

Effect of Audit Committee Size on Risk Management. Evidence from Selected Listed Firms in Kenya

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Abstract:- The purpose of this study was to determine the effect of audit committee size on financial risk management of 41 listed non-financial firms from 2010-2017 in Kenya. The longitudinal research design was used while the content analysis guide was used as a tool for collecting data from audited financial reports. The binary logistic regression technique was applied and the results revealed that audit committee size had a negative and significant effect on risk management ($\beta = -1.17, p < 0.05$). Thus, the study concluded that a large audit committee size reduces hedging activities. This is supported by agency theory on conflict of interest in large audit committee size. The study recommends the reduction of audit committee size so as to increase hedging activities.

Keywords: Financial Risk Management, Audit Committee Size, Firm Size, Firm Age

I. INTRODUCTION

In the wake of the latest corporate failures, a number of governance measures have been suggested to improve corporate governance, with a major emphasis on the aspect of risk management. Risk management is a vital practice in enhancing the sustainability of a company that, in the context of globalization, companies face a multitude of risks which are sometimes beyond their reach (Maruhunet *al.*, 2018). In times of uncertainty and worldwide economic crisis, the function of risk management as a platform for enterprise and business management is becoming more fundamental (Grote, 2015). Risk is an occurrence that executives will have to face in order to make a profit and avoid risk, which implies giving up the chance to make a profit. The manager requires to handle risk-stimulating parameters so that they can pursue strategic benefits and possibilities arising from potential risks (Miccolis & Shah 2000).

An effective risk management system is essential if the company is to be successful and sustainable in today's dynamic business environment. As risk management continues to develop worldwide by integrating several elements of company operations and activities, corporate governance and risk management are increasingly intertwined, highlighting the significance of interconnections and the shared influence of corporate governance decisions on general risk management policies (Lajili, 2009). Risk management is high on the corporate executive agenda, and the latest worldwide study of 690 non-financial firms has shown that 52 percent of all firms

have introduced a risk management monitoring system (Bodnaret *al.*, 2014). A comparable survey among Danish firms has presented similar findings (Aaboet *al.*, 2015). Not only do corporate managers find risk management interesting, but researchers have also been trying for years to determine how and, in particular, why companies hedge. In addition, they asserted that hedging could be used to overcome certain market imperfections, foreign exposures, interest rates, currency fluctuations, among others, and thus add value to shareholders' worth.

The weakening confidence of investors in risk management procedures, especially after the global economic crisis in 2007-2008, has made corporate governance a top priority for the board of directors, senior management, auditors and stakeholders (Sobel & Reding, 2004). As a result of this growth, knowledge of risk management is increasing and company practices are increasingly structured around risk. The scope of the audit committee has expanded attention to risk management operations, such as the identification, assessment, and tracking of risks, as well as the assessment of the implementation of risk management measures.

Currently, financial derivatives instruments that function as risk-hedging tools have become important, notably in non-financial organizations in both developed and emerging countries. The weak audit committee was blamed as one of the triggers which contributed to significant failures in risk management and as a contributing cause to the crash of many significant companies (Baet *al.*, 2018). The effect of the crisis was a wake-up call for most companies when they were unprepared and surprised by the proliferation of the crisis (Harner, 2010). Rescuing from the impacts of corporate meltdowns, policy makers and stakeholders are demanding higher oversight from organizations, particularly the board of directors and the top management, to manage the fundamental risks facing the entities. In this regard, senior managers need to take more responsibility in managing corporate risks. According to a 2011 risk study conducted by Price Water House Coopers in Kenya, 81% of Chief Executive Officers surveyed from different companies thought that the threat to their organizations was rising and traditional risks were developing (Coopers, 2012).

Previous studies have shown that the oversight function of audit committees is the main component in corporate governance, helping to regulate and monitor management

practices (Campbell & Vera, 2010; Alqatamin, 2018). In addition, audit committees enhance the quality of financial reporting and reduce audit risk, thereby enhancing the performance of earnings (Abernathy *et al.*, 2015). In latest years, the use of derivative instruments has increased as a reaction to globalization, trade liberalization and the free movement of financial resources by both domestic and multinational companies. However, Kenyan companies have not fully adopted the need for risk management tools (derivatives) and there is a lack of a vibrant derivatives market locally owing to the restricted amount of financial derivatives tools and a lack of understanding of the presence of such tools on the capital markets (Gongera *et al.*, 2013).

Markets have been characterized by enhanced uncertainty of foreign exchange rates, interest rates, market prices for securities and commodity prices and, as a result, businesses face enhanced exposure to a variety of corporate risks. Shareholder expectations are growing that management not only identifies but efficiently handles, the exposure of the company to such risks (Bodnar & Gebhardt, 1999) and risk management has become a key strategic focus for companies. One of the unresolved issues related to corporate decisions is why companies hedged with derivatives. Various explanations have been hypothesized and empirically tested in this regard, but the results are inconclusive. Prior scholarly study on derivatives has been performed on the link between corporate governance and the use of derivative instruments, particularly in advanced countries (Chaudhry *et al.*, 2014, Allayannis *et al.*, 2012; Abdul Rahman *et al.*, 2013). There is limited evidence in developing markets about corporate governance and risk management through the use of derivatives tools. The research, therefore, investigates the effect of the size of the audit committee on risk management among listed non-financial companies in the Nairobi Securities Exchange, Kenya.

II. REVIEW OF THE LITERATURE

Theoretical Review

Scholars such as (Hillman & Dalziel, 2000; Zamanet *et al.*, 2011; Mallin & Melis, 2012; Lel, 2012) are united in their view that agency theory is the most commonly cited phenomenon within the context of corporate governance. Based on the foundations of the agency theory, the conflict between executives and shareholders often motivates executives to behave in their best interests and against those of shareholders, particularly when the process involves opportunistic behavior (Jensen & Meckling, 1976). However, (Hillman & Dalziel, 2000) adds that within an agency relationship, there is an additional risk. They refer to the risk, beyond the abuse of authority, of an agent practicing an approach of caution and thus failing to exploit business possibilities. They further noted that besides the risk of abuse of power there is also a risk that the agent is not sufficiently adventurous. As a result, the agency's conflict can be reduced either by continuous surveillance by the board or by initiating risk reduction via hedge derivatives to safeguard compensation and wealth management (Lel, 2012).

Agency theory has been applied to corporate hedging as a strategy to decrease agency problems between shareholders, managers, and shareholders, thus enhancing corporate governance within a company. For instance, Allayannis *et al.*, (2012) concentrated on monitoring pressure on managers from shareholders and their impact on the value implication of derivatives. They discovered that the use of financial derivatives as a means of risk management improves the value of shareholders in well-managed companies, where executives have restricted powers to exercise financial instruments for speculation or self-interest, thus decreasing uncertainty.

Review of Related Literature

The occurrence of numerous corporate fraudulent scandals has highlighted the relevance of the role of audit committees in the organizations. The term audit committee size denotes a committee set up by the board of directors of a business to oversee the company's accounting, risk management and financial reporting operations (Malik, 2014). The size of the audit committee is regarded to be one of the vital and important participants in corporate governance as it assists the board of directors in fulfilling its duties of supervising corporate management tasks (Li *et al.*, 2012). The size of the audit committee, therefore, plays a main role in tracking risk management exposures and internal control. As a result, an efficient audit committee improves the financial reporting process and thus reduces the information asymmetry between management and stakeholders and therefore reduces the costs of the organization (Bédard & Gendron, 2010).

In reaction to the financial crisis, audit committees were set up by corporations as part of a series of accounting initiatives aimed at improving corporate governance procedures, restoring investor trust in listed companies and promoting stock market regulation in the capital markets (Alqatamin, 2018). The function and obligation of the audit committees are therefore to give guidelines on the appointment and change of external auditors, the monitoring of executives and the assessment of the internal control system of the company (Aldamenet *et al.*, 2012). According (Zabriet *et al.*, 2016) the postulated that knowledgeable audit committees help enhance the company's performance and financial derivative usage. Audit committees with financial expertise and experience should be able to detect irregularities in the financial reports, and this will reduce the likelihood of financial risks (Aliet *et al.*, 2017).

In setting without tracking instruments and efficient market regulation, executives are more likely to deviate from the protection of shareholders' interests (Al-Matariet *et al.*, 2012). The presence of successful and efficient corporate governance procedures, such as the audit committee, is therefore crucial to the reduction of such disputes and the achievement of successful hedging operations (Abdullah, 2001). The audit committees, therefore, play an essential role in the monitoring and supervision of the management of the business with a perspective to safeguarding the interests of the shareholders of the company (Kallamu & Saat, 2015). This is because the oversight of the integrity of the financial statements, the review of internal financial

measures and the internal control as well as risk management systems of the company are among the fundamental tasks of the audit committee. Boards with a separate risk committee (including audit committees specifically recognized as performing a risk committee function) are anticipated to be less probable to participate in excessive hedging.

The audit committee is one of the key and important participants in corporate governance as it assists the board in fulfilling its duties in supervising corporate governance (Liet *et al.*, 2012). The size of the audit committee improves the financial reporting process and therefore reduces the asymmetric information between management and shareholders. Accordingly, the audit committee holds and strengthens public trust in the authenticity and impartiality of financial reporting by enhancing government reporting procedures (Bedard & Gendron, 2010). As a result, the size of the audit committee would be essential in determining its significance in the company for the implementation of important decisions affecting the risk management strategy of the company. More executives on the audit committee are more likely to attract a variety of opinions, knowledge, experience, and abilities to guarantee efficient surveillance of the company activities (Bedard & Gendron, 2010). As a result, a greater percentage of audit committee members are likely to assist such a committee to identify and resolve possible problems in the corporate review process (Li *et al.*, 2012). This indicates that the audit committee size is an integral factor for corporate governance to adequately oversee risk management.

Larger committees will have access to more experience and a larger knowledge base that will enable them to resolve problems without having to depend on outsourcing consultancy services as stated by (Archambeault & DeZoort, 2001). A study conducted by Dionne *et al.*, (2013) investigates whether the New York Stock Exchange and

SOX requirements for publicly listed companies to have a minimum of three members are valid and contribute to better risk management. The results support the argument that audit committees with at least three members would induce increased hedging by the firm. Audit committee size appears to be the most important audit committee characteristic as it synthesizes all the other attributes including independence, resources, and expertise (Dhaliwal *et al.*, 2006). Others (Dellaportas *et al.*, 2012; Madawaki & Amran, 2013) suggest that larger audit committees command more power, status, and resources thus provide better monitoring and are better placed in detecting problems and fraud and this would result in better internal control.

It is reported that the adequate size of the audit committee could be more efficient in handling company problems (Sultana *et al.*, 2015). According to agency theory, the effectiveness of monitoring and team synergy can be strengthened by the size of the small audit committee (Jensen, 1993; Hillman & Dalziel, 2003). It is asserted that a rise in the size of the audit committee may result in a deficiency of active involvement by certain directors, which may, in turn, undermines cohesiveness in policy-making and negates control and monitoring operations (Sharma *et al.*, 2008). In addition, Bédard & Gendron (2010) affirmed that the small size audit committee has a wide range of skills and can guarantee suitable oversight. The findings by Yatim (2009) showed a positive and significant association between the size of the audit committee and the management of risk. This suggests that large audit committees are likely to enhance the quality of internal control, thus supporting the establishment of risk management models.

H₁: Firms with large audit committee size have a higher probability of managing risk

Conceptual framework

Independent variable

Audit Committee Size

Dependent variable

Risk Management

Control variables

Firm Size
Firm Age

Source: authors

III. RESEARCH METHODOLOGY

The study adopted the longitudinal research design which involves repeated observation of the same items over long periods of time. According to Zikmund *et al.*, (2013) the design of the study lays the requirements for data collection

and evaluation in a way that seeks to combine significance for study purposes and procedures. In this regard, the current study's knowledge about the phenomena under investigation. Audit committee size and financial risk management were gathered through quantitative measurement in longitudinal research design using content

analysis by reading and analyzing audited annual reports/financial statements of each non-financial listed firms at Nairobi Securities Exchange over the eight years from 2010 to 2017 by using inclusion/exclusion criteria. Hence, a total of 41 listed non-financial firms that fit the requirements of the study were included in the study resulting in 328 firm-year observations. According to International Accounting Standards (IAS) 32 and 39, firms must disclose their usage of hedging tools in their financial reports.

Measurement of Variables

Table 1: Measurement of Variables

Variables	Measurement	Empirical Studies
Dependent Variable		
Risk Management	Binary 1 for derivative users and 0 for non-users	Allayannis & Ofek, 2001
Independent Variable		
Audit Committee Size	Number of directors in audit committee	Henry (2010)
Control Variables		
Firm Size	Natural log of total assets.	Becket <i>et al.</i> , (2008)
Firm Age	Number of years a firm has been in operation	Yasuda, (2005)

Analytic model

A panel data framework was used to test the hypotheses. To study the probability that a firm utilizes financial risk management, binary logistical regression was used. A logistic regression model measures the relationship between a binary dependent variable and the explanatory variables by estimating probabilities (Brooks, 2008). The binary logistic regression model (logistic transformation of probability) was applied in the study to test the hypotheses formulated and is expressed as:

$$logit(Y) = \beta_{0it} + \beta_1 X_{1it} + \varepsilon_{it}$$

Table 2: Descriptive Results of Study Variables

Stats	Obs	Min	Max	Mean	Sd	Skewness	Kurtosis
Risk Management	326	0.000	1	0.488	0.501	0.049	1.002
Audit Committee Size	307	1.000	5	3.625	0.943	0.599	3.364
Firm Size	327	8.250	11.2754	9.658	0.606	0.074	3.159
Firm Age	327	9.000	108	47.661	36.750	0.447	2.297

Source: authors

Audit committee size against risk management

The study sought to find out if there is a significant difference between audit committee size and risk management. From table 3, the statistical findings revealed that there is no significant difference between audit committee members that are adopters (mean = 3.572) and

Where;

$logit(Y)$ = The probability of using derivatives as a proxy of financial risk management

β_0 = The constant of the equation

β_1 = The parameters (coefficient of estimates)

X_{1it} = The measure of audit committee size

ε_{it} = is the error term

IV. FINDINGS

The summary statistics for risk management, audit committee size, board financial expertise firm size, firm age, and firm performance are presented in table 4.1. Findings showed that the audit committee size was composed of members which ranges between 1 member and 5 members with the (mean = 3.625, SD = 0.943, Skewness = 0.599 and Kurtosis = 3.364) implying that the average size of audit committee members on the board is 3 who are entrusted in overseeing the accounting, risk management and financial reporting activities of the firm. However, the statistics results revealed that firms have been in operation for the past 47 years ranging between 9 years and 108 years with a (mean = 47.661, SD = 36.750, Skewness = 0.447 and Kurtosis = 2.297. More so firm size ranges between 8 and 11 with a mean of 9.658, the standard deviation of 11.2754, skewness of 0.074 and kurtosis of 3.159.

More findings revealed that risk management which is a practice of creating economic value in a firm by using financial instruments to manage firm risk, exposures and hedge against uncertainties was at a mean of 0.488, the standard deviation of 0.501. These statistics results suggest that 48.8% of firms have adopted financial derivatives instruments as risk management tools, implying that there is relatively low usage of financial derivative which is a proxy of risk management by non-financial listed firms in the Nairobi Securities Exchange.

those that are non-adopters of financial derivatives as risk management measure (mean = 3.669). As such, the difference is not statistically significant ($t = 0.8964, Pr(T > t) = 0.1854$) indicating audit committee size was the same for adopters and non-adopters of financial derivatives instruments which in this study is used to measure risk management.

Table 3: Audit committee size against risk management

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
0	154	3.669	0.079	0.977	3.513	3.824
1	152	3.572	0.073	0.903	3.428	3.717
Combined	306	3.621	0.054	0.941	3.515	3.727
Diff		0.096	0.108		-0.115	0.308
diff = mean(0) - mean(1)		t = 0.8964				
Ho: diff = 0		degrees of freedom = 304				
Ha: diff < 0		Ha: diff != 0		Ha: diff > 0		
Pr(T < t) = 0.8146		Pr(T > t) = 0.3708		Pr(T > t) = 0.1854		

Source: authors

Testing of the study Hypothesis and Logistic goodness-of-fit test

The Pseudo R-square 0.205 revealed that there is the existence of a relationship on the model between the variables implying that approximately 20.5% of the variation in the output can be explained by the audit committee size in the model. The contribution was statistically significant by the Prob value LR chi2 (3) of 52.72, p<0.0000 of the model which is significant at 0.01 level of confidence. Additionally, Table 4 shows the Hosmer-Lemeshow goodness of fit results. The goodness of fit tests helps to decide whether the model is correctly specified or correctly fitted. When the p-value is less than 0.05 (p<0.05), then the model is rejected and if the p>0.05,

then the model passes the test and thus the model is said to be fit (Allison, 2014). The Hosmer-Lemeshow test yielded Pearson chi² of 190.82 which has the probability of 0.2939 which is more than 5% hence insignificant (p>0.05) suggesting that the model is fit to be used.

The hypothesis stated that the audit committee size had a significant effect on risk management among listed non-financial firms in the Nairobi Securities Exchange. The study findings showed that audit committee size had coefficients of the estimate which was statistically significant based on (β = -1.17; p < 0.05) hence audit committee size had a negative and significant effect on risk management. Therefore, an increase in the audit committee size reduces risk management.

Table 4: Hypothesis testing model

Logistic regression			Number of obs	=	328	
Log likelihood = -102.037			LR chi2(3)	=	52.72	
			Prob > chi2	=	0.000	
			Pseudo R ²	=	0.205	
Risk Management	Coef.	Std. Err.	z	P>z	[95% Conf.	Interval]
Audit Committee size	-1.17	0.23	-5.08	0.00	-1.62	-0.72
Firm Size	2.74	2.74	1.00	0.32	-2.62	8.11
Firm Age	-0.26	0.19	-1.37	0.17	-0.64	0.11
_cons	-3.58	6.19	-0.58	0.56	-15.73	8.57
Logistic model for a goodness-of-fit test						
Number of observations		=	326			
Number of covariate patterns		=	326			
Pearson chi2(181)		=	190.82			
Prob > chi2		=	0.2939			

Source: authors

V. DISCUSSION

The objective of the study was to investigate the effect of audit committee size on financial risk management among listed non-financial firms in the Nairobi Securities Exchange. It was revealed that audit committee size had a negative and significant effect on financial risk management. It, therefore, implies that an increase in the audit committee size reduces financial risk management. The findings are in line with the results of (Hsu & Petchsakulwong, 2010) who found a negative and significant connection between audit

committees and risk. However, Zaman *et al.*, (2011) indicate that larger audit committees will be able to perform their role better through sharing of knowledge and which would require less outsourcing for the required services. However, Dionne & Trikki (2005) found a positive relationship that the audit committees with at least three members would induce increased hedging by the firm. The results are also in contrast with that of Zabri *et al.*, (2016) which indicated that a knowledgeable audit committee enhances the firm's performance and financial derivative usage.

As opposed to the study findings, Li *et al.*, (2012) revealed that an effective audit committee enhances the financial reporting process hence reducing information asymmetry between the management and stakeholders. In a comparable view, Krishnan & Visvanathan (2008) asserted that audit committee members with managerial expertise are guided by their knowledge base and economic forces in alleviating the risk of disputes and safeguarding corporate equity. Moreover, Abdullah (2001) argued that the audit committee in the firm is a key corporate governance mechanism in achieving good hedging activities. According to, Huang *et al.*, (2014) they found that the audit committee expertise had no significant impact on firms' decisions regarding derivative usage. However, Hillman & Dalziel, (2003) found that an increase in audit committee size can result in a lack of active participation by some directors, which in turn impairs cohesion in decision-making, and undermining the controlling and monitoring functions.

VI. CONCLUSION

The extant literature has indicated that the audit committee is instrumental in enhancing monitoring and financial risk management among firms. Despite this, there is limited evidence on whether the size of the audit committee has an influence on hedging activities. Undoubtedly, audit committee members with the financial background are expected to have an understanding of risk management operation thus they are more likely to engage actively in risk management. It appears therefore that the quality of the members of the audit committee rather than the size determines the direction of the relationship. The study contributes to the existing literature by providing empirical evidence on the relationship between audit committee size and risk management in emerging economies.

The theoretical and practical implication

This paper found that audit committee size had a significant effect on financial risk management. This finding is inconsistent with prior studies where audit committee size was found to have an influence on financial risk management. Future studies can complement this result to obtain further insight in this area. Moreover, as many of the critical decisions of boards are driven by committees, further research on their roles and status would be rewarding to provide evidence on the effect of board committees on financial risk management; examples might relate to their nomination and compensation. The conceptualization of the model extends existing studies that examined financial risk management based on agency theory using an empirical approach. This study is, however, contextualized to the non-financial listed firms in Kenya and provides a sharper lens and valuable contribution to corporate finance theories of stakeholders and agency theory which provides strong support for hedging as a response to the mismatch between managerial incentives and shareholder interests of value maximization.

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