



MODERATING EFFECTS OF BOARD EQUITY OWNERSHIP ON THE RELATIONSHIP BETWEEN ENTERPRISE RISK MANAGEMENT, REGULATORY COMPLIANCE AND FIRM PERFORMANCE: EVIDENCE FROM NIGERIA*

Idris Ahmed^a and Norlida Abdul Manab^b

^aDepartment of Business Administration, Ahmadu Bello University Zaria, Nigeria. (Email: iahmedng@gmail.com)

^bSchool of Economics, Finance and Banking, Universiti Utara Malaysia. (Email: norlida@uum.edu.my)

ABSTRACT

Risk management has become central to the financial sector development of any economy. The collapses of world leading financial institutions in 2008/2009 have raised questions about the role of risk management and compliance with regulatory provisions in shielding firms against failure. Also, the post adverse effects of the global economic meltdown have continued to undermine financial institution performance, Nigeria inclusive. The aim of this study is to examine the moderating effect of Board Equity Ownership on the relationship between ERM framework implementation, regulatory compliance and the non-financial performance of financial institutions in Nigeria. The sample of the study consists of 163 financial institutions in Nigeria. We collected data from the chief risk officers and other top level managers. The study utilized PLS-SEM path modelling with the help of SmartPLS 2.0 software to test the research framework. The findings revealed that ERM framework implementation and regulatory compliance have significant positive effects on the non-financial performance. Also, the study supported the third hypothesis that BEO strengthens the positive relationship between ERM framework adoption and the firm non-financial performance. In the case of compliance, the interaction effect (BEO*COP) did not influence the firm non-financial performance. The study recommended the need for regulatory agencies to encourage board equity ownership but with a caveat to prevent interest entrenchment that may lead to abuse.

* The paper was presented in the International Conference on Management and Communication (ICMC) on 20-21 August 2016 at the Swiss- Garden Hotel and Residences Melaka, organized by Universiti Utara Malaysia in collaboration with the State Government of Melaka, Malaysia

JEL Classifications: G32, G38

Key words: Enterprise risk management framework, Board equity ownership, Non-financial firm performance

1. INTRODUCTION

Risk management is an essential issue in the financial sector development of any economy. The collapse of world leading financial institutions such as Lehman Brothers of US, Bradford and Bingley Building Society in the UK have raised concern about the role of risk management process and the regulatory provisions of the most sophisticated world financial centers. Also, the post adverse effects of the global economic meltdown have continued to undermine financial institution performance globally.

The Nigerian financial institutions have in recent times witnessed a series of challenges. Banks and insurance companies were among the most highly hit by the global financial crises and are still suffering from the shock (Sanusi, 2010). The laxity of the regulatory agency in the system has encouraged sharp business practices which have continued to put the fortunes of a large portion of investors in extreme risk. Ibuakah (2012) reported that the Nigerian regulatory agencies were not useful for monitoring the levels of compliance and enforcement mechanisms of sound corporate governance and risk management practices. As such, the operational efficiencies of the majority of the financial institutions continued to dwindle. According to the IMF (2013), the Nigerian stock market lost approximately 70 percent of its stock value between 2008 and 2009. Subsequently, the market capitalization continued to experience an annual decline of about 17.42 percent (SEC, 2012). These adverse developments were related to the inadequacies of the risk management programs and inadequate supervisions which led to liquidation and poor performance of some financial institutions in Nigeria (IMF, 2013; SEC, 2012).

As a response to system failure, several countries had come up with corporate governance codes to guide firms' operational activities. In the United States, the Sarbanes-Oxley Act (SOX) was introduced in 2002 to control and protect from further corporate fraud in the country (Lai and Azizan, 2012). The Sarbanes-Oxley Act requires a top-down risk approach that includes identification, prioritizing and assessment of material risks for better business performance (Daud, Yazid, and Hussin, 2010). In a quest for best risk

management practices, several institutions around the world have embraced enterprise risk management (ERM).

Risk management is the process of identifying, analyzing and mitigating uncertainties associated with business decisions (Olson and Wu, 2015). It is a coordinated approach resulting in the judicious application of resources to control the frequency and severity of risks exposures across a business entity. Enterprise risk management (ERM) refers to a risk management strategy that takes into account the interrelations between different types of risks, in contrast to the silo-based risk management approach (insurance buying, physical mitigation, liability reduction). Enterprise risk management concurrently considers all forms of risks and develops mechanisms to ensure holistic management of risks and uncertainties. Enterprise risk management enables business organizations to assess, control, exploit, finance and monitor exposures from all sources to increase shareholder value (Casualty Actuarial Society [CAS], 2003). ERM has been viewed as one of the most important issues surrounding business management in recent times; its advocates believe that integrating all corporate risks within a single ERM framework will enhance long-term firm performance.

As such, studies have examined the effects of ERM implementation on firm performance (Doherty, 2000; Hoyt, Moore, and Liebenberg, 2008; Manab and Ghazali, 2013; Manab et al., 2010; Meier, 2000; Mikes and Kaplan, 2014). In some of these studies, the relationships between ERM adoption and firm performance have been mixed (Abdullah et al., 2012; Bertinetti, Cavezzali, and Gardenal, 2013; Togok, Ruhana, and Zainuddin, 2014). Few studies have examined the hypothesized benefits associated with ERM implementation. Hence, the prime objective of this study is to examine empirically the influence of ERM framework application and compliance on firm performance. The remaining part of the paper proceeds as follows. Section 2 reviews previous literature. Section 3 presents the methodology. We report the analysis and findings in Section 4, and Section 5 concludes.

2. FIRM PERFORMANCE

Firm performance is a concept that indicates the capacity of a company to achieve its objectives (Saeidi et al., 2014). The failure of the global financial system had forced business leaders to consider both financial and non-financial performance. Focusing on those measures will provide the management and the board of directors with

the requisite information concerning organizational operational efficiency. Studies have argued that placing emphasis only on the financial performance metric may not provide a clear picture of firm performance (Saeidi et al., 2014). The non-financial performance metrics can efficiently aid the company to assess the performance of enterprises visibly (Hussain and Hoque, 2002; Kaplan and Norton, 1996). In fact, on a stand-alone basis, financial ratios provide only limited information to investors (Lev and Zarowin, 1999). Nonfinancial factors comprises large set of indicators relating to some important firms characteristics, strategies, and competitive advantage, among others (Laitinen, 2004).

Increased global risk levels have created the need for companies to incorporate non-financial performance measures to identify quickly bottleneck zones capable of affecting the operating effectiveness of business operations. Companies are expected to identify risk proactively and come up with strategies and regulations that facilitate the management complex phenomena (Olson and Wu, 2015). Consequently, business leaders argued that these competitive realities have rendered the accounting based financial metrics largely inadequate in measuring firm performance (Saeidi et al., 2014), suggesting the need for incorporation of non-financial metrics.

In a nutshell, non-financial performance metrics will assist board members in identifying where operational managers are taking potentially unprofitable risks and depreciating hard-to-measure assets such as employee skill or customer loyalty (Aaron and David, 2005). Banker, Potter, and Srinivasan (2005) suggested that non-financial measures tend to be better predictors of future financial performance than financial metrics. Non-financial measures are valuable evaluators and motivators of organizational performance. They provide a tool for measuring the firm performance arising from intangibles and future cash flows not captured by traditional accounting measures (Cohen, Holder-Webb, Nath, and Wood, 2012). Nonfinancial measures possess more explanatory power when compared with financial convention ratios (Riley, Pearson, and Trompeter, 2003).

Despite the importance of non-financial metrics, little evidence exists concerning whether including nonfinancial measures in performance evaluation can drive firm performance (Banker et al., 2005). The current study considers non-financial performance measures from the perspectives of customer and business strategies that drive business operation efficiency.

2.1 ERM FRAMEWORK IMPLEMENTATION AND FIRM PERFORMANCE

According to Shortreed, Craig, and McColl (2000), ERM frameworks are guides designed to support systematic and efficient processes in achieving organizational objectives. Essentially, the framework is a requirement for managing enterprise-wide risk (Dalgles and Cooper, 2005). Moeller (2007) asserted that ERM framework is a series of steps that enable organizations to review and analyze potential risks events. Hoyt and Liebenberg (2015) argued that firms implementing ERM are more likely to understand better the risks embedded in business operations and help management with the basis for effective decisions making. Thomya and Saenchaiyathon (2015) argued that ERM is expected to influence several contextual factors that will facilitate the achievement of organizational objectives.

In fact, there is a theoretical conception that ERM adoption will improve firm performance. For example, Schmit and Roth (1990) used a survey data to examine the effectiveness of various risk management practices within the insurance industry while controlling for organizational risk characteristics. The study found that effective risk management practices lower the organization cost of capital. Similarly, Simkins and Smithson (2005) examined the value of risk management practices in institutions. Even though the study was based on a conceptual review, it reported that risk management reduces cash flow volatility and the probability of financial distress. Similarly, Hoyt and Liebenberg (2011) examined to what extent particular firms have implemented ERM programs and found that ERM (which is determined by institutional investors and firm size) is positively related to firm value.

In a comparative review of empirical research, Gatzert and Martin (2013) reported that company size and institutional ownership positively influenced ERM adoption and that ERM has a positive impact on firm performance. On the contrary, the benefits of ERM are not immediate because implementing ERM components takes time to penetrate the organizations (Moeller, 2011). In contrast, Gates, Nicolas and Walker (2012) examined the influence of ERM framework (based on four components of COSO) on firm performance in both US and Europe. They reported that ERM adoption enhanced managerial performance. Further, they linked ERM implementation to greater management consensus, better-informed decision-making and increased accountability. These suggest that the ERM implementation framework improves management decision-making ability.

Soyemi, Ogunleye, and Ashogbon (2014) used descriptive statistics and OLS regression to estimate the influence of risk management practices on firm financial performance. Their findings support that risk management depending on its robustness will affect enterprise financial performance. Though the researcher has not looked into whether the company adopts an integrative risk management strategy, the study provided evidence of how risk management practices influenced firm performance. Similarly, Adeusi et al. (2013) examined the connection between risk management practices and bank financial performance in Nigeria. Overall, the study revealed a significant positive relationship between firm performance and risk management.

In a Nigerian context study, Olamide, Uwalomwa, and Ranti (2015) reported a negative non-significant relationship between risk management practices and bank performance in Nigeria. Tahir and Razali (2011) also revealed a positive but insignificant relationship between ERM and firm performance. The study used Tobin's Q as a proxy for firm value along with other factors (Size, Leverage; Return on Asset, International Diversification). However, Lin, Wen, and Yu (2011) reported that the inability of some researchers to support the value relevance of ERM may be because ERM is still in its infancy.

However, in the context of Nigeria, most of the studies examined the traditional risk management practices which are "silo-based" to explain the influence of risk management practices on firm performance. This present study used a survey approach to examine whether an organization is using an integrative risk management approach and how the approach influences firm performance.

2.2 COMPLIANCE AND FIRM PERFORMANCE

Kelman (1958) believed that compliance is said to occur when individuals or organizations get attracted by the anticipation of expected positive reaction. Kelman reported that people may comply either because of positive expectations or to avoid specific punishments. The recent global incidents of corporate fraud had encouraged firms and the relevant regulatory agencies to enact certain regulations that will instill best business practices (Muller and Supatgiat, 2007). In fact, George, Imler, and Singer (2007) opined that business leaders need to put a mechanism that will make compliance everybody's job.

Compliance with regulations and standards is an important risk management factor that determines its success (Martens and Teuteberg, 2011). Berenbeim (2004) opined that compliance is an essential component of ERM; as such an effective ERM implementation requires a substantial reinforcement of compliance systems. Compliance can be viewed from different perspectives. For example, Martens and Teuteberg (2011) have identified two classes of compliance (compliance with regulations or compliance audits). The regulatory compliance can be categorized into internal (corporate standard or governance) and external regulations (industry standard, risk management standard, certification standard). This categorization can either be voluntary or obligatory (Antonopoulos and Gillam, 2010). Compliance describes the objectives organizations hope to achieve by taking steps to obey relevant legislation and regulations guiding business operations.

Studies have confirmed the importance of having sound relationships between corporate governance, risk management, and compliance to achieve organizational goals, enhance shareholder value and improve performance (PricewaterhouseCoopers, 2004). Shimpi (2005) argued that corporate governance and compliance are the lifeblood of ERM. Hence, compliance is considered an essential ingredient for ERM to achieve firm performance. Rosen and Zenios (2006) believed that it would be difficult for firms to achieve ERM objectives without adequate compliance with corporate governance provisions. The requirements of corporate governance are expected to support and sustain an effective risk management practices (Paape and Spekle, 2012). Similarly, Abiola and Ojo (2012) examined the impact of compliance with regulatory requirements and corporate governance on firm performance. The study revealed that compliance is positively related to firm performance. The findings cannot be generalized because judgmental sampling technique was used in the study. Likewise, Brown, Pott, and Wompener (2013) explored the effects of compliance with internal control and risk management (ICRM) reform on the earnings quality of firms in Germany. The study revealed that compliance with ICRM significantly influenced earnings quality. In contrast, Kedia, Luo, and Rajgopal (2016) reported a strong positive association between a noncompliance culture and firms' ability to misrepresent financial reports.

In the Australian context, Lama (2013) supported agency theory that complying with the best corporate governance practices influenced firm operating efficiency. The study argued that middle size companies that paid little attention to corporate governance

practices recorded poor shareholders return. However, compliance tends to improve where there is free information flow between the firm and the regulatory agencies. Veuger and Wilson (2015) argued that where frictions of information occurred between companies and regulatory agencies, it reduces the corporation compliance efforts. To enhance compliance level, information conflict between the enterprises and the regulators must be reduced. Gozman and Currie (2015) reported that the management of post-2009 global financial meltdown provides new managerial challenges that firms had to make a complicated and costly adjustment to achieve their objectives. The study revealed that the complex environment had forced financial institutions to be more meticulous in complying with regulatory provisions. They argued that adherence to specific regulations might provide an opportunity for managers to design a robust operational guide to face the challenging business environment.

In Nigeria, there is no clear evidence of the level of compliance with corporate governance and risk management among both financial and non-financial firms (Akinkoye and Olanmi, 2014). The 2009 stock market crash exposed the non-compliance attitudes of some finance companies as they were reported to engage in fraudulent business transactions.

2.3 BOARD EQUITY OWNERSHIP

Recent financial scandals have raised the issue of whether firms behave in the best interests of the shareholders. These scandals have made board oversight function critical to risk management and firm performance. The Board of Directors is expected to consider how best they could structure a strong process to enable efficient risk management (Daud, Haron, and Ibrahim, 2011). The firm supposes to work in a way that will allow management to bring critical risk management issues to the attention of the board and to assist them to understand how risks are interrelated. Caldwell (2012) affirmed that one of the major factors leading to effective risk management is the existence of proper corporate governance initiative of which board oversight is an essential attribute. For business organizations to manage risk successfully, an ERM scheme must be viewed as an important board strategic policy decision (COSO, 2004). For example, the corporate governance code of the Nigerian Security and Exchange Commission requires the board of listed corporations to oversee the establishment of a risk management framework that will enable precise definition of the company risk policy (SEC, 2011). Board of

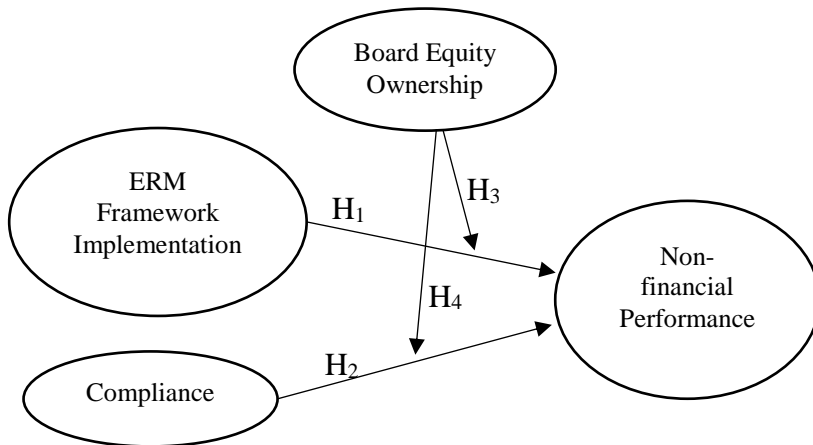
directors and senior management support is needed to get the right focus, resources and attention for efficient ERM resulting in improved firm performance.

The relationship between ownership and control have been built on the theoretical argument of Berle and Means (1932) who believed in the separation of ownership and control and the agency theory (Jensen and Meckling, 1976). By law, companies are expected to ensure that outside directors constitute the majority of the board membership. The essence is to provide a mechanism for keeping management excesses in check (Pergola, Joseph, and Jenzarli, 2009). Pergola, Joseph, and Jenzarli (2009) argued that agency conflicts of interest that arise from the argument of power separation between management and owners may not be solved through independent board mechanisms.

The proponents of stock ownership among directors have argued that equity ownership of board of directors will serve as a tool that will align the interest of the directors with the interest of the shareholders. The theory of convergence-of-interests posited that when the board of directors possesses no stock ownership, they have inadequate power to ensure effective control of fraudulent behavior. It is argued that as stock ownership among board members is encouraged, the board will align their interest with those of the stakeholders and will make decisions that will increase shareholder value (Jensen and Meckling, 1976). The boards' interests become more aligned with shareholders' interest, they become more conscientious and encourage the implementation of any policy decision that will improve the firm performance. Hence, if the convergence-of-interests theory is correct, the best strategy to improve performance is to encourage stock ownership by the board members.

Thus, in this study, board equity ownership (BEO) is defined as a strategy that provides an opportunity for the board of directors to own a certain percentage of shares in a corporation. Hence, in line with Baron and Kenny (1986), board equity ownership will be introduced with the possibility of changing the relationship between exogenous latent constructs and firm performance. The moderating variable is a variable that changes the strength or direction of a relationship between independent and dependent variables (Sarstedt et al., 2014; Sekaran, 2003). It only means that the inclusion of a third variable in a regression equation that modifies the original relationship between the independent and the dependent variables. The researcher argued that board equity ownership will encourage and ensure the operational effectiveness of ERM with a strong effect on performance.

FIGURE 1
Conceptual Model with Hypotheses



Based on the theoretical argument presented, the study developed the following hypotheses (as shown in Figure 1):

H₁: ERM framework implementation positively influence the non-financial performance of financial institutions in Nigeria

H₂: Regulatory compliance positively influence the non-financial performance of financial institutions in Nigeria

H₃: Board equity ownership moderates the positive relationship between ERM framework implementation and the non-financial performance of financial institutions in Nigeria

H₄: Board equity ownership moderates the positive relationship between regulatory compliance and the non-financial performance of financial institutions in Nigeria

3. METHODS

The population of the study comprises the five segments of the Nigerian financial sector (banking, insurance, pension, mortgage, and microfinance companies). These five areas are considered as the hub of productive activities of the Nigerian financial system, a provider of payment services and the fulcrum of monetary policy implementation (Olusegun, Ganiyu, and Oluseyi, 2013). These five sections make a

total of 270 firms (CBN, 2012). Using Krejcie and Morgan (1970) sample size table, the sample of the study is 159. To avoid the non-response problem, the sample was increased by 45% in line with Salkind (1997) suggestions. Consequently, 231 questionnaires were distributed to various financial institutions. A total of 163 questionnaires were retrieved and used for the analysis, making a total response rate of 70.56 percent. Partial Least Squares Structural Equation Modelling (PLS-SEM) was used with the aid of SmartPLS 2.0 statistical software (Haenlein and Kaplan, 2004; Hair et al., 2012). The study utilized measures developed by previous studies to measure the study variables. The ERM framework implementation scale developed by Lai (2012) was adapted to measure ERM framework application in the context of the Nigerian financial sector. The items were anchored on a 5-point Likert scale. Also, to measure board equity ownership, the perception of top level managers were asked based on the scale developed by Ammann, Oesch, and Schmid (2011). The items were rated on 5-point Likert scale. The items for the compliance construct were adapted from Manab (2009). The non-financial measures were adapted from Gates et al. (2012) and Rettab, Brik, and Mellahi (2009). All the items are rated on 5-point Likert scale from 1 = strongly disagree to 5 = strongly agree. All the items adapted were found to be suitable and reliable.

4. ANALYSIS AND FINDINGS

The model was assessed based on two criteria as suggested by Hair et al. (2014). First, we used average variance extracted (AVE), composite reliability (CR) to gauge the reliabilities of the measures used in this study. The item loadings range between 0.887 and 0.656 (see Table 1). The AVE for each of the constructs is greater than 0.5 while CR exceeded the threshold of 0.7 (Henseler, Ringle, and Sinkovics, 2009). Hence, the model has met the threshold of the two measures of internal consistency reliability (see Table 1).

Secondly, a discriminant validity test was conducted as suggested by Fornell and Larcker (1981) to ensure that all the construct are distinct (see Table 2). As shown in Table 2, the square root of each of the construct's AVE is greater than its highest correlation with any other construct. Even though we deleted some items in an attempt to fit the model; the items were not contributing in measuring the corresponding constructs.

The measurement model provides satisfactory evidence of reliability, consistency, and validity of the measurement scales.

Hence, the assessment of the measurement model confirms that the survey items are reliable and valid.

TABLE 1
Loadings, Composite Reliability and Average Variance Extracted

Constructs	Items	Loadings	Average Variance Extracted AVE	Composite Reliability
RMF	RMF1	0.754	0.588	0.895
	RMF2	0.799		
	RMF3	0.829		
	RMF4	0.801		
	RMF5	0.681		
	RMF6	0.727		
COP	COP1	0.673	0.514	0.808
	COP2	0.747		
	COP3	0.656		
	COP6	0.785		
BEO	BEO1	0.788	0.718	0.947
	BEO2	0.887		
	BEO3	0.881		
	BEO4	0.875		
	BEO5	0.841		
	BEO6	0.850		
	BEO7	0.805		
NFP	NFP1	0.835	0.708	0.906
	NFP2	0.900		
	NFP3	0.803		
	NFP4	0.824		

TABLE 2
Latent Variable Correlations and Square Roots of
Average Variance Extracted

Constructs	BEO	COP	NFP	RMF
Board Equity Ownership	0.847			
Compliance	0.065	0.719		
Non-Financial Performance	-0.331	0.147	0.841	
ERM Framework	-0.230	-0.021	0.263	0.767

4.1 ASSESSMENT OF THE STRUCTURAL MODEL

After establishing the reliability of the measures, we then assessed the structural model using four criteria. The model structural assessment explains how best the data support the theoretical assumptions. As such, to do that we used multicollinearity diagnostic test, the path coefficients, the coefficient of determination, the effect size and finally the prognostic relevance to assessing the structural model.

TABLE 3
Tolerance and Variance Inflation Factors (VIF)

Constructs	Tolerance	VIF
ERM Framework	0.981	1.019
Board Equity Ownership	0.968	1.033
Compliance	0.985	1.015

Also, the study conducted collinearity diagnostic test available in SPSS. As recommended, the tolerance and the VIF values are among the most relevant and reliable test of multicollinearity (Hair Jr, Black, Babin, and Anderson, 2010). From Table 3, it is apparent that the tolerance level is between 0.968 and 0.985 substantially greater than 0.2 and the VIF range from 1.015 to 1.033. The results indicate that multicollinearity problem does not exist in this study.

TABLE 4
Results of Hypotheses Testing (Full Result)

Hypotheses	Beta Value	Standard Error	<i>t</i> -Statistics	<i>p</i> -Value
RMF -> NFP	0.198	0.052	3.786	0.000
COP -> NFP	0.170	0.056	3.053	0.001
RMF * BEO -> NFP	0.195	0.051	3.851	0.000
COP * BEO -> NFP	0.205	0.179	1.146	0.127

Note: RMF=ERM Framework, BEO= Board Equity Ownership, NFP= Non-financial Firm Performance, COP = Compliance. *t*-value>2.58 (*p*<0.01***).

Based on the bootstrapping result indicated in Table 4, the relationship between ERM framework implementation is significant

($\beta=0.198$; $t=3.786$; $p<0.01$) for non-financial firm performance. Again, the relationship between compliance and non-financial firm performance is significant ($\beta=0.170$; $t=3.053$; $p<0.01$). As such, the results provided evidence to support the hypotheses H₁ and H₂. Similarly, the results of the moderation test revealed a positive interaction (RMF*BEO) effect ($\beta=0.195$; $t=3.851$; $p <0.01$) between ERM framework implementation and non-financial firm performance; as such, H₃ is supported. However, the interaction term (COP*BEO) is not significant ($\beta=0.205$; $t=1.146$; $p>0.10$), hence the hypothesis (H₄) is not supported.

Another parameter for assessing the structural model is the coefficient of determination (R^2). The R^2 value represents the proportion of variation in the dependent variable(s) that is explained by one or more predictor variable. Hair et al. (2014) contended that R^2 value of 0.2 is considered high in some social science related disciplines. Likewise, Murphy, Myors, and Wolach (2014) found the R -square value of 0.01, 0.10 and 0.25 as small, medium and substantial. The R^2 value for this present study is 17.5%, as such it falls into the medium category.

4.2 ASSESSMENT OF EFFECT SIZE (f^2)

The effect size enables the researcher to assess the extent to which an exogenous variable relates to the endogenous variable (Tabachnick and Fidell, 2013). It provides the practical impact of a particular exogenous variable on the outcome variable through the changes of the R^2 value (Chin, 1998). Kelley and Preacher (2012) viewed effect size as a numerical reflection of the degree of some phenomenon used for the purpose of addressing a question of interest. Simply put, it is a technique that examines changes in the R^2 value when the researcher omits a particular exogenous construct from the model (Hair et al., 2014). As such, according to Hair et al. (2014), the effect size can be computed with the aid of the following formula:

$$(1) \quad \text{Effect Size } (f^2) = \frac{R_{Included}^2 - R_{Excluded}^2}{1 - R_{Included}^2}$$

The guidelines for assessing effect size classified the values of 0.35, 0.15 and 0.02 as strong, medium and small respectively (Cohen, 1988). Table 5 shows the respective effect sizes of the exogenous variables in the model are 0.044, 0.099 and 0.033 for ERMF, BEO, and COP respectively. Based on the Cohen (1988)

classifications, we can conclude that all the exogenous variables have a small impact on the outcome variable.

TABLE 5
Effect Sizes of the Latent Constructs

Endogenous Construct	Exogenous Constructs	R^2 Included	R^2 Excluded	f^2	Effect Size
Non-Financial Performance	ERMF	0.175	0.138	0.0448	Small
	BEO	0.175	0.093	0.0994	Small
	COP	0.175	0.147	0.0331	Small

Note: RMF=Risk Management Framework, BEO=Board Equity Ownership, COP=Compliance.

Also, the study applied the Stone and Geisser test to ascertain the predictive relevance of the research model by using blindfolding procedures (Geisser, 1974; Stone, 1974). In PLS-SEM, the Stone-Geisser test is usually utilized as a complementary assessment of the model goodness-of-fit (Hair et al., 2014). The blindfolding procedure applies only to the independent variable that has reflective measures (Sattler et al., 2010). As shown in Table 6 the construct cross-validated redundancy measure is 12.4% which is greater than zero, confirming the predictive relevance of the model.

TABLE 6
Construct Cross-Validated Redundancy

Total	SSO	SSE	1-SSE/SSO
Non-Financial Performance	652.000	571.255	0.124

4.3 DISCUSSION

Findings from this study indicate that two variables of interest (ERM framework and compliance) have a positive effect on the non-financial performance of the Nigerian financial institutions (supporting hypotheses 1 and 2). The results are in agreement with previous studies reporting that ERM implementation positively affects performance (Asat et.al., 2015; Gates, 2006; Hoyt and Liebenberg, 2015; Tahir and Razali, 2011). Further, on compliance, the finding is in agreement with some studies that reported the positive influence of compliance on firm performance (Abiola and Ojo, 2012; Gozman and Currie, 2015; PricewaterhouseCoopers, 2004; Shimpi, 2005).

Similarly, the AM Best Company (2015) categorized Nigeria as a country with moderate economic risk but very high political and financial risks. They argued that for the Nigerian financial sector to get out of the woods, it requires the adoption of best risk management practices. Moreover, the government had increased pressure on the regulatory agencies to be more efficient in ensuring compliance with best business practices. The concern of the regulatory agencies has increased the commitment of the Nigerian financial sector to the implementation of enterprise risk management. For example, the National Insurance Commission had made ERM implementation compulsory for all licensed insurance practitioners (AM Best Company, 2015).

In particular, the results indicated that ERM framework implementation serves as a requisite guide for proper and efficient ERM implementation in organizations. The study has empirically tested the conception ERM as a strategy that is useful in improving firm operating efficiency. Specifically, ERM enhances the performance of some business features by enabling efficient managerial decisions, cost control, reduced effort duplication and improved customer satisfaction among others. Also, the study has further enriched the ERM literature by providing empirical evidence to support the moderating effect of board equity ownership (supporting hypothesis 3). As such the study supported the convergence of interest theory (Pergola et al., 2009).

The study has some practical implications for both theory and practice. The significant influence of ERM implementation on non-financial firm performance implies that financial institutions should pay attention to non-financial performance metrics to improve business efficiency. Secondly, compliance with best business practices and other regulatory agencies enhances management confidence and by extension boosts customer trust. Thirdly, the study indicated that board ownership helps in aligning the board interests with that of the remaining shareholders and the board then become more conscientious on decisions (such as ERM implementation) that will improve business performance. Though we support the interest convergence hypothesis, board ownership requires a threshold to prevent abuse.

Finally, the study is not without some limitations. The study used self-reported measures hence raising the possibility of common method bias. Future study should consider the opinion of regulatory agencies in examining how firms are implementing ERM and their level of compliance with best business practices. Also, the study

focused only on the financial sector; future study should consider other industries such as manufacturing and construction. Again, the sample size for this study is relatively small which may affect its generalizability. Future studies should consider a larger sample.

5. CONCLUSION

The post-global meltdown has continued to pose a threat to the survival of financial institutions. Implementation of an integrated approach to risk management is becoming the concern of any business enterprise. It can be affirmed that though the degree of risk management actions varies among companies investigated, the majority of financial institutions have realized the benefits of ERM initiatives. Hence, the study recommends that regulatory agencies encourage board equity ownership but with a caveat to prevent interest entrenchment that may lead to abuse.

REFERENCES

- Aaron, Chatterji, and Levine David. "Breaking Down the Wall of Codes: Evaluating Nonfinancial Performance Measurement." *California Management Review* 48, no. 2 (Winter 2006): 29-51.
- Abdullah, M.A.N., N. Zakuan, M. Khayon, M.S.M. Ariff, N.E.N. Bazin, and M.Z.M. Saman. "Adoption of Enterprise Risk Management Practices in Organization: A Review." *International Journal of Business and Information Technology* 2, no. 1 (2012): 1-9.
- Abiola, James O., and Solomon O. Ojo. "Compliance with Regulatory Financial Reporting and Corporate Governance Practices in Selected Primary Mortgage Institutions in Nigeria." *International Journal of Business and Social Science* 3, no. 15 (2012): 246-54.
- Adeusi, S.O., N.A. Akeke, S. Obawale, O. Oladunjoye, D. Stephen Oluwafemi, Niyi A. Israel, Obawale Simeon, and Oladunjoye Olawale. "Risk Management and Financial Performance of Banks in Nigeria." *Journal of Business and Management* 14, no. 6 (2013): 52-6.
- Akinkoye, Ebenezer Y., and Omoneye O. Olasanmi. "Corporate Governance Practice and Level of Compliance among Firms in Nigeria: Industry Analysis." *Journal of Business and Retail Management Research* 9, no. 1 (2014): 13-26.

- AM Best Company. "AMB Country Risk Report," 2015.
- Ammann, Manuel, David Oesch, and Markus M. Schmid. "Corporate Governance and Firm Value: International Evidence." *Journal of Empirical Finance* 18, no. 1 (2011): 36–55.
- Antonopoulos, Nick, and L. Gillam. *Cloud Computing: Principles, Systems and Applications*. Springer Science and Business Media, 2010. <http://arxiv.org/abs/0912.1905>.
- Asat, Siti Haliza, Enny Nurdin Sutan Maruhun, Hasnah Haron, and Mastura Jaafar. "Enterprise Risk Management (ERM) and Organisational Performance: The Case of Housing Developers in Malaysia." In *MARIM International Conference, Langkawi*, 2015.
- Banker, R.D., Gordon Potter, and Dhinu Srinivasan. "Association of Nonfinancial Performance Measures with the Financial Performance of a Lodging Chain." *Cornell Hotel and Restaurant Administration Quarterly* 46, no. 4 (2005): 394–412.
- Baron, R.M., and D.A. Kenny. "The Moderator-Mediator Variable Distinction in Social Psychological Research: Conceptual, Strategic, and Statistical Considerations." *Journal of Personality and Social Psychology* 51, no. 6 (1986): 1173–82.
- Berenbeim, R. "The Value Based Enterprise: A New Corporate Citizenship Paradigm." In *Asia Foundation's Hong Kong Symposium on Corporate Citizenship and the Taipei Corporate Citizenship Forum*, 27–9. Hong Kong, 2004.
- Berle, A., and G. Means. *The Modern Corporation and Private Property*. New York: McMillan, 1932.
- Bertinetti, Giorgio Stefano, Elisa Cavezzali, and Gloria Gardenal. "The Effect of the Enterprise Risk Management Implementation on the Firm Value of European Companies." *Department of Management, Università Ca'Foscari Venezia Working Paper* 10 (2013).
- Brown, Nerissa C., Christiane Pott, and Andreas Wömpener. "The Effect of Internal Control and Risk Management Regulation on Earnings Quality: Evidence from Germany." *Journal of Accounting and Public Policy* 33, no. 1 (2013): 1–31.
- Caldwell, J.E. *A Framework for Board Oversight of Enterprise Risk*. Canada: Canada Institute of Chartered Accountants, 2012.
- Casualty Actuarial Society. "Overview of Enterprise Risk Management." Ontario Canada, 2003.
- CBN. "CBN Company Report." Abuja Nigeria, 2012. www.cbn.gov.ng.

- Chin, W.W. "The Partial Least Squares Approach to Structural Equation Modeling." In *Modern Methods for Business Research*, edited by G. A. Marcoulides, 295–336. Mahwah, New Jersey: Lawrence Erlbaum Associates, 1998.
- Cohen, J. *Statistical Power Analysis for the Behavioral Sciences*. 2nd ed. London: Lawrence Erlbaum Associates Publisher, 1988.
- Cohen, Jeffrey R., Lori L. Holder-Webb, Leda Nath, and David Wood. "Corporate Reporting of Nonfinancial Leading Indicators of Economic Performance and Sustainability." *Accounting Horizons* 26, no. 1 (2012): 65–90.
- COSO. *Enterprise Risk Management: Integrated Framework Executive Summary*, 2004.
- Dalgleis, F., and B.J. Cooper. "Risk Management: Developing a Framework for a Water Authority, Management of Environmental Quality." *An International Journal* 16, no. 3 (2005): 235–49.
- Daud, Norhayate Wan, Ahmad Shukri Yazid, and Mohd Hj Rasid Hussin. "The Effect of Chief Risk Officer (CRO) on Enterprise Risk Management (ERM) Practices: Evidence from Malaysia." *International Business and Economics* 9, no. 11 (2010): 55–64.
- _____, Hasnah Haron, and Nasir Daing Ibrahim. "The Role of Quality Board of Directors in Enterprise Risk Management (ERM) Practices: Evidence from Binary Logistic Regression." *International Journal of Business and Management* 6, no. 12 (2011): 205–11.
- Doherty, Neil A. *Integrated Risk Management: Techniques and Strategies for Managing Corporate Risk*. New York: McGraw Hill, 2000.
- Fornell, C., and D.F. Larcker. "Evaluating Dysfunctional Employee Behaviors: A Test of Structural Equation Models with Unobservable Traditional and Contingency Theory Postulates: The Variables and Measurement Error." *Journal of Marketing Research* 18, no. 1 (1981): 39–50.
- Gates, Stephen. "Incorporating Strategic Risk into Enterprise Risk Management: A Survey of Current Corporate Practice." *Journal of Applied Corporate Finance* 18, no. 4 (2006): 81–90.
- Gates, Stephen, Jean-Louis Nicolas, and Paul L Walker. "Enterprise Risk Management: A Process for Enhanced Management and Improved Performance." *Management Accounting Quarterly* 13, no. 3 (2012): 28–38.

- Gatzert, Nadine, and Michael Martin. "Determinants and Value of Enterprise Risk Management: Empirical Evidence from the Literature." PhD Thesis. *Department for Insurance Economics and Risk Management*. Friedrich-Alexander-University (FAU) of Erlangen-Nürnberg, 2013.
- Geisser, Seymour. "A Predictive Approach to the Random Effect Model." *Biometrika* 61 (1974): 101–7.
- George, J.G., Kenneth Imler, and Nancy Singer. "Empowering the Quality and Regulatory Compliance Functions." *MDDI Medical Device and Diagnostic Industry News Products and Suppliers*. Medical Device & Diagnostic Industry, 2007. <http://www.mddionline.com/print/1676>.
- Gozman, Daniel, and Wendy Currie. "Managing Governance, Risk, and Compliance for Post-Crisis Regulatory Change: A Model of IS Capabilities for Financial Organizations." *Proceedings of the Annual Hawaii International Conference on System Sciences*. Hawaii (2015): 4661–70.
- Haenlein, Michael, and Andreas M. Kaplan. "A Beginner's Guide to Partial Least Squares Analysis." *Understanding Statistics* 3, no. 4 (2004): 283–97.
- Hair, Joseph F., Marko Sarstedt, Christian M. Ringle, and Jeannette A. Mena. "An Assessment of the Use of Partial Least Squares Structural Equation Modeling in Marketing Research." *Journal of the Academy of Marketing Science* 40, no. 3 (June 2012): 414–33.
- _____, G. Tomas M. Hult, Christian Ringle, and Marko Sarstedt. *A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM)*. London: SAGE Publications, 2014.
- _____, J.W. Black, B.J. Babin, and E.R. Anderson. *Multivariate Data Analysis: A Global Perspectives*. New Jersey: Pearson Education Limited, 2010.
- Henseler, Joerg, Christian M. Ringle, and Rudolf R Sinkovics. "The Use of Partial Least Squares Path Modeling in International Marketing." *Advances in International Marketing* 20, no. 1 (2009): 277–319.
- Hoyt, Robert E., and Andre P. Liebenberg. "Evidence of the Value of Enterprise Risk Management." *Journal of Applied Corporate Finance* 27, no. 1 (2015): 1–9.
- _____, and _____. "The Value of Enterprise Risk Management." *Journal of Risk and Insurance* 78, no. 4 (2011): 795–822.
- _____, Dudley L. Moore Jr., and Andre P. Liebenberg. "The Value of Enterprise Risk Management: Evidence from the US

- Insurance Industry.” *Society of Actuaries Monographs*, 2008.
- Hussain, Mostaque, and Zahirul Hoque. “Understanding Non-Financial Performance Measurement Practices in Japanese Banks.” *Accounting, Auditing and Accountability Journal* 15, no. 2 (2002): 162–83.
- Ibuakah, I. “Key Issues and Challenges in Corporate Governance Reform in Nigeria.” In *International Conference HHL Leipzig Graduate School of Management*. Leipzig, 2012.
- International Monetary Fund (IMF). “Nigeria: Financial Sector Stability Assessment,” 2013.
- Jensen, Michael C., and William H. Meckling. “Theory of the Firm: Managerial Behavior, Agency Costs, and Ownership Structure.” *Journal of Financial Economics* 3, no. 4 (1976): 305–60.
- Kaplan, R.S., and D.P. Norton. *The Balanced Scorecard*. Boston: Harvard Business School Press, 1996.
- Kedia, Simi, Shuqing Luo, and Shivaram Rajgopal. “Culture of Weak Compliance and Financial Reporting Risk.” In *Conference on Culture, Performance and Financial Stability*, 1689–99. Boston, USA, 2016.
- Kelley, Ken, and Kristopher J. Preacher. “On Effect Size.” *Psychological Methods* 17, no. 2 (2012): 137–52.
- Kelman, H.C. “Compliance, Identification, and Internalization Three Processes of Attitude Change.” *Journal of Conflict Resolution* 2, no. 1 (1958): 51–60.
- Krejcie, Robert V., and Daryle W. Morgan. “Determining Sample Size for Research Activities.” *Educational and Psychological Measurement* 38 (1970): 607–10.
- Lai, Fong-woon. “A Review of Enterprise Risk Management Practices among Malaysian Public Listed Companies.” *International Journal of Social, Business, Psychological, Human Science and Engineering* 6, no. 8 (2012): 300–6.
- _____, and Noor Azlinna Azizan. “Critical Review of Literature on Enterprise Risk Management and the Cost of Capital: The Value Creation Perspective.” *African Journal of Business Management* 6, no. 9 (March 7, 2012): 3126–33.
- Laitinen, E. K. “Nonfinancial Factors as Predictors of Value Creation: Finnish Evidence.” *Review of Accounting and Finance* 3, no. 3 (2004): 84–130.
- Lama, Tek B. “Empirical Evidence on the Link between Compliance with Governance of Best Practice and Firms’ Operating Results.” *Australasian Accounting Business and Finance*

- Journal* 6, no. 5 (2013): 63–80.
- Lev, B., and P. Zarowin. “The Boundaries of Financial Reporting and How to Extend Them.” *Journal of Accounting Research* 37, no. 2 (1999): 353–85.
- Lin, Y., M.M. Wen, and J. Yu. “Enterprise Risk Management: Strategic Antecedents, Risk Integration, and Performance.” *North American Actuarial Journal* 16, no. 1 (2012): 1–28.
- Manab, Norlida Abdul. “Enterprise Wide Risk Management (EWRM) Implementation, Compliance and Value Creation among Public Listed Companies (PLCs) in Malaysia.” *Faculty of Business Management*. Thesis, Universiti Teknologi Mara, 2009.
- _____, and Zahiruddin Ghazali. “Does Enterprise Risk Management Create Value.” *Journal of Advanced Management Science* 1, no. 4 (2013): 358–62.
- _____, Isahak Kassim, and Mohd Rasid Hussin. “Enterprise-Wide Risk Management (EWRM) Practices: Between Corporate Governance Compliance and Value.” *International Review of Business Research Papers* 6, no. 2 (2010): 239–52.
- Martens, Benedikt, and Frank Teuteberg. “Risk and Compliance Management for Cloud Computing Services: Designing a Reference Model.” In *Proceedings of the Seventeenth Americas Conference on Information Systems*. Detroit, Michigan, 4-7 August 2011.
- Meier, R.L. “Integrating Enterprise Wide Risk Management Concepts into Industrial Technology Curricula.” *Journal of Industrial Technology* 16, no. 4 (2000): 1–15.
- Mikes, Anette, and Robert S. Kaplan. “Towards a Contingency Theory of Enterprise Risk Management.” Unpublished Work. *Harvard Business School Working Paper*, 2014.
- Moeller, R.R. *COSO Enterprise Risk Management: Understanding the New Integrated ERM Framework*. Hoboken, NJ: John Wiley and Sons, Inc., 2007.
- _____. *COSO Enterprise Risk Management: Establishing Effective Governance, Risk and Compliance Processes*, 2011.
- Muller, S., and C. Supatgiat. “A Quantitative Optimization Model for Dynamic Risk-Based Compliance Management.” *IBM Journal of Research and Development* 51, no. 3.4 (2007): 295–307.
- Murphy, Kevin R., Brett Myors, and Allen Wolach. *Statistical Power Analysis: A Simple and General Model for Traditional and Modern Hypothesis Tests*. 4th ed. New York: Routledge,

2014.

- Olamide, Olusanmi, Uwuigbe Uwalomwa, and Uwuigbe Olubukunola Ranti. "The Effect of Risk Management on Bank's Financial Performance in Nigeria." *Journal of Accounting and Auditing: Research and Practice* 2015, no. 1 (2015): 1–7.
- Olson, D.L., and Desheng Wu. *Enterprise Risk Management in Finance* 1st ed. London: Palgrave Macmillan, 2015.
- Olusegun, A.A., S.O. Ganiyu, and A.A. Oluseyi. "The Impact of Financial Development on Economic Growth." *American Journal of Business and Management* 2, no. 4 (2013): 347–56.
- Paape, Leen, and Roland F. Spekle. "The Adoption and Design of Enterprise Risk Management Practices: An Empirical Study." *European Accounting Review* 21, no. 3 (2012): 533–64.
- Pergola, Teresa M., Gilbert W. Joseph, and Ali Jenzarli. "Effects of Corporate Governance and Board Equity Ownership on Earnings Quality." *Academy of Accounting and Financial Studies Journal* 13, no. 4 (2009): 87–114.
- PriceWaterhouseCoopers. "Managing Risk: An Assessment of CEO Perspectives." New York, 2004.
- Rettab, Belaid, Anis Ben Brik, and Kamel Mellahi. "A Study of Management Perceptions of the Impact of Corporate Social Responsibility on Organisational Performance in Emerging Economies: The Case of Dubai." *Journal of Business Ethics* 89 (2009): 371–90.
- Riley, Richard A., Timothy A. Pearson, and Greg Trompeter. "The Value Relevance of Non-Financial Performance Variables and Accounting Information: The Case of the Airline Industry." *Journal of Accounting and Public Policy* 22, no. 3 (2003): 231–54.
- Rosen, D., and S.A. Zenios. "Enterprise-Wide Asset and Liability Management: Issues, Institutions and Models." In *Handbook of Asset and Liability Management: Theory and Methodology Volume 1*, edited by S.A. Zenios and W.T. Ziemba, 2-21. Amsterdam: Elsevier B.V., 2006.
- Saeidi, Parvaneh, Saudah Sofian, and Siti Zaleha Binti Abdul Rasid. "A Proposed Model of the Relationship between Enterprise Risk Management and Firm Performance." *International Journal of Information Processing and Management* 5, no. 2 (2014): 70–80.
- Salkind, N.J. *Exploring Research* 3rd ed. Upper Saddle River, NJ: Prentice Hall, 1997.

- Sanusi, L.S. “Global Financial Meltdown and the Reforms in the Nigerian Banking Sector,” 2010.
<https://www.cbn.gov.ng/OUT>.
- Sarstedt, Marko, Christian M. Ringle, Donna Smith, Russell Reams, and Joseph F. Hair. “Partial Least Squares Structural Equation Modeling (PLS-SEM): A Useful Tool for Family Business Researchers.” *Journal of Family Business Strategy* 5, no. 1 (March 2014): 105–15.
- Sattler, Henrik, Franziska Völckner, Claudia Riediger, and Christian M. Ringle. “The Impact of Brand Extension Success Drivers on Brand Extension Price Premiums.” *International Journal of Research in Marketing* 27, no. 4 (2010): 319–28.
- Schmit, Joan T., and Kendall Roth. “Cost Effectiveness of Risk Management Practices.” *Journal of Risk and Insurance* 57, no. 3 (1990): 455–70.
- SEC. “Code of Corporate Governance for Public Companies in Nigeria,” 2011.
_____. “The Nigerian Capital Market: Submission by Securities and Exchange Commission,” 2012.
- Sekaran, Uma. *Research Methods for Business: A Skill Building Approach* 4th ed. New York: John Wiley and Sons Ltd, 2003.
- Shimpi, Prakash. “ERM from Compliance to Value.” *Financial Executive* 21, no. 6 (2005): 52–5.
- Shortreed, J.H., L. Craig, and S. McColl. “Benchmark Framework for Risk Management,” 2000.
- Simkins, Betty J., and Charles Smithson. “Does Risk Management Add Value? A Survey of the Evidence.” *Journal of Applied Corporate Finance* 17, no. 3 (2005): 8–17.
- Soyemi, Kenny Adedapo, Jumoke Omowunmi Ogunleye, and Faderera Oluwatoyin Ashogbon. “Risk Management Practices and Financial Performance: Evidence from the Nigerian Deposit Money Banks (DMBs).” *The Business and Management Review* 4, no. 4 (2014): 345–54.
- Stone, M. “Cross Validatory Choice and Assessment of Statistical Predictions.” *Journal of the Royal Statistical Society* 36, no. 2 (1974): 111–47.
- Tabachnick, B.G., and L.S. Fidell. *Using Multivariate Statistics* 6th ed. New York: Pearson Education, 2013.
- Tahir, Izah Mohd, and Ahmad Rizal Razali. “The Relationship between Enterprise Risk Management (ERM) and Firm Value: Evidence from Malaysian Public Listed Companies.” *International Journal of Economics and Management*

Sciences 1, no. 2 (2011): 32–41.

Thomya, W., and K. Saenchaiyathon. “The Effects of Organizational Culture and Enterprise Risk Management on Organizational Performance: A Conceptual Framework.” *International Business Management* 9, no. 2 (2015): 158–63.

Togok, Salinah Haji, Che I Ruhana, and Suria Zainuddin. “Review of Enterprise Risk Management (ERM) Literature.” Paper presented at the *International Conference on Technology and Business Management*. Dubai (2014): 36–48.

Veuger, Stan, and Kristin Wilson. “Can Regulatory Oversight Help Firm Performance? Evidence from U.S. Commercial Banks.” *American Enterprise Institute Economics Working Paper* 2015-07, 2015.