated that the P value was 0.000, which was less than 0.05, suggesting that pooled OLS was not appropriate. Hausman test was further carried out to determine whether the random or fixed-effects model was appropriate. The results in Table 5 show that the p-value was 0.0092, which was less than 0.05, suggesting that the fixed effects model was appropriate. The results in Table 6 also show that there is a difference between the values of fixed effect and random effect models. The fixed-effect
| VARIABLE            | INDICATOR          | ROA      | BS     | BI     | BD     | BC     | LEV    | SIZE    | AGE     |
|---------------------|--------------------|----------|--------|--------|--------|--------|--------|---------|---------|
| Dependent           | Return on Assets (ROA) | 1.0000  |        |        |        |        |        |         |         |
| Independent         | Board Size (BS)    | -0.1371* | 1.0000 |        |        |        |        |         |         |
| Independent         | Board Independence (BI) | 0.0613  | 0.2052** | 1.0000 |        |        |        |         |         |
| Independent         | Board Diversity (BD) | 0.1756** | 0.0605 | 0.1316* | 1.0000 |        |        |         |         |
| Independent         | Board Composition (BC) | -0.2136** | -0.2704** | 0.0430 | -0.0660 | 1.0000 |        |         |         |
| Control             | Leverage (LEV)     | 0.5251** | -0.0357 | 0.0276 | -0.0591 | -0.2011** | 1.0000 |         |         |
| Control             | Firm Size (SIZE)   | 0.4088** | -0.0972*** | -0.044300 | -0.0612 | -0.0394 | 0.2079** | 1.0000 |         |
| Control             | Firm Age (AGE)     | -0.0727 | -0.0028 | 0.1325* | 0.0572 | 0.0659 | -0.0155 | -0.0312 | 1.0000 |

**Correlation is significant at the 0.01 level (2-tailed).
*Correlation is significant at the 0.05 level (2-tailed).
Correlation is significant at the 0.1 level (2-tailed).
model was thus used in estimating the effect of corporate governance and performance. A histogram normality test was also carried out to determine normality. The histogram was bell-shaped and the p-value for Jarque-Bera statistic was 1.636 with a probability of 0.441, which was insignificant at a 5% level of significance, suggesting that the data were normally distributed. Scatter plots of the residuals were also generated which confirmed that there was no linearity problem.

6.3. Regression results and discussion
The regression results in Table 7 show that board size negatively and significantly affects the financial performance of insurance firms (β = 0.000, p < 0.5). The results suggested that firms with smaller board sizes perform better than firms with larger board sizes. The results were in agreement with the findings of Conyon and Peck (1998), Mak and Kusnadi (2005), Guest (2009), O’Connell and Cramer (2010), Afrifa and Tauringana (2015), Malik and Maikhdom (2016), and Arora and Sharma (2016). The findings also supported the views of Jensen (1993) that a firm with a large board size may experience problems in coordinating the group and ineffectiveness in arriving at decisions. The hypothesis that there is a positive relationship between board size and the financial performance of insurance firms in Kenya is thus rejected.
The results also showed that board independence positively and significantly affects the financial performance of Insurance firms ($\beta = 0.000, p < 0.5$). The results were consistent with the finding by Bhagat and Bolton (2013), and Malik and Makhdoom (2016). The findings support the agency theory that the agency problem can be mitigated if the board is composed of independent directors. Therefore, the hypothesis that there is a positive relationship between board independence and financial performance of Insurance firms in Kenya is thus accepted.

The results also showed that board diversity positively and significantly affects financial performance ($\beta = 0.000, p < 0.5$). The findings suggested that increasing the proportion of professionals on the board impacted positively the performance of a firm. The results agree with the findings by Cheng et al. (2010), Ujunwa (2012), Darmadi (2013), and Francis et al. (2015). The results also supported the resource dependency theory that a larger board consisting of more professionally qualified directors may provide guidance and acquire resources better than a smaller board. Therefore, the hypothesis that there is a positive relationship between board diversity and the financial performance of insurance firms in Kenya is thus accepted. The results also showed that board composition negatively and significantly affects financial performance ($\beta = 0.000, p < 0.5$). The results implied that increasing the ratio of non-executive directors impacted negatively the performance of a firm. The findings were consistent with the results by Agrawal and Knoeber (1996), Yermack (1996), Andres et al. (2005), and Wintoki et al. (2012). Therefore, the hypothesis that there is a positive relationship between board composition and the financial performance of insurance firms in Kenya is thus accepted.

We also conducted a further analysis using different models to check the robustness of our findings. The results presented in Table 8 shows that the results generated by the different models are similar to the findings of the fixed effects model that we adopted. The results from all the models indicate that the relationship between board size, board composition, firm age, and financial performance was negative. The results of all the models also show that the relationship between board independence, board diversity, leverage, firm size, and financial performance was positive.
7. Summary and conclusion

This study investigated the relationship between corporate governance and financial performance of 51 Insurance Firms in Kenya. The corporate governance variables were board composition, board diversity, board independence, and board size, while financial performance was measured as ROA. Regression analysis was done to determine the relationship between the variables. The findings showed that board composition negatively and significantly affects financial performance. This suggested that insurance firms with a bigger ratio of non-executive directors do not perform better. Insurance firms should therefore reduce the ratio of non-executive directors to achieve better performance.

| Variables          | Pooled OLS Model | Generalized Linear Model (GLM) | Random effect Model | Fixed Effect Model | Robust Least Squares Model |
|--------------------|------------------|-------------------------------|---------------------|-------------------|---------------------------|
| C                  | −1.102599        | −1.102599                     | −1.2323             | −2.840477         | −0.5770                   |
| (t-statistic)      | (−0.4409)        | (−0.4409)                     | (−0.5030)           | (−1.014745)       | (−0.2198)                 |
| Board Size         | −0.2246*         | −0.2246*                      | −0.2261*            | −0.242744*        | −0.2536*                  |
| (t-statistic)      | (−3.4749)        | (−3.4749)                     | (−3.5767)           | (−3.614590)       | (−3.702)                  |
| Board Independence | 5.9765**         | 5.9765**                      | 6.1634**            | 9.293515*         | 6.7162*                   |
| (t-statistic)      | (1.8615)         | (1.8615)                      | (1.9609)            | (2.750089)        | (1.992)                   |
| Board Diversity    | 2.3445*          | 2.3445*                       | 2.3262*             | 2.019414*         | 2.6581*                   |
| (t-statistic)      | (4.9244)         | (4.9244)                      | (4.98206)           | (3.884494)        | (5.318)                   |
| Board Composition  | −7.7894*         | −7.7894*                      | −7.6573*            | −5.384235         | −8.5652                   |
| (t-statistic)      | (−3.0813)        | (−3.0813)                     | (−3.0904)           | (−1.981524)       | (−3.2276)                 |
| Leverage           | 7.4503*          | 7.4503*                       | 7.4241*             | 7.027218*         | 7.4051*                   |
| (t-statistic)      | (9.6986)         | (9.6986)                      | (9.8494)            | 8.261424          |                           |
| Firm Size          | 0.3221*          | 0.3221*                       | 0.3223*             | 0.324856*         | 0.2977                    |
| (t-statistic)      | (7.0954)         | (7.0954)                      | (7.2481)            | (6.726381)        | (6.2481)                  |
| Firm Age           | −0.1995          | −0.1995                       | −0.2033**           | −0.478090         | −0.1972                   |
| (t-statistic)      | (−1.6317)        | (−1.6317)                     | (−1.6561)           | (−1.370522)       | (−1.5364)                 |
| (Z-statistic)      |                   |                               |                     |                   |                           |
| F.Stat.            | 35.697           | 35.365                        | 5.773304            |                   |                           |
| Prob(F-Stat)       | 0.000            | 0.000                         | 0.000               |                   |                           |
| Prob(LR-Stat)      |                   | 0.000                         |                     |                   |                           |
| Prob(R-squared Stat) |                |                                |                     |                   |                           |
| R-Squared          | 0.456087         | 0.4537                        | 0.570249            | 0.349             |                           |
| Adjusted R-Squared | 0.4433           | 0.4409                        | 0.471476            | 0.334             |                           |
| Durbin-Watson Statistic | 1.713        | 1.73                          | 2.132934            |                   |                           |

**= Significant at the 0.01 level.
*= Significant at the 0.05 level.
The results also showed that board diversity positively and significantly affects financial performance. This implied that insurance firms with a bigger ratio of professional directors perform better than the firms with less proportion of professional directors to the board. Insurance firms should therefore engage professional directors to perform better. The findings also indicated that board independence positively and significantly affects financial performance. This suggested that firms with a bigger ratio of independent directors perform better than those with a smaller proportion. Insurance firms should thus ensure that the board should have an independent director to boost financial performance. The results also indicated that board size negatively and significantly affects financial performance. This implied that firms with bigger board sizes do not perform better than firms with smaller board sizes. The board size should thus be smaller to ensure efficiency and effectiveness and result in better performance. This study demonstrates that corporate governance significantly affects the performance of insurance firms. Therefore, we recommend that directors and other stakeholders should put in place appropriate governance structures in order to boost financial performance. We also recommend that regulators and policymakers should come up with policies and regulations that will ensure firms adopt appropriate governance structures to enhance performance.

This study contributes to corporate governance literature by providing insight on the effect of corporate governance on performance from a developing country perspective. The study also provides an empirical examination of the effect of the various governance structures adopted by insurance firms and gives recommendations that can be utilized by policymakers in assessing and reviewing corporate governance policies. The study also gives recommendations to managers and other stakeholders regarding the board structure that can be adopted to boost the performance of a firm. We suggest that future research may focus on data from different sectors and countries to compare and contrast the effect of corporate governance in the various sectors or countries. Also, future researchers can examine the effect of other governance variables like gender diversity, director’s remuneration, age, and shareholding.

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Author details
Isaac Kibet Kiptoo1
E-mail: kibet.isaac@embuni.ac.ke
ORCID ID: http://orcid.org/0000-0002-0159-4969
Samuel Nduati Karuki2
Kennedy Nyabuto Ocharo3
1 Department of Business and Economics, University of Embu Embu Kenya.

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