

EFFECT OF FINANCIAL RISK ON BANKS' PERFORMANCE IN GHANA

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ABSTRACT

This study empirically examines the effect of financial risk on performance of six (6) banks listed on the Ghana Stock Exchange (GSE) using data from 2016 to 2021. Using a quantitative research design, the study uses panel autoregressive distributed lag (ARDL) estimation technique to empirically analyse the relationship between financial risk and performance of banks. The findings of the study show that the long run estimates of all three explanatory variables (credit risk, market risk, and liquidity risk) have a negative but significant impact on banks' performance. Furthermore, the short run relationship showed that financial risk negatively affects banks' performance. Based on these findings, the study recommends that banks in Ghana maintain or improve on their current financial risk management strategies. Particularly, augmenting credit ratings criteria and creditworthiness screening of loan applicants to mitigate credit risk. Banks are also encouraged to reduce the proportion of their loanable funds to government securities since their low-risk status may be affected by price volatilities in the market. Finally, banks are encouraged to maintain good current ratios so that liquid funds will be available to meet short-term debt obligations as they come due (especially regarding customer withdrawals).

KEYWORDS: Credit risk, Liquidity risk, profitability, Market Risk, Panel ARDL

1. INTRODUCTION

Commercial banks assume various financial risks which are related to their operations as a going concern. These are risks due to the volatility of market conditions, credit quality, and liquidity position, just to mention a few. The results of the global financial crises in 2008 and the banking crisis in Ghana in 2017 have established a connection between financial risk and bank profitability. The performance and development of the financial sector is subject to many drawbacks such as financial risk and general economic conditions and global banking sector crisis (TSay, 2020). Financial risks include liquidity risk, market risk and credit risk (Acerbi, 2002). The global financial crisis (2007–2009) severely tested the ability of intermediaries to effectively manage and control the various types of risk. Hence, revealing the incoherence between the risks taken and perceived as well as profound weaknesses in risk governance both for developed and developing economies (Begg, 2009).

The Global Financial Crisis began somewhat inconspicuously in late summer 2007 with the failure of two Bear Stearns hedge funds, and then went from bad to worse over the following year despite countless attempts by governments to halt its progress (Foster & Magdoff, 2009). It is now widely acknowledged as the greatest economic crisis since the Great Depression during the 1930's. Many banks throughout the world suffered enormous losses and had to rely on government assistance to avoid insolvency. Basel III, which was created by bank regulators, aimed at getting banks to have sufficient reserves with which to withstand financial crises in the future. The regulation also focused on liquidity risk, market risk and credit risk (Simone, 2011).

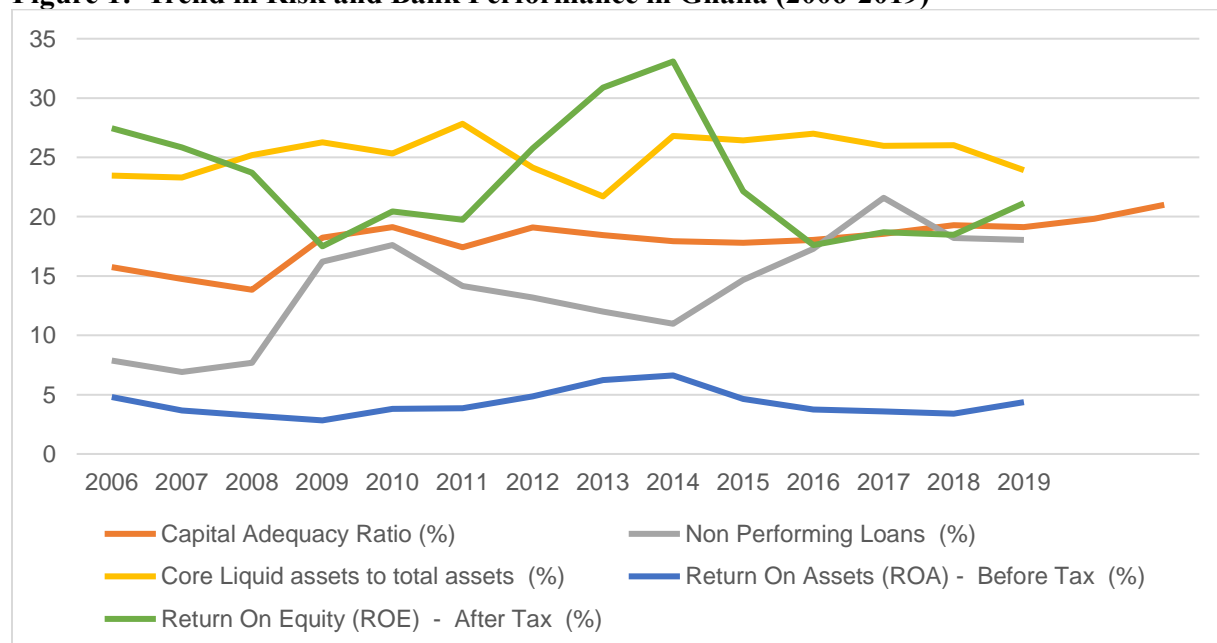
In Ghana, a banking crisis in 2016-2018 led to the collapse of some financial institutions. This was largely due to poor risk management which led to slower growth in all the major components of banks'

total assets (Bank of Ghana, 2018). In August 2017, the Bank of Ghana closed down UT Bank and Capital Bank for a variety of reasons. High levels of non-performing loans and consequent increased exposure to credit risk played a key part in their collapse. With around 78% of their loan portfolios due to be impaired, exposure to high credit risk ultimately led to the revocation of their licenses (Bank of Ghana, 2017). The Bank of Ghana consolidated five banks (BEIGE Bank, Sovereign Bank, Construction Bank, Unibank, and Royal Bank) into a single bank called the Consolidated Bank in 2018. The inclusion of two of the five banks (Royal Bank and Sovereign Bank) was due to poor credit and liquidity risk management, according to the regulator.

Financial risk refers to any event or activity that may adversely affect the ability of an organization, commonly a bank or an insurance company, to achieve its financial objectives (Kozarevic et al., 2017). More specifically, it is the probability of a firm not being able to meet its financial obligations as they come due. In Figure 1 below, the non-performing loans from 2006 to 2019 is generally on the increase and has an upward trend. According to Chen and Pan (2012), credit risk is the degree of value fluctuations in debt instruments and derivatives due to changes in the underlying credit quality of borrowers and counterparties.

Pyle (1997) refers to market risk as variations in asset value brought on by changes in economic variables such as equities and commodity prices, currency rates, and interest rates. Market risk, also known as systemic risk, occurs as a consequence of political uncertainty, recessions, natural or man-made tragedies, and uncertainties in the economy and political environment. Liargovas et al. (2008) explained liquidity risk as degree to which debt obligations coming due in the next 12 months can be paid from cash or assets that will be turned into cash. It is usually measured by the current assets to current liabilities (current ratio). It demonstrates the firm's ability to convert an asset into cash rapidly and shows the firm's ability to manage working capital at normal levels. When external financing is unavailable or too expensive, a company can use liquid assets to fund its operations and investments.

Figure 1: Trend in Risk and Bank Performance in Ghana (2006-2019)



Empirical literature links risk to firms' performance (Munithi, 2016). The amount of risk taken by a firm has a direct relationship with its expected return. Agustina and Baroroh (2016) define performance as a gauge over a time on the health of a firm. Essentially, performance gauges how well a business

uses its assets to maximize returns on investments by its stakeholders (Mwangi et al. 2014). Ghana's financial sector largely relies on the banking system (Ofosu-Hene & Amoh, 2015). As such, it is important to investigate the extent to which different types of financial risks affect banks' financial performance so that measures are put in place to ensure the sustainability of banks.

The main objective of the study is to investigate the effect of financial risk on the performance of banks listed on the Ghana Stock Exchange. Financial risk is decomposed into, credit risk, liquidity risk and market risk. The research posits three (3) hypotheses stated in the null,

1. Credit risk does not affect banks' performance.
2. Liquidity risk does not affect banks' performance.
3. Market risk does not affect banks' performance.

The study, therefore, advances research on the link between financial risk and bank performance in Ghana. It also makes significant contributions to literature and policy. The study adds to scanty empirical research on the link between financial risk and bank profitability, especially by the use of panel data. Second, the study presents an initial attempt to examine the impact of financial risk on bank profitability in Ghana using an index of financial risk. Again, the paper adds to the few studies that have looked at the institutional quality, bank profitability and financial risk relationship. For policymakers, examining how financial risk affects banking sector profitability will help in policy formulation, especially on how to moderate the various components of financial development to increase banks' efficiency in Ghana.

2. LITERATURE REVIEW

The awareness created by stock market downturns in 2000 and 2001, the financial crisis from 2007 to 2009 and the 2016 to 2018 bank crisis in Ghana show that, the underlying risk of financial institutions and the industry is as equally important as the financial performance of firms (Orlitzky & Benjamin, 2001; Bank of Ghana, 2018). The crisis also shows that the difference between future bankruptcy and organizational health of firms in the financial sector is dependent on management's ability to manage risk. Given the importance of financial risk on the performance of banks, several studies have been conducted in different jurisdictions on the effect of financial risk on the performance of banks including its pros and cons.

2.1 Financial Risk and Banks Performance

On the global stage, other studies further establish the significant relationship between financial risk and bank performance. Using data from annual reports for a 7-year period (2008-2015) by the Albanian Association of Banks, Hallunovi and Berdo (2018) sought to determine whether a relationship existed between credit risk management and profitability in commercial banks in Albania. A multiple regression was used with the dependent variables being ROA and ROE, whereas non-performing loans (NPLs) and capital adequacy ratio (CAR) were the independent variables. The study found that there is a negative relationship between credit risk and profitability (ROA and ROE), hence there is a correlation with profitability.

In Kenya, Juma and Atheru (2018) investigate the effects of financial risks on performance of Commercial banks. Specifically, determining the effect of liquidity risk, credit risks, interest rate risks and foreign exchange risks on return on assets of commercial banks in the country. The study was anchored within enterprise risk management theory and adopted explanatory research design. Financial performance of commercial banks was assessed in terms of return on assets where secondary data of the 42 commercial banks was collected for six years from 2010 to 2015. The study found out that

liquidity risk and interest rate have a positive and significant effect on performance while credit risk and exchange risk have a negative and significant effect on performance of Commercial banks in Kenya. Similarly, in Kenya, (Muriithi, 2016) established a significant negative effect of credit, market, liquidity and operational risks on return on equity using generalized method of moments (GMM) to purge time-invariant unobserved firm specific effects and to mitigate potential endogeneity problems. The study also employed financial ratio analysis and panel data techniques of random effects, fixed effects estimation. The component of financial risk that had the most impact on financial performance was operational risk. Also in Kenya, Wanjohi, Wanjohi and Ndambiri (2017) assessed the current risk management practices of the commercial banks and linked them with the banks' financial performance. Return on Assets (ROA) was averaged for five years (2008-2012) to proxy the banks' financial performance while financial risk management practices data was obtained through a self-administered survey questionnaire. The study used multiple regression analysis. The study found out that majority of the Kenyan banks were practicing good financial risk management and as a result the financial risk management practices have a positive correlation to the financial performance of commercial banks in Kenya.

Outside of Ghana, other empirical studies have also established significant relationships between credit risk and banks' performance. Using panel random effect regression model, Tassew and Hailu (2019) examined the effect of risk management on financial performance of 17 Ethiopian Commercial Banks. Quantitative research approach was applied using secondary data for the sample period covering from 2013 to 2017. The independent variables for the study were credit risk, liquidity risk, operating risk and market risks while the dependent variable was Return on assets (ROA). The results indicated that credit risk, liquidity risk, operating risk and market risks have significant negative impact on financial performance of commercial banks in Ethiopia. With respect to credit risk, Gizaw, Kebede and Selvara (2015) examined empirically the impact of credit risk on profitability of commercial banks in Ethiopia and found a similar result. That is significant inverse relationship between credit risk and banks' performance. The study used secondary data of 8 commercial banks from their annual report over a 12-year period (2003-2014), submitted to the National Bank of Ethiopia and a panel data regression model.

Using a partial least squares structural equation modeling, (Sleimi, 2020) examined the effect of risk management practices, including understanding risk and risk management, risk analysis and assessment, risk identification, risk monitoring, and credit risk analysis, on performance of Jordanian commercial banks. The study utilized survey data obtained from risk managers and employees in risk management departments of commercial banks. The study found that the components of risk management practices had positive and significant impacts on the performance of banks. Using GMM methods, Saleh Abu (2020) also examined the effect of credit risk, liquidity risk and bank capital on bank profitability from 2010–2018 by examining empirical evidence from an emerging market. The study showed that credit risk, liquidity risk, and bank capital variables have a significant impact on bank profitability.

With a PVAR model and Simultaneous equation approach, Ahmad, Salam, Ahmad and Abbas (2019) also examined the relationship between Liquidity Risk and Credit Risk and its effect on the performance of 33 banks in Pakistan over the period of 11 years from 2008-2018. Based on the panel data collected, the study found that Credit Risk and Liquidity Risk are not interrelated with each other. However, independently, the two risks have an effect on the performance of banks and their relative interaction plays a major role in the instability of the banking sector. In Turkey, using the generalized autoregressive conditional heteroscedastic approach, Ekinçi (2016) examined the effects of credit and market risk, i.e., interest rate and foreign exchange (FX) rate risk, on banks' performance for the period covering 18/01/2002-30/10/2015 using weekly data. The study showed that there was a positive and

significant relationship between Credit risk and FX rate, and banking sector profitability, while there was an insignificant positive relationship between interest rate and banking sector profitability. The study also showed that there was a positive and significant relationship between credit and market risk, and conditional bank stock return volatility. Similarly, Aluko et al. (2019) examined the impact of financial risks in form of credit, interest rate and liquidity risk on the profitability of systematically important banks in Nigeria over the period from 2010 to 2016. The authors found evidence that these variables have a positive relationship with the profitability of the systematically important banks in Nigeria.

Zhongming et al. (2019), using granger causality test, examine the impact of some financial risk indicators on the financial performance of fifteen selected commercial banks in Ghana. The dependent variable used to measure performance was Return on Assets (ROA) and the explanatory variables were Credit Risk (CR), Interest Rate Risk (IRR), Foreign Exchange Rate (FER), Liquidity Risk (LR), Capital Management Risk (CMR), Bank Deposit (BD) and Bank Size (BS). The study revealed that there exists a significant long run relationship between bank financial performance and the variables of financial risk in the banking sector. Ofosu-Hene and Amoh (2015) conducted a study on risk management and performance of seven banks in Ghana listed on the Ghana Stock Exchange (2007-2014). A panel regression data approach was used, and a risk index developed. Risk index, bank size, capital adequacy, liquidity risk, credit risk, inflation, and exchange rate risk were the explanatory variables while return on assets (ROA) and return on equity (ROE) were the dependent variables. The study used secondary data based on audited annual accounts of these banks as well as statutory reports submitted to the Bank of Ghana for the analysis, which covered the years 2007–2014. Other data used such as inflation and exchange rate were obtained from the databases of Ghana Statistical service and Bank of Ghana respectively. The study showed that credit risk, as assessed by nonperforming loans, and return on assets had a significant inverse relationship. Return on assets indicated a significantly inverse relationship with liquidity risk. The study reinforces the fact that risk management plays a key role in improving bank performance and ensuring prudent use of deposits.

Using a panel data analysis Odonkor, Osei, Abor and Adjasi (2011) examined the effect of risk on the performance of 18 banks in Ghana over the period of 1997-2008. The results showed that lower risk levels led to an increase in bank performance. The results also showed that when ownership interacted with risk, domestic banks that reduced risk were more likely to perform better than foreign banks with similar risk profiles. The study also found that when size interacted with risk, bigger banks which engaged in lower risk taking had lower performance. Relative to smaller banks, larger banks could increase activities aggressively and accommodate more risk leading to higher performance. Their findings generally advocate for prudence in bank risk management by risk managers and central bankers.

2.2 Gaps in Literature Review

2.2.1 Estimation Technique

To empirically examine the relationship between financial risk and firm performance, studies have employed granger causality (Zhongming et al., 2019), multiple regression (Hallunovi and Berdo, 2018; Wanjohi, Wanjohi and Ndambiri, 2017), panel regression (Odonkor, Osei, Abor and Adjasi, 2011; Ofosu-Hene and Amoh, 2015; Tassew and Hailu, 2019), generalised method of moments (Muriithi, 2016; Saleh Abu, 2020), panel vector autoregressive (PVAR) (Ahmad, Salam, Ahmad and Abbas, 2019). Empirical analysis of multiple firms over time requires a panel data set and estimation techniques that are suited for robust analysis of panel data. This study also follows previous studies by compiling a panel data set comprising six (6) banks listed on the Ghana Stock Exchange. This study differs with respect to estimation technique because unlike previous studies identified, a panel

autoregressive distributed lag (p-ARDL) model is employed. One advantage of using a Panel ARDL model is that it captures both long run and short run dynamics in the estimation. This research adds this insight to the existing body of work on the subject.

2.2.2 Empirical Result

Empirical studies have found a long run relationship between financial risk and bank performance (Zhongming et al., 2019). Most studies reviewed report a statistically significant relationship between financial risk and firm performance (Aluko et al., 2019; Ahmad, Salam, Ahmad and Abbas, 2019; Saleh Abu, 2020). The aforementioned studies also found an inverse relationship between financial risk and firm performance (or profitability). Majority of the existing literature stem from analysis of data of firms outside of Ghana. An insight into Ghana's situation is relevant owing to the high economic growth rate experienced by the country within the period of analysis.

2.2.3 Data

Furthermore, previous studies conducted in Ghana with respect to the nexus need updated information. For example, whereas Odonkor, Osei, Abor and Adjasi (2011) used data from 1997 to 2008 and Ofosu-Hene and Amoh (2015) used data from 2007 to 2014, our study uses data from 2016 to 2021. Although these studies used panel regressions, and granger causality in the case of Zhongming et al. (2019), our studies employ the panel ARDL estimation technique to provide both long run and short run insights into the nexus between financial risk and firm performance.

3. METHODOLOGY

3.1 Sources of Data

Secondary data obtained from the financial statements of the listed banks was used for the study. Specifically, data was obtained from the financial statements of six (6) banks listed on the Ghana Stock Exchange from 2016 to 2021. These banks are Fidelity Bank, ADB, GCB Bank, Standard Chartered Bank, ABSA Bank and Ecobank. The data was downloaded from the website of the Ghana Stock Exchange. These banks were selected due to the availability of data. Furthermore, their assets constitute more than 80% of all industry assets. In order to obtain reliable and robust estimates, the annual data from the listed banks was transformed into quarterly data.

3.2 Empirical Model

It is very difficult if not impossible to identify all types of risks that could possibly occur in the operations of today's financial institutions. This is even a bigger challenge when we consider the complexity due to interactions between various types of risks and the ever-changing environment in which the Banks operate. In the current study, three types of risks are considered namely: market risk, liquidity risk and credit risk. The functional equation for this study is stated implicitly as follows:

$$ROA = f(MR, CR, LR) \quad (1)$$

Where ROA represents return on asset and measured by income divided by total assets expressed as a percentage

CR is credit risk and measured by non-performing loans to total loan

MK is market risk measured by the beta (β) of the banks

LR is liquidity risk. Here, current ratio is used as a proxy for liquidity risk.

In the study ROA is used as a proxy for profitability as against other measures such as return on equity (ROE) and net interest margin (NIM). This is because all three measures of risk considered for this study pertain to the assets of banks – loanable funds for credit risk and market risk, and customer

deposits for liquidity risk. Therefore, ROA - which is a performance measure based on bank assets is used as the dependent variable. Moreover, ROA is regarded as a measure of profitability that is not distorted by high equity multipliers (Yakubu & Bunyaminu, 2022; Rivard & Thomas, 1997).

In order to capture the effect of financial risk variables on bank performance, the study makes use of a panel Autoregressive Distributed Lag (ARDL) model. The empirical model is stated as follows:

$$\begin{aligned} \Delta ROA_{it} &= \beta_0 + \beta_{1i} ROA_{i,t-1} + \beta_{2i} MR_{i,t-1} + \beta_3 CR_{i,t-1} + \beta_4 \ln BS_{i,t-1} + \\ &\sum_{j=1}^{N1} \lambda_{ij} \Delta ROA_{i,t-1} + \sum_{j=1}^{N2} \gamma_{ij} \Delta MR_{i,t-1} + \sum_{j=1}^{N3} \phi_{ij} \Delta CR_{i,t-1} + \sum_{j=1}^{N4} \rho_{ij} \Delta LR_{i,t-1} + \mu_i + \varepsilon_{it} \\ &i = 1, 2, \dots, N \\ &t = 1, 2, \dots, T \end{aligned} \tag{2}$$

μ_i denotes the group specific effect. i represents the sampled units while t is the number of periods. We can include an error correction term in equation (2) and re-write it as follows:

$$\begin{aligned} \Delta ROA_{it} &= \delta_i v_{i,t-1} + \sum_{j=1}^{N1} \lambda_{ij} \Delta ROA_{i,t-1} + \sum_{j=1}^{N2} \gamma_{ij} \Delta MR_{i,t-1} + \sum_{j=1}^{N3} \phi_{ij} \Delta CR_{i,t-1} + \\ &\sum_{j=1}^{N4} \rho_{ij} \Delta LR_{i,t-1} + \mu_i + \varepsilon_{it} \end{aligned} \tag{3}$$

Where $v_{i,t-1} = ROA_{i,t-1} - \phi_{0i} - \phi_{1i} MR_{i,t-1} - \phi_{2i} CR_{i,t-1} - \phi_{3i} LR_{i,t-1}$ is the linear error correction term for each unit, δ_i represents the error correcting speed of adjustment term for each unit. In estimating our model, the study employed robust panel methods referred to as the Mean Group (MG) estimator and the Pooled Mean Group (PMG) estimator. The Hausman test is used in determining whether there is any systematic difference between the MG and the PMG.

3.3 Panel Unit Root and Cointegration Test

In order to determine the stationarity of the data series, we conducted panel unit root tests. The Im-Pesaran-Shin (IPS) and Levin-Lin-Chu (LLC) unit root tests were used in this study. The unit root test results in Table 1 indicate that ROA, MR and LR are all stationary at first difference while CR is stationary at level.

Table 1: Panel unit root Test Results

Variable	Im-Pesaran-Shin (IPS)		Levin-Lin-Chu (LLC)	
	Level	1st Difference	Level	1st Difference
ROA	-0.08926	-2.70869***	-0.08926	-2.7086***
MR	0.8240	-1.9174**	-0.1498	-1.8566**
CR	-1.9119**	1.8002	-1.912**	1.800
LR	-0.33071	-1.8862***	-0.70792	-1.2598**

***, ** and * indicate statistical significance at 1%, 5% and 10% respectively.

The Kao cointegration test was conducted in order to ascertain cointegration or otherwise among the variables under consideration. The integration order of the variables is shown in Table 2. The results in Table 2 suggests a co-integrating relationship as per the Kao test, because the ADF statistic is significant at a 5% level of significance.

Table 2: Panel cointegration test: Kao test of cointegration result

ADF	t-statistic	Prob.
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	-2.248561	0.0123
Residual variance	0.013753	
HAC variance	0.012864	

4. RESULTS AND DISCUSSION

4.1 Descriptive Statistics

This section presents the results of the models described in Section 3. Specifically, this section discusses the results of the descriptive statistics and regression analyses of the study.

Table 3: Descriptive statistics

Variable	ROA	MR	CR	LR
Mean	0.030640	0.147194	17.36333	1.174610
Median	0.032286	0.232868	13.09031	1.076273
Maximum	0.067337	1.077562	42.32125	3.450312
Minimum	-0.042483	-0.910066	5.268750	0.017363
Std. deviation	0.018825	0.455142	11.95174	0.567407
Skewness	0.546736	-0.123443	0.763328	1.421328
Kurtosis	4.231234	2.101744	2.141198	7.231764
Jarque-Berra	16.26971***	5.206901*	18.40933***	155.9311***

Note: ***, ** and * denote statistical significance at the 1%, 5% and 10% levels, respectively

The mean values for all variables are positive with standard deviations less than the mean values. This suggests that the dispersion of the observations are closer to the mean value. Table 3 indicates that ROA and MR are skewed to the left while CR and LR are skewed to the right. The Jarque-Bera statistical test strongly rejects the null hypothesis of normality, indicating the non-normality of the unconditional distribution of all of the variables.

4.2 Discussion of Results

We proceeded to estimate Equation (2) using both the MG and PMG estimators and the findings were then subjected to the Hausman test. If the probability value of the Hausman test is greater than 5%, it implies that the PMG estimator is more efficient than the MG estimator in the given situation. On the other hand, a probability value of less than 5% means the adoption of the MG estimator. The Hausman test result in Table 4 is in favour of the PMG estimator as the efficient estimator for modeling the effect of financial risk on banks' performance. Thus, only the empirical estimates obtained from the PMG estimator are reported and discussed in this study.

Table 4: Panel ARDL regression results

(Dependent variable: ROA)					
Variable					
Long run estimates					
Variable	Coefficient	Std. Error	Z-stat	P-value	
MR	-0.022***		0.00017	-121.93	0.000
CR	-0.002***		0.00006	-36.03	0.000
LR	-0.021***		0.00039	-54.22	0.000
Short run estimates					
ECT(-1)	-0.066*		0.034	-1.95	0.051
MR	-0.001		0.006	-0.23	0.817

<i>CR</i>	-0.0191	0.019	-1.01	0.315
<i>LR</i>	-0.038**	0.015	-2.51	0.012
No. of observations	138			
Hausman test	0.02			
χ_k^2	(0.993)			

***, ** and * indicate statistical significance at 1%, 5% and 10% respectively.

The long run estimates from Table 4 indicate that all other things being equal, 1% increase in market risk will lead to a decrease in banks' performance by 0.022% and this is significant at 1%. This result is consistent with the findings of Namasake (2016) which found evidence that in Kenya, the effect of market risk on commercial banks' profitability is negative and statistically significant. Market risks are systematic risks such changes in interest rates, exchange rates that affect the quality of financial assets. For example, as inflation increases, net interest margin which is the difference between the lending and borrowing interest rate is eroded thus reducing the profitability of banks.

Similarly, the long run estimates reveal that 1% increase in credit risk leads to a decrease in banks' performance by 0.002% and this is statistically significant at 1%. When the quality of credit reduces by 1%, bank performance reduces by 0.002%. Practically, where nonperforming loans increase owing to poor credit screening among other things, the profitability of banks is negatively affected. This result coincides with the finding of Tassew and Hailu (2019). The authors found that in Ethiopia, both credit risk and liquidity risk have negative and significant impact on the financial performance of commercial banks.

Furthermore, the long run estimates show that other things being equal, 1% increase in liquidity risk induces a decrease in banks' performance by 0.021% and this is also statistically significant at 1%. Banks that do not maintain a good ratio of current assets to liabilities are likely to find themselves cash trapped i.e. unable to meet their short-term debt obligations as they come due. One of the notable challenges faced by UT Bank before it collapsed was that it had significant amount of its funds in long-term maturing investments and did not have enough liquid funds to fulfill cash withdrawals at the banking halls. As liquidity risk rises, banks may not be able to carry out day-to-day operations which will result in a decrease in their performance and later total shutdown. This result is consistent with the study by Endaweke (2015) which found evidence that liquidity risk has negative and significant impact on banks' performance in Ethiopia.

The short run estimates show that financial risk has a negative and significant impact on banks' performance. As expected, the error correction term of the model is negative (-0.066) and statistically significant which shows a return to equilibrium when there is disequilibrium.

5. CONCLUSION AND RECOMMENDATIONS

Banks play a vital role in the economic growth of a country. A sound financial system is required for efficient financial mediation, which leads to long-term investments and growth in entrepreneurial activities. To withstand macroeconomic risk and ensure the stability of the financial system, it is critical to unearth the key factors affecting the performance of the banking sector.

5.1 Conclusion

The main objective of the study was to examine the effect of financial risk on the performance of banks listed on the GSE. Specifically, the study sought to find out if financial risk (i.e. market risk, credit risk and liquidity risk) influences the profitability of the banks listed on the GSE. In order to achieve these objectives, a panel data set comprising data from six (6) banks listed on the GSE was compiled and

analysed. Panel unit root tests were conducted so as to establish the stationarity of the data series. The Kao cointegration test was conducted to determine if there was cointegration among the variables. After that, the panel ARDL estimation technique was applied to obtain both the short run and long run relationship between the explanatory variables and the dependent variable (Return on Assets). The long run estimates showed that all the three explanatory variables have negative but significant impact on banks' performance. In essence, as financial risk increases bank performance declines. These outcomes are consistent with findings in existing literature. Furthermore, the short run relationship showed that, on the whole, financial risk negatively affects banks' performance.

5.2 Recommendations

This study provides policy implications for the management of Banks listed on the GSE. The negative impact of market risk, credit risk and liquidity risk suggest that banks can improve their profitability by reducing their financial risks. Thus, it is recommended that.

- i. The listed banks maintain or improve upon their credit risk management practices. This includes, but not limited to, effective screening of the creditworthiness of loan applicants. Furthermore, banks should not be overly concerned about reaping higher margins on loans to the extent that they will end up with higher volumes of nonperforming loans.
- ii. The listed banks maintain adequate levels of cash and cash equivalents and effective management of their current ratios so as not to be caught up in a liquidity crisis where short-term financial obligations (such as deposit withdrawal) cannot be effected.
- iii. The listed banks do not comfortably apportion majority of their loanable funds to government securities owing to its perceived lower risk. Price volatility in Ghana's securities market is a possibility and it does affect the bottom line of banks.

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