



## Board Attributes and Financial Risk Management: Moderating effect of Ownership Structure among Listed Non-Financial Firms in Kenya

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### Abstract

*Markets have been distinguished by accelerated uncertainty of interest rates, foreign exchange rates, volatility of security prices as well as fluctuations of commodity prices and, as a result, businesses face rapid vulnerability towards a broad array of corporate risks. The aim of the study was to examine whether ownership structure moderates the connection between board attributes and financial risk management. The target population was 67 listed firm in Kenya while the sample included 41 non-financial companies based on inclusion-exclusion criteria from 2010-2017 giving a total of 328 firm year observation. The hierarchical binary logistic regression was utilized to evaluate the interaction conditions of the hypothesis. The findings of the research revealed that the ownership structure had a positive and insignificant moderating effect on the connection between financial expertise of the board and financial risk management ( $\beta=0.12$ ,  $p>0.05$ ) while independent board members and financial risk management was positively and significantly moderated by ownership structure ( $\beta=0.75$ ,  $p<0.05$ ). The study concludes that board financial expertise is a key determinant of boards' ability to make firm strategic decisions while high proportion of outside directors was detrimental to hedging activities where as ownership structure enhanced the relationship. The study findings will be useful to investors who want to make investments in firms by understanding board attributes in relation to risk management. This research offers logical information, especially in for emerging economies on the role of ownership structure in influencing financial risk management decisions.*

**Keywords:** Board Independence, Board Financial Expertise, Board Attributes, Ownership Structure, Financial Risk Management.

### INTRODUCTION

Existing corporate risk management theories tend to assume full knowledge about all relevant decision parameters. In reality, considering the complexity of companies and the fast-changing world economy, there's much more evidence to suggest that managers are actually struggling to comprehend their own exposures. According to (El-Masry *et al.*, 2016) management of risk need to be supported by robust governance practices particularly in non-financial companies. This is because the management of risk is believed to be one of the main components of corporate governance and the ultimate responsibility for efficient risk management lies with the board. Therefore, without the immediate assistance and participation of the board members, it will be difficult to create an effective risk management policy (Abdul *et al.*, 2013). The tenacity of good governance is to enhance organizational worth by reducing financial risks, business risks, and operational risks. (Rashid & Islam, 2008).

In their seminal study (Shleifer & Vishny, 1997) they found out that governance mechanisms are a simple agency perspective by understanding how investors are getting

managers to give them a return from their investment. Echoing this, the study approach on management of risk is just as simple as the agency's view, merely by understanding how the principals as represented by the board members are getting executives to make risk management choices by employing hedging derivative instruments that maximize long term company value and thus maximizing the shareholders worth. Additionally, (Allayannis *et al.*, 2012) revealed that fudging generates additional worth in firms with robust internal governance, however, such firms (Lel, 2012) use unoriginals to diminish risk as well as maximize firm worth but those with fragile governance use unoriginals discriminatively to suit administrative self-interest. Asghar *et al.*, (2018) pointed out that conformity with governance methods limits management to let their power away from value-destroying actions and into value-generating actions and eventually shareholders' rights are shielded. The board's choices and actions should echo the demands of shareholders, which would include a sustainable growth of a business with a proper risk management in place in order to attain a lasting return on the investment (Wood & Zaichkowsky, 2004).

Ownership structure highlights the legitimacy of the proportion of owners in relation to stake holding in the company and has extensively been viewed as a relevant outside control method for supervising the management behavior as well as choices affecting the board members (Haider & Fang, 2016). However, the ownership structure functions is multidimensional, as the conduct and performance of owners rely on the kinds of executives as well as on industry and the institutional culture. Jensen and Meckling (1976) observed that the agency theory shows that ownership structure functions as a protection system in aligning the activities and behavior of executives. The availability of a multitude of hedging tools according to (Nance *et al.*, 1993) are crucial in enhancing sustainable corporate risk management by businesses which ultimately have a beneficial effect on the shareholders' wealth creation. Markets have been distinguished by accelerated uncertainty of interest and foreign exchange rates, volatility of securities prices as well as fluctuations of commodities prices and, as a result, businesses face rapid vulnerability towards a broad array of corporate risks. Shareholder expectations are growing on the management not only recognizing but properly handling the exposure of the firm (Bodnar & Gebhardt, 1999) and because of managing risk, it has, therefore, become a firms' fundamental strategy. The concern that fascinates the study is whether the structure of shareholders in lieu of shares held plays a moderating role by shaping management choices on potential management of risk via the independent board members and board financial expertise. The goal of this research was, therefore, to investigate whether the ownership structure performs a significant moderating function in the interaction between board attributes and financial risk management.

## REVIEW OF THE THEORY

The study research was guided by agency theory derived from the idea of separating ownership from control. The agency's concerns according to (Jensen & Meckling, 1976) extend to potential differences in interest between both the principal and the agent who is contracted by the principal to accomplish the obligation. In setting up a business, it reflects the division of controlling and ownership of the firm assets. Executives may participate in personal-dealing to maximize resources under their command and frequently undertake vanity projects which mostly boost their value. Shleifer and Vishny (1997) noted that there is a wealth of empirical evidence showing that agency costs in the corporation are genuine, pervasive and possibly significant. In this regard, the agency's management of risk disputes arises when the agent and the principal have distinct opinions on the quantity of residual risk

to be borne by the company. According to Smith & Stultz (1985), managers incline to be risk-reluctant than shareholders since a bigger portion of their wealth, including their human capital, is linked to the achievement and ongoing presence in the enterprise. In view of their command over working practices, managers have the capacity to set the threshold of risk that maximizes their own value, as opposed to the level that maximizes shareholder value (Jankensgård, 2019).

According to the agency theory (Fama, 1980), the presence of autonomous executives in the company narrows the issues relating to the agency by adequately tracking the conduct of managers. The theory indicates that potential conflicts among managers and stockholders of firms in relation to the inability of owners to perfectly monitor their managers may reduce the entities' net worth and hence negatively affect their value. It is therefore assumed that because of the detachment of possession as together with control, agents may be unable to straighten their selfish driven interests within the company in line with the owners. Unless otherwise limited, executives will conduct convenient actions which may be destructive to the principals' monetary well-being (Rashid, 2016). However, agents will indeed be inspired to operate for the greatest concerns of shareholders (Rashid *et al.*, 2010) only when there is a managerial motivation to do so in the manner of board members who lays the benchmark for less self-interested actions of managers.

The theory as pointed by (Mayers & Smith, 1987) expounds a probable discrepancy between owners, managers as well as debt holders owing to asymmetries in income allocation resulting in taking of excessive risk by the firm. Agency theory continually shows that hedging policies have a significant influence on shareholder worth. The theory conveys strong support on hedging as a reaction to the divergence between managerial incentives and shareholders' concerns. To ease the agency's problems, the corporate board takes a main function in overseeing management as well as straightening its interests with the owners' desires (Rose, 2005). The board is regarded as the main player in a company governance device (Brennan, 2006), as the board supervisors together with oversees management, at the same time provides strategic direction to managers who can undertake the measures and ratify management plans (Jonsson, 2005).

Existing agency theory recommends a series of procedures aimed at reconciling the concerns of shareholders together with managers, through the application of interior control systems by non-administrative directors (Shleifer & Vishny, 1986). Fama & Jensen (1983) noted that the logical repercussion for corporate governance from the perspective of agency hypothesis is that regulatory structures need to be implemented so as to protect cases of conflict of interest that may exist among the principal and the agent. Corporate risk management is often observed as a suitable component of the governance framework because of corporate outrages and the development of latest corporate governance systems.

### **Board Financial Expertise and Financial Risk Management**

The collapse of multiple internal governance structures has often been quoted as the primary contributors to the global economic crisis between 2007 and 2008 (Bebchuk *et al.*, 2010, Hashagen *et al.*, 2009). It is imperative to note that monetary knowledge is vital in understanding the difficult transactions of the company as well as the exposures linked with entities' plans. Furthermore, various company boards lacked adequate financial expertise in identifying and controlling the exposure levels (Srivastav & Hagendorff, 2016). Therefore in this regard, it is prudent that directors' expertise in terms of the financial knowledge is vital

for effective decision making by the board. It is the source of legitimacy and power that determines a director's contribution to board deliberations (Srivastav & Hagendorff, 2016).

Management of risks is linked to a certain array of capabilities that managers might poses. Among the broad spectrum of skills that managers may have, Chhaocharia & Grinstein (2007) proposed that monetary knowledge is crucial for any board to work efficiently. As a result, boards having a greater proportion of autonomous directors that have monetary knowledge are anticipated to handle business risks more efficiently through creating less risky choices. Accordingly (Acharya *et al.*, 2012) noted that financial expertise among board members inspires management in employing hedging derivative tools in alleviating against future uncertainties. In addition (Fama & Jensen, 1983) argued that members of the board are mandated in administering the organization hence they are required to have an understanding of the entire organization which will enable them to execute their responsibilities flawlessly.

*H<sub>1</sub>: Board financial expertise does not significantly affect financial risk management*

### **Board Independence and Financial Risk Management**

The literature on corporate governance broadly documents boards executives' independency as one of the effective ways in monitoring the management where board independence rises with the section of directors' independence on the board. Fama (1980) considers autonomous directors to be referees whose job is to guarantee that the board as the supreme internal monitoring for corporate decision-making and safeguarding the welfare of owners. Additionally, boards with a higher percentage of autonomous executives have significant control over managerial actions (Fama & Jensen, 1983). Empirical verification demonstrates that the beneficial effect of an autonomous board on a wide spectrum of the board decisions tends to support the concept that the monitoring efficiency of the board improves with the percentage of independent outside directors. Farrar (2005) indicates that autonomous directors perform a significant function in long term firm arrangement as well as risk mitigation processes. Fernandes (2008) further observed that companies having non-administrative directors have little matters with the agency and better-aligned interests of shareholders and managers.

The respective corporate governance report, (OECD, 2004) stresses the significance of raised non-administrative representation on boards implying that non-administratives are likely to bring greater autonomy and objectivity to board resolutions. The impact of the outside executives was explored by (Mardsen & Prevost, 2005) in a sample of non-monetary firms recorded on the New Zealand Stock Exchange. They discovered that firms with increased growth potential and a larger proportion of external board members are less probable to employ hedging tools to handle exposures. They further looked at the influence of the structure of ownership on block holders as well as insider shareholders but did not find any statistical significant findings indicating strong support for the utilization of hedging instruments. Additionally, the board independence was examined by Borokhovich *et al.*, (2004) and the findings of the statistics revealed that the effect of self-governing external directors was statistically significant and constructively relating to the management of corporate risk. In another study, (Dionne & Trikki, 2013) centered on the proportion of autonomous directors on the boards, and the outcomes disclosed a significant and positive connection between management of risk by firms and independence of the board implying that the board independence is an essential governance attribute.

*H<sub>2</sub>: Board independence does not significantly affect financial risk management*

### **Moderating role of Ownership Structure between Board Attributes and Financial Risk Management**

It has been asserted by scholars like (Abraham & Cox, 2007; Beattie *et al.*, 2001) that the board attributes which in this research is represented by board independence together with board financial expertise, as well as ownership structure, could have an impact on management of financial risks through the utilization of hedging instruments. The ownership structure according to (Razali & Tahir, 2011) is characterized as the structure of the owners in terms of shares held. Shareholders with substantial stakes in the firm (Wright *et al.*, 1996) can shape the structure of risk management, which can affect the ability of a company to compete and eventually survive in a complicated business setting. Variations in corporate governance perform a considerable role in the management of risk. In addition, Owusu-Ansah (1998) established that the ownership structure and financial risk management link is detailed by agency hypothesis because modern corporations are differentiated by the disengagement of ownership from control. In addition, Jensen & Meckling (1976) argued that agency problems were declining when managerial ownership increased as the financial interests of corporate insiders and shareholders progressively converged.

The corporate governance outlines and ownership structure connectively influence hedging behavior. The tendency of managers to hedge may be influenced by the corporate governance environment (Lel, 2006) as well as the ownership structure of companies (Tufano, 1996). Where safety is fragile, managers tend to utilize hedging tools for their own advantage. When investors need better transparency and improved monitoring, the probability of the corporations to hedge increases (Lel, 2012). In addition, Hutson & Stevenson (2010) found a unconstructive association between creditors' rights and firms' publicity and that an excellent corporate governance atmosphere enhances firms to involve in hedging actions. Allayannis *et al.*, (2012) observed that tightly controlled businesses are much additionally inclined to be hedged with derivatives. Interestingly, Fauver & Naranjo (2010) found that hedging has adverse valuation consequences on companies having weaker corporate governance together with lesser monitoring circumstances.

It is argued that ownership structure mitigates the free-riding issues of corporate control connected with a dispersed principal. In the same way, large shareholders possess incentive to apply greater supervision and control over leadership in order to minimize agency issues and boost their oversight capacity in the entity where they invest. Demetz & Lehn (1985) contend that executives' actions are less observable in firms experiencing a more uncertain environment and therefore the rewards of ownership are higher. According to Osuoha, (2013) ownership structure forms the choices of companies with respect to hedging operations. In this regard, the inside block holders of companies have distinct incentives than outside block holders. Divergence of interest amongst inside and outside block members may subject companies to economic hazards (Allayannis *et al.*, 2012). However, the utilization of derivative tools provides a suitable way in reducing risks faced by corporate entities and therefore it needs to be taken into consideration by managers who have been entrusted to run the company. The implications of using derivative instruments as a hedging mechanism enhance the value of corporate share price.

Similarly, Boubaker *et al.*, (2010) verified the impact of the ownership concentration on the use of derivatives as a means of management risk. They discovered that the ownership level of companies had a significant impact on the choices of companies regarding the utilization of derivatives tools. The impact of family-controlled businesses in the use of derivatives was investigated by (Hagelin *et al.*, 2006) and indeed the findings show that the greatest shareholder in a family-owned and family-controlled business was significantly and negatively associated with corporate hedging. Spano (2007) argued that executives with a greater shareholding proportion were positively using derivatives to reduce risk in the best interests of shareholders.

The results of Al-Shboul & Alison (2009) who studied institutional ownership impact on the ownership of managers by using hedging tools through the ownership structures revealed that institutional ownership is substantially and favorably closed to foreign exchange derivatives, while directors ownership wasn't substantially associated to the utilization of derivatives in reducing foreign-exchange vulnerability. Conversely, Wang & Fan (2011) revealed that internal block owners holding 5% or greater of the ordinary stock in a business are negatively linked to the application of derivatives in reducing risks as they favor mitigating the risks by expanding their portfolio in greater than one business. Certainly, Whalley (2008) considered the effect of executive ownership on hedging and presented proof that managers constructively utilize derivatives in hedging and improving the intrinsic worth of their stock alternatives, while stock ownership may fail to inspire them to just use derivatives, while Lel (2006) found no support between the block owners and management of corporate risk.

Ownership structure which is an outward control system, hasn't been argued broadly in a board governance perspective. Paligorova (2010) noted that the outcome of ownership structure and management of corporate risk is not extremely clear and depends on the finest balance among the costs incurred and benefits accrued on high ownership chances. The agency's theory advocates that structure of ownership in the firm acts as a catalyst in mitigating the principal-agent conflict by improved monitoring and control. It believes that managers are risk-reluctant when laboring only as agents as well as shielding their individual interests, whereas shareholders are risk-impartial since they can vary their particular types of risk. The concept of agency hypothesis according to (Jensen & Meckling, 1976) indicates that ownership structure influences management of risk via its influence on management decisions. In this perspective, the existence of great shareholders may affect the managers' economic choices because they have the authority and resources to actively monitor and influence executives with the objective of maximizing the earnings. Similarly, Jiang & Kim (2015) noted that institutional investors are additionally lively in monitoring management when they are the major stockholders. Additionally, from the institutional viewpoint (Laporta *et al.*, 1997), noted that countries where investor's protection is fragile, ownership structure acts as an efficient outside control mechanism.

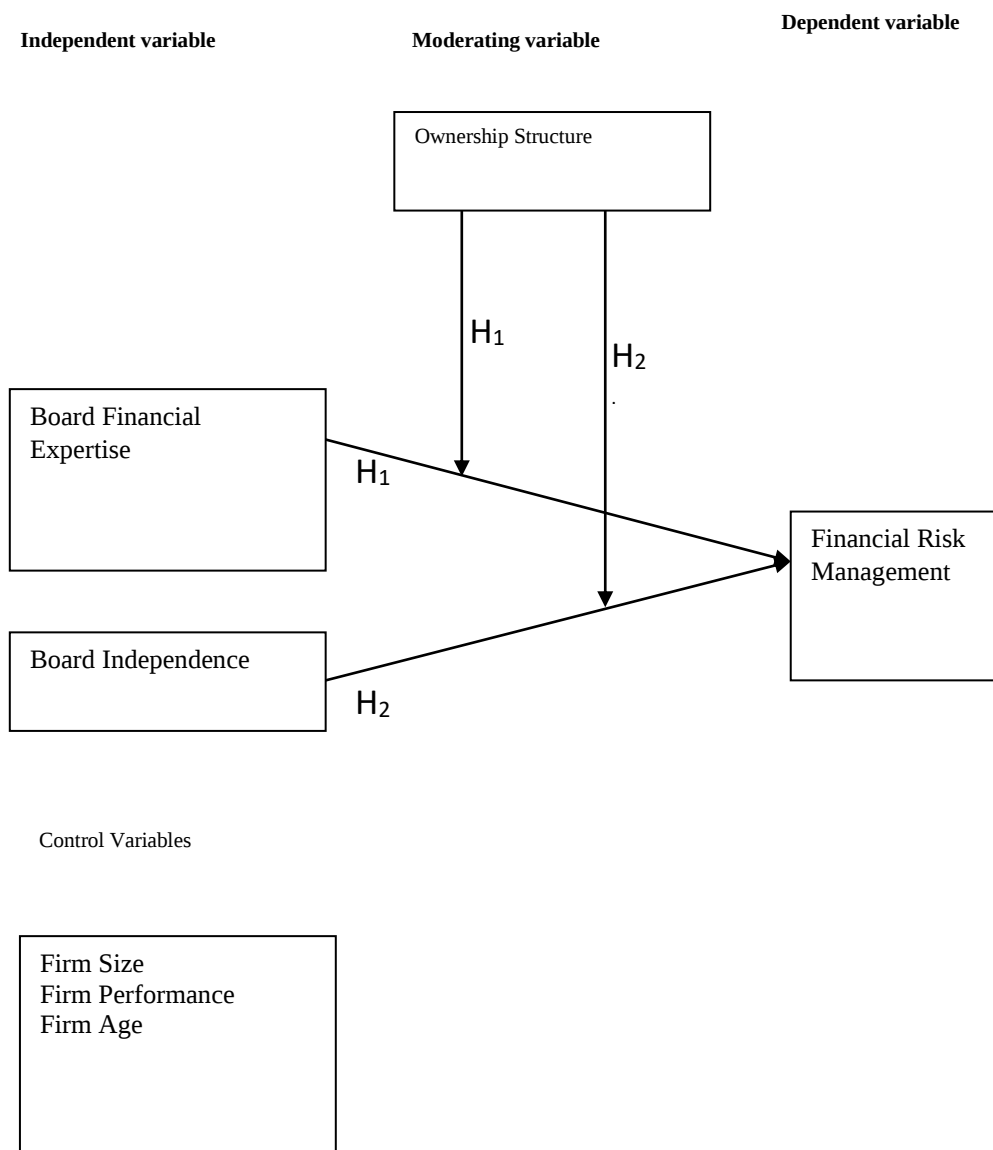
Ownership structure leads to confiscation of wealth by the key shareholders (Laporta *et al.*, 1999). In a nation where the lawful framework of insignificant shareholders interest protection is fragile, controlling shareholders may redirect corporate resources for their private advantage (Li *et al.*, 2015). Consequently, where large shareholding exists, the standard principal-agent dispute may be a principal-principal dispute where the rights of insignificant shareholders may be expropriated by controlling shareholders (Filatotchev *et*

*al.*, 2013). In order to tackle this issue, Young *et al.*, (2008) suggested that autonomous managers are employed primarily to safeguard minority shareholders' interest and to retain controls as well as checks on the efficient functioning of the company. Hence, drawing from agency theory and empirical reviews, the study assumed that;

H<sub>1a</sub> Ownership structure does not moderate the link between board financial expertise and financial risk management.

H<sub>2b</sub> Ownership structure does not moderate the link between board independence and financial risk management.

### Conceptual framework



Source: Survey Data

## METHODOLOGY

This study used a longitudinal design with a positivist approach. The research focused solely on the attributes of the board, the ownership structure as the moderator and financial risk management as the outcome variable in determining whether there is any indication of the interaction on the link amongst the study variables. The target population was 67 listed firm in Kenya while the sample included 41 non-financial companies based on inclusion-exclusion criteria from 2010-2017 giving a total of 328 firm year observations. The document analysis guide was employed to gather secondary data from the annual reports and audited financial statement which was sourced from capital market authority and downloaded from <http://www.cmarp.or.ke/index.php/financial-reports-accounts>, companies' website and <http://africanfinancials.com>. Under International Accounting Standards 32 and 39, it is the requirement that the company must reveal the usage of financial derivative tools in their financial reports.

### Variables Measurements

**Table 1: Variable Measurements**

| Variables                   | Symbols | Measurement                                                                                      | Empirical Studies             |
|-----------------------------|---------|--------------------------------------------------------------------------------------------------|-------------------------------|
| Dependent Variable          | DV      |                                                                                                  |                               |
| Financial Risk Management   | FRM     | Dummy variables 1 for hedgers users and 0 for non-hedgers                                        | Géczy <i>et al.</i> , (1997). |
| <b>Independent Variable</b> | IV      |                                                                                                  |                               |
| Board Financial Expertise   | BFE     | The number of members of the board with financial experience.                                    | Minton <i>et al.</i> , (2014) |
| Board Independence          | BI      | The proportion of directors' independence divided by the total number of directors on the board. | Ferreira & Kirchmaier, (2013) |
| <b>Moderator</b>            | M       |                                                                                                  |                               |
| Ownership Structure         | OS      | Percentage of stocks held by the top 5 largest shareholders over total shares.                   | Demsetz & Villalonga, (2001)  |
| <b>Control Variables</b>    | C       |                                                                                                  |                               |
| Firm Size                   | FS      | Natural log of total assets.                                                                     | Laeven <i>et al.</i> , (2014) |
| Firm Performance            | FP      | Measured as ROA                                                                                  | (Chen <i>et al.</i> , 2005)   |
| Firm Age                    | FA      | Total number of years a company has been in operation since registration.                        | Yasuda, (2005)                |

A panel data framework was used and the hierarchical binary logistic regression was employed to test the hypothesis because the kind of the data of the outcome variable is non-linear 1 for hedgers, 0 for non-hedgers hence Peng *et al.*, (2002) recommend that logistic regression is appropriate for analyzing non-linear data. By following (Fok *et al.*, 1997) logistic regression analysis was utilized to establish the interaction of ownership structure on the association between board attributes and financial risk management. The following equation was estimated:

$$\text{logit}(y) = \beta_{0it} + C + \varepsilon_{it} \dots \dots \dots \text{MO}$$

DEL 1

$$\text{logit}(y) = \beta_{0it} + C + \beta_1 X_{1it} + \beta_2 X_{2it} + \varepsilon_{it} \dots \dots \dots$$

MODEL 2

$$\text{logit}(y) = \beta_{0it} + C + \beta_1 X_{1it} + \beta_2 X_{2it} + \beta_3 M_{3it} + \varepsilon_{it} \dots \dots \dots$$

...MODEL 3

$$\text{logit}(y) = \beta_{0it} + C + \beta_1 X_{1it} + \beta_2 X_{2it} + \beta_3 M_{3it} + \beta_4 X_{1it} * M + \varepsilon_{it} \dots \dots \dots$$

.....MODEL 4

$$\text{logit}(y) = \beta_{0it} + C + \beta_1 X_{1it} + \beta_2 X_{2it} + \beta_3 M_{3it} + \beta_4 X_{1it} * M + \beta_5 X_{2it} * M + \varepsilon_{it}$$

...MODEL 5

Where,

$\beta_{0it}$  = The constant of equation,  $C$  = Control variables (firm size, firm performance, and firm age),  $X_{1it}$  = Board financial expertise,  $X_{2it}$  = Board independence,  $M$  = Ownership structure,  $\beta_1 - \beta_5$  = Coefficient of estimates,  $\varepsilon_{it}$  = Error term and  $\text{logit}(y)$  = Likelihood of utilizing hedging instruments used in this study to measure financial risk management.

## RESULTS AND DISCUSSION

The descriptive statistical results revealed that management of corporate risk which is a practice of creating a company's economic value by using financial instruments to manage firm exposures and hedge against uncertainties was at a mean of 0.49, the standard deviation of 0.50, Skewness of 0.05 and kurtosis of 1.00. The statistics findings demonstrate that approximately 49 percent of firms have adopted financial derivative instruments as the risk management tools, implying that the usability of hedging instruments was relatively low in the study which was employed as a substitute of management of corporate risk by Kenyan non-financial listed firms.

**Table 1: Descriptive Results of Study Variables**

| Stats                     | Obs | Min   | Max   | Mean  | SD   | Skewness | Kurtosis |
|---------------------------|-----|-------|-------|-------|------|----------|----------|
| Financial Risk Management | 328 | 0     | 1     | 0.49  | 0.50 | 0.05     | 1.00     |
| Board Financial Expertise | 328 | 0     | 4     | 0.67  | 0.78 | 1.42     | 5.19     |
| Board Independence        | 328 | 1.1   | 4.24  | 0.46  | 1.01 | 0.77     | 8.95     |
| Ownership Structure       | 328 | 0.15  | 5.61  | 2.70  | 1.59 | 2.21     | 9.14     |
| Firm Size                 | 328 | 2.11  | 2.42  | 2.27  | 0.06 | 0.12     | 3.09     |
| Firm Performance          | 328 | -6.78 | 1.96  | -3.09 | 1.37 | -0.64    | 3.90     |
| Firm Age                  | 328 | 8.69  | 49.27 | 27.50 | 0.91 | 1.08     | 3.63     |

**Source:** Survey Data

The moderating effect was tested in a series of hierarchical blocks in Table 2 below. In model 1, the control variables were tested which included firm size, firm performance and firm age. In model 2, predictor variables were tested and ownership structure which is a moderator was also tested so as to establish the contribution in model 3. The interaction

terms in models 4 and 5 between board financial expertise\*ownership structure and board independence\*ownership structure were hierarchically tested.

The first hypothesis  $H_1$  showed that board financial expertise had a positive and significant effect on the outcome variable ( $\beta = 0.73$ ,  $p < 0.05$ ). The implication is that a rise in the financial expertise of the board brings about better management of risks by marginal change of 0.73. Board professional experience is a key determinant of boards' ability to make firm strategic decisions regarding hedging mechanisms.

The second hypothesis  $H_2$  indicated that board independence had a negative and statistically significant influence on financial risk management ( $\beta = -1.25$ ,  $p < 0.01$ ). The implication is that an increase in the number of board members is a deterrent to management of risks in the firm. The reason behind this could be that board members' independence may have a preference for the diversification of their investment portfolios in more than one firm with the goal of decreasing risk and maximizing the returns.

The third hypothesis  $H_{1a}$  showed that ownership structure does not moderate the interaction between the financial knowledge of the board and financial risk management. The regression coefficient value for the interaction exerted a positive value on management of risks but the influence was not significant statistically based on the coefficient of estimates  $\beta = 0.12$  and  $p$ -value greater than 0.05. The results indicated that ownership structure had a positive and no significant moderating effect on the link between the financial knowledge of the board and management of risk. Owing to the insignificant  $p$ -value, the hypothesis was therefore not rejected. Therefore board financial expertise does not significantly moderate the connection between the predictor variable and financial risk management.

The fourth hypothesis  $H_{2b}$  stated that ownership structure does not moderate the association between board independence and financial risk management. From the statistical findings, it was evident that the regression coefficient of the interaction term of ownership structure on the association between board independence and financial risk management was at ( $\beta = 0.75$ ,  $p < 0.05$ ). The results suggest that ownership structure positively and significantly moderates the interaction between the predictor and the outcome variable hence the hypothesis was therefore rejected. The implication is that the ownership structure brings about greater utilization of derivatives in protecting shareholders' interest and enhancing shareholders' value.

The hierarchical binary logistic regression findings disclosed a rise in Pseudo  $R^2$  with the addition of variable blocks. For instance, the control factors (firm size, firm performance and firm age) contributed to Pseudo  $R^2$  of 2%. With the addition of predictor variables in model 2, they jointly contribute to Pseudo  $R^2$  of 20% (Pseudo  $R^2$  change of 18%). The statistical results revealed that board financial expertise had a positive coefficient and statistically significant at  $p$ -value less than 5% while board independence had a negative coefficient and statistically significant at  $p$ -value less than 1%.

When ownership structure which is the moderator in model 3 was introduced to the model, the Pseudo  $R^2$  increased to 26% (Pseudo  $R^2$  change of 8%) which was statistically significant ( $p < 0.05$ ). However, when ownership structure was moderated with board financial expertise in model 4, it was evident that the interactions were positive and insignificant at the  $p$ -value of more than 5% ( $p > 0.05$ ). The Pseudo  $R^2$  change of board

financial expertise was minimal at 1% (increase in Pseudo R<sup>2</sup> from 26% to 27%). The addition of the interaction of ownership structure in model 5 positively moderates the association between board independence and financial risk management and the Pseudo R<sup>2</sup> increased to 31% (Pseudo R<sup>2</sup> change of 4%) which was statistically significant at p<0.05. The general model of moderation showed that Pseudo R<sup>2</sup> improved from 26 percent to 31 percent, suggesting that the structure of the shareholders in terms of shareholdings shapes the choices of companies on hedging operations. This agrees with the outcomes of Wright *et al.*, (1996), which concluded that shareholders with substantial stakes in a firm can shape the nature of their risk management, which may influence the capacity of a company to compete and ultimately its survival.

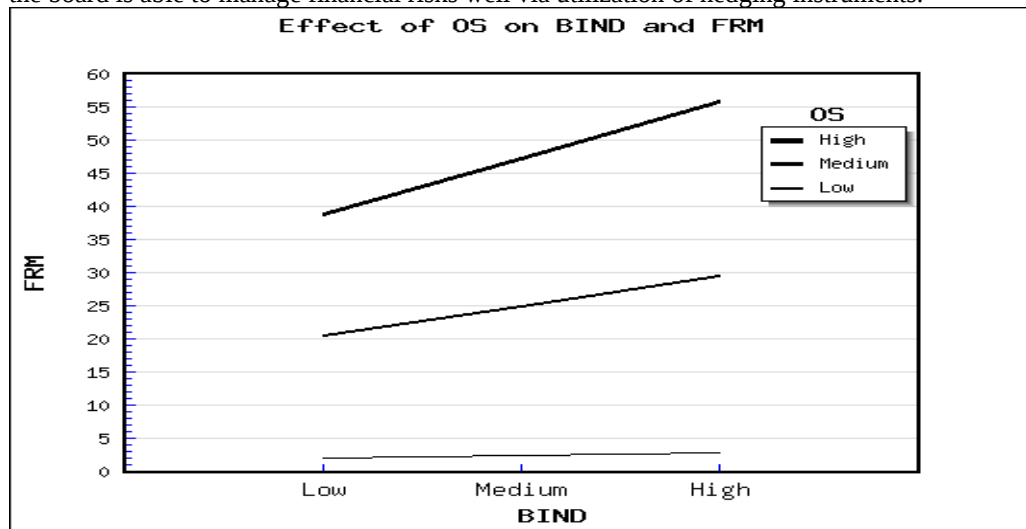
**Table 2: Hierarchical Logistic Regression**

|                                 | Model 1                 | Model 2    | Model 3    | Model 4     | Model 5    |
|---------------------------------|-------------------------|------------|------------|-------------|------------|
| Financial Risk Management       | Coef.                   | Coef.      | Coef.      | Coef.       | Coef.      |
| <b>_cons</b>                    | 7.34(5.28)              | 2.01(6.76) | 3.21(7.26) | 4.28(7.46)  | 4.68(7.70) |
| <b>Controls</b>                 |                         |            |            |             |            |
| Firm Size                       | 3.7 (2.33)<br>0.22(.11) | 0.94(3.01) | 1.71(3.21) | 2.12(.3.29) | 2.84(3.42) |
| Firm Performance                | *                       | 0.24(.17)  | 0.16(.17)  | 0.16(.18)   | 0.20(.18)  |
| Firm Age                        | -0.14(.17)              | -0.09(.29) | -0.30(.31) | -0.29(.31)  | -0.26(.32) |
| <b>Predictors</b>               |                         |            |            |             |            |
| Board Financial Expertise       |                         | 0.73(.31)* | 0.82(.35)* | 0.56(.47)   | 0.50(.47)  |
| Board Independence              |                         | 1.25(.38)* | 1.37(.41)* | 1.37(.41)*  | -          |
| <b>Moderator</b>                |                         | *          | *          | *           | 3.7(.11)** |
| Ownership structure             |                         |            | 0.39(.15)* | 0.32(.18)   | 0.68(.23)* |
| <b>Interactions</b>             |                         |            |            |             |            |
| BFE*OS                          |                         |            |            | 0.12(.16)   | 0.19(.17)  |
| BIND*OS                         |                         |            |            |             | 0.75(.31)* |
| <b>Model summary statistics</b> |                         |            |            |             |            |
| LR chi2                         | 6.15                    | 37.23      | 46.28      | 46.87       | 54.03      |
| Prob > chi2                     | 0.10                    | 0.00       | 0.00       | 0.00        | 0.00       |
| Log likelihood                  | -132.13                 | -74.87     | -65.57     | -65.27      | -61.69     |
| Pseudo R2                       | 0.02                    | 0.20       | 0.26       | 0.27        | 0.31       |
| Pseudo R2 change                | 0.00                    | 0.18       | 0.06       | 0.10        | 0.04       |

Standard error statistics in parentheses, \*\* p < 0.01, \* p < 0.05.

The graphical analysis in Figure 2 revealed a strong significant impact on financial risk management when the board independence and ownership structure is on high levels, small significant impact on financial risk management when the board independence and

ownership structure is on medium levels and no significant effect on financial risk management when the board independence and ownership structure is on low levels. This indicates that as board independence increases, ownership becomes well-structured and thus the board is able to manage financial risks well via utilization of hedging instruments.



Source: Survey Data

**Figure 2: Mod graph for the moderating effect of ownership structure on the relationship between board independence and financial risk management**

## CONCLUSION AND RECOMMENDATION

Board professional experience is a key determinant of boards' ability to make firm strategic decisions regarding hedging mechanisms as it improves the risk management of non-financial listed firms. The results suggested that members of a board who are financially knowledgeable with improved ideas of the sophisticated hedging devices involved in risk management actions hence they take part more lively in hedging the firm's publicity in enhancing shareholder's worth. However, the study never found proof of any moderating role of ownership structure in the association between board financial expertise and financial risk management. The insignificance of the moderating role of the structure of ownership has shown the lack of relevance of the role of the structure of the shareholders in terms of shareholding in the connection between the financial expertise of the board and corporate risk management. According to the findings, ownership structure directly affects financial risk management but does not play any moderating role in the relationship.

Board independence caused a negative as well as significant influence on financial risk management. The results suggested that a high proportion of outside directors was detrimental to hedging activities. This is so because non-administrative directors have a tendency to diversify their portfolios in more than one firm hence, they are unlikely to be at the forefront in the use of hedging instruments in mitigating exposures. However, the direction of the connection between board independence and financial risk management changes with the incorporation of the ownership structure as the moderating variable. This, however, indicated that ownership structure moderates the link between board independence

with financial risk management. It is clear that whenever there are shareholders with a significant stake in a firm, the decision is made to capitalize on the application of financial derivatives to handle risk is enhanced. This shows that with highly structured ownership, the influence of board independence on financial risk management is positively enhanced.

Thus, the idea that ownership structure plays a role in firm assessments becomes even more apparent with the result that firm risk increases with the rise in the proportion of structured ownership (Dhillon & Rossetto, 2014). This indicates that the research of the connection between the ownership structure as well as the risk management shouldn't be restricted to the differentiation between firms with and without concentration ownership systems or to the connection between the fractions of stocks owned by the biggest concentrated ownership. The ownership structure is an important element that plays a lively role in firm procedure. This latest approach presents the alternative of re-examining as well as re-interpreting a number of aspects of firm policies that relate to corporate governance. It is essential that regulators pursue policies that limit the structure of ownership in order to limit the likelihood of adverse effects on minority shareholders.

The research offers helpful ideas for regulators as well as policymakers from the view of exterior governance in a emerging economy such as Kenya, where investor protection is relatively weak and capital markets are still emerging, structured ownership affects the decisions made by companies and eventually the potential risk of a company, irrespective of its board independence and financial expertise. These results provide a solid basis for further research on how to advance the supervisory roles of boards so that they can assess management decisions objectively in order to enhance the value of shareholders.

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