

Enterprise Risk Management and Banks' Financial Performance: Evidence from West African Countries

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Abstract: This paper studied the effect of enterprise risk management (ERM) on bank performance in three selected African countries over a study period of ten years spanning from 2009 to 2018. The study covered selected banks in Ghana, South Africa and Nigeria. The regressor is ERM measured by strategy, operation, reporting & compliance while the regressed is bank performance measured by return on equity. Also, we controlled for firm size and leverage. The data generated were analysed using Stata 13 version, which assisted the use of some analytical techniques. Panel regression analysis was conducted alongside Hausman effect test which indicated the better model that was interpreted between Random Effect (RE) and fixed effect (FE) models. As specified by the Hausman test, the FE model was used for model 1 while the random effect model was used to test model 2. The result revealed that enterprise risk management on the overall has a positive significant effect on bank performance provided it takes into consideration control variables like financial leverage and firm size. Hence, the study concludes that, ERM is instrumental to improved banks' financial performance (ROE). As such, regulatory authorities should come up with legislation(s) that should enforce and strengthen the enactment of enterprise risk management across banks in the study area.

Keywords: Enterprise risk management, Banks' financial performance, West African Countries

I. INTRODUCTION

Ordinarily, business entities engage the traditional risk management (TRM), which is an approach that looks at risk management from a silo-based perspective. Moreover, the TRM approach as noted by Moeller (2011) does not provide opportunity for the entity to view risk on the overall. As such, there came a paradigm shift from that narrow or silo-based risk management perspective to a more holistic approach referred to as Efficient Risk Management (ERM) (Soliman & Adam, 2017), which is seen as a strategy that holistically attempts to evaluate and manage the portfolios of risks confronting the entity (Zuo, Isa & Rahman, 2017). Basically, ERM applies efficient risk management (Kopia, Just, Geldmacher & Buban, 2017). Therefore, for a firm to be able to face the complex internal and external challenges of the modern world, such firm must invest in ERM (Altanashat, Dubai & Alhety, 2019). Hence, ERM methodology is believed to have low likelihood of failure but rather increase the entity's firm value (Florio & Leoni, 2017).

Conceptually, the term "ERM" is an all-inclusive approach to treating all the organization's risk which is developed as a result of the failure of the conventional traditional risk methods, which treats risk in a piecemeal or the departmental based approach. More classical definition as was used in the work of (Alawattegama, 2018; Teoh, Lee & Muthuveloo, 2017; Zou, Isa & Rahman, 2017) is by the Committee for Sponsoring Organizations of the Tradeway Commission, which sees ERM as "a process put in place as a risk mechanism that is made to spot-check and address potential issues which may tend to affect the very existence of such firm. To achieve this, firms must provide reasonable risk assurance all in a bid to achieving this objective.

Switching over to ERM is non-negotiable and inevitable by firms (Altanashat, Dubai & Alhety, 2019), especially since the corporate breakdown that was initiated by global financial crises in 2008 (Musyoki & Komo, 2017). Many studies had argued that ERM implementation does result to improved firm's value and performance (Florio & Leoni, 2017; Husaini & Saiful, 2017; Soliman & Adam, 2017; Zou, Isa & Rahman, 2017). On the contrary, Ramlee and Ahmad (2015) posit that having a risk committee at board-level does not make a firm to perform better than a firm without risk committee at board-level. They got the result after they sampled 74 firms with board level risk committee and another set of firms without board level risk committee as the control variable.

Notwithstanding, ERM had been measured from different perspectives. Firstly, ERM had been measured using dummy variable, which allowed researchers assign 1 when it is perceived to have adopted or implemented ERM otherwise 0, and the implementation, adoption or presence of ERM is indicated by searching for key-terms like, ERM", "strategic risk management", "corporate risk management", "consolidated risk management", "holistic risk management", "integrated risk management", "risk management committee", "risk committee", and "chief risk officer (CRO)" (Abdullah, Janor & Hamid, 2017; Anton, 2018; Florio & Leoni, 2017; Ghosh, 2013; Husaini & Saiful, 2017; Nasir, 2018, Rao, 2018). Secondly, the some others (Alawattegama, 2018; Altanashat, Dubai & Alhety, 2019; Teoh, Lee & Muthuveloo, 2017) had chosen to measure ERM by constructing questionnaire based proxy on the eight (8) ERM functions

which are: Internal Environment, Risk Identification, Objective Setting, Risk Assessment, Control Activities, Risk Response, Information & Communication, and Monitoring] as contained in the COSO 2004 integrated framework. Thirdly, some more authors (Gordon, Loeb & Tseng, 2009; Ramlee & Ahmad, 2015; Tseng, 2007; Zou, Isa & Rahman, 2017) proxy ERM on the bases of the COSO 2004 four (4) basic objectives of ERM which include Strategy, Operation, Reporting and Compliance. This current study perceives the last measure as being the most suitable because the accomplishment of the four objectives invariably indicates adoption and efficiency of ERM practice. Hence, ERM is measured using the four objectives of ERM as laid down by COSO 2004. However, the ERM Index (ERMI) below is gotten from the sum of the indicators already discussed. Hence: $ERMI = \Sigma \text{Strategy} + \Sigma \text{Operations} + \Sigma \text{Reporting} + \Sigma \text{Compliance}$.

Meanwhile, financial performance measures a company's financial health especially on how it uses her available resources to high generate profit. It is noteworthy to state that the long term survival and value of a firm is dependent on its ability to maintain a desirable level of profit through its operating activities (Naz, Ijaz & Naqvi, 2016). Omondi and Muturi (2013) Consequently, Naz, Ijaz and Naqvi (2016) present that the best way to evaluate financial performance is by the use of ratio or financial analysis, which evidenced the percentage of one performance indicator to another and are expressed mathematically. Nevertheless, the commonly used financial performance indicators for assessment of ERM by the previous researches reviewed include; ROA as seen in the work of (Ramlee & Ahmad, 2015; Abdullah, Hamid & Yatim, 2017), ROE as in works of (Ramlee & Ahmad, 2015; Alawattegama, 2018), Tobin's Q used by (Ramlee & Ahmad, 2015; Anton, 2018; Kakanda, Salim & Chandren, 2017; Husaini & Saiful, 2017).

II. LITERATURE REVIEW

Theoretically, Modern Portfolio Theory (MPT) was used to underpin this study. The theory was first published by Harry Markowitz in 1952. Although, this work (Modern Portfolio Theory) was later expanded by William Sharpe (1964) in his work Capital Assets Pricing Model (CAPM). Fabozzi, Markowitz (1952) expressed that the MPT is an investment theory that tries to maximize return and minimize risk by cautiously selecting different assets. Hence it uses mathematical formulation to select a portfolios that are less volatile compared to individual assets since most of the risk component are diversifiable (Nyagah, 2014).

Furthermore, Mandelbrot, and Hudson (2004) opine that prices in stock market always move in opposite direction with prices in bond market, therefore, a pool of both assets will have lesser overall risk than either of them individually. In this sense, diversification appears to be or invariably is the core concept of MPT and directly relies on the conventional wisdom of "never place all your investments in just one portfolio" (McClure, 2010). Relatively, ERM practice does not allow risk be treated at silo based, just as assets are

combined together into a portfolio, to assess its collective risk, so all the risks of the enterprise are centered on the RMC who acts on the risks when they are beyond the risk appetite of the firm.

Empirically, Ojeka, Adegboye, Adegboye, Alabi, Afolabi and Iyoha (2019) investigated the strategic roles of CFO in the application of ERM initiatives on the sample of 33 financial firms out of the 57 quoted financial firms from 2013 to 2017. They drew three (3) objectives which were derived from CFO characteristics namely; CFO power, CFO experience and CFO knowledge. The major contents were hand-picked from the financial statements, on the CFO characteristics including CFO competence and experience that is professional certification, education, audit experience, consultancy experience, CFO gender, CFO directorship and CFO retention. Again, they measured components simultaneously to capture the extent of sophistication of ERM system. Descriptive statistics was used to encapsulate the data, correlation analysis checked the relationship among the variables, and regression analysis was used to test the hypotheses. The estimated model indicated that CFO competence and experience that is professional certification, education, audit experience, consultancy experience, CFO gender, CFO directorship and CFO retention improves the ERM implementation process. Hence, concluded that CFO play strategic roles in the implementation of ERM initiative.

Araoye and Olatunji (2019) studied how board meetings affect the performance of 15 insurance firms in Nigeria from 2006 to 2017. They used the panel data regression analysis. The variables used include ROE, ROA and Tobin's Q for dependent variable and board activism, board structure, directors' equity interest, corporate governance disclosure and audit committee for independent variables. Their empirical result shows that an inverse and no significant association exists between board meeting and performance of insurance firms in Nigeria with emphasis on ROE, ROA, and Tobin's Q. They subsequently recommended that regulatory authority should focus their attention more on the skills and experiences of directors at meeting of the board for good performance. Their scope is large but measuring meetings without engaging skills would be lopsided for the assessment on performance.

More from Nigerian perspective, Salaudeen, Atoyebi and Oyegbile (2018) evaluated the effect of ERM on the performance of consumer goods companies (CGCs) from 2010 to 2015. Their study proxy independent variable with risk committee effectiveness, existence of financial expertise, existence of audit committee, existence of CFO and board size, whereas the dependent variable performance was measured with return on assets. The population was filtered down from 25 of the quoted CGCs to 20 CGCs. The panel data were gathered from the annual report of the firms sampled for 120 firm year observation, analysis was performed using descriptive statistics, correlation, Variance Inflation Factor, heteroscedasticity, normality tests, and generalized regression analysis. The result provided empirical support that the

IV. RESULTS AND DISCUSSIONS

The summarized results of the panel regression analysis are presented in the table below.

Table 2: Summary of Panel Regression Analysis for model 1

	ROE Model (Fixed Effect Result)	ROE Model (Random Effect Result)
C	-0.93 (0.349)	0.95 (0.09)*
ERM	0.11 (0.001)***	0.09 (0.002)***
Lev	-0.05 (0.000)***	-0.02 (0.012)**
Fs	0.054 (0.159)	-0.02 (0.25)
F-statistics	6.94 (0.0002)***	14.62 (0.002)***
R-squared	0.12	0.09
Hausman Test	Prob>chi2 = 0.016**	

Source: Author's compilation (2020)

Remarks:

- (1). *, **, *** means – statistical significance at 10%, 5% and 1% level respectively.
- (2). Brackets () – represents P-values.

The result of our panel regression analysis is presented in table 2 above. The result has it that the F-statistics and its corresponding P-value were 6.94 (0.0002) and 14.62 (0.002) for FE model and RE model respectively. The figures pointed out that FE and RE models are valid for drawing inference since they are both statistically significant at 1% level. The overall fitness of the models measured with R-squares was shown as 12% and 9% for FE model and RE model respectively. These values indicate that 12% and 9% of the systematic variations in the firms' financial performance (ROE) is explained jointly by the explanatory variables contained in the FE and RE models respectively. In order to check which of the regression models is preferable for drawing inferences, Hausman Test was employed and its probability value appeared thus (Prob>chi2 = 0.016). Following the Hausman Test decision rule which prefers random effect result on null hypothesis, we then chose FE model as preferable over random effect model, since the Hausman Test was significant at 5% level.

From the summarized panel regression result of table 2 above, ERM was seen to have a coefficient of 0.11, which means that, ERM improves ROE of firms in selected African countries. By implication, any decline in the ERM activities would cause a decline to the ROE of firms in Nigeria, South Africa and Ghana. Moreover, the p-value of ERM shows 0.000, which means that ERM is statistically significant at 1% level in determining ROE. The empirical result therefore leads to the conclusion that ERM contribute meaningfully to attainment of higher ROE in selected African countries. This result corroborates with the empirical findings that maintain

that ERM affects firm performance significantly (Husaini & Saiful, 2017; Nasir, 2018; Teoh, Lee & Muthuveloo, 2017; Kommunuri, Jandug, & Vesty, 2014; Ghosh, 2013). The study result contradicts those prior empirical findings that upheld the ERM does not significantly affect firm value (Anton, 2018; Alawattagama, 2018; Şenol & Karaca, 2017).

V. CONCLUSIONS AND RECOMMENDATIONS

This study examined whether ERM affect bank performance in three selected African countries or it does not. The study covered selected banks in Ghana, South Africa and Nigeria. The regressor is ERM measured by strategy, operation, reporting & compliance while the regressed is bank performance measured by return on equity. The data generated were analysed using Stata 13 version, which assisted the use of some analytical techniques. Descriptive statistics, correlation analysis, panel regression were conducted. Meanwhile, the Hausman effect test which indicated the better model that was interpreted between RE and FE models was conducted as well. As specified by the Hausman test, the FE model was used for model 1 while the RE model was used to test model 2. Based on the regression result results presented earlier, the study concludes that ERM generated increased and wonderful results on the banks' financial performance (ROE). Hence, the study recommends that regulatory authorities should come up with legislation(s) that should enforce and strengthen the implementation of ERM across banks Ghana, South Africa and Nigeria.

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