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DETERMINANTS OF BANKS' STABILITY: A CASE STUDY OF BANKS LISTED ON THE GHANA STOCK EXCHANGE

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Abstract

The study was to analysed the determinants of stability of banks listed on the Ghana Stock Exchange (GSE). The study used 8 of the 9 banks listed on the Ghana Stock Exchange for the study. The study used annual data of the sampled banks on the GSE from 2015 to 2019. Panel regression analysis was used to unravel the determinants of bank stability in Ghana. The study found that Income diversity, the size of a bank, inflation, regulation and gross domestic product do not determine the stability of banks listed on the Ghana Stock Exchange (GSE). A weak positive relationship was found between income diversity, the size of a bank, inflation, regulation and gross domestic product and the stability of banks listed on the Ghana Stock Exchange. The study concluded that income diversity, size of a bank, inflation rate in the country, the gross domestic product do not determine the stability of banks listed on the Ghana Stock Exchange. The study makes the following recommendations. Future studies to be conducted into the determinants of bank stability using variables. The Bank of Ghana (BoG) and other bodies to pay more attention to other factors other than size, income diversity, inflation, regulation, gross domestic product in their bid to enhancing banking stability as these factors do not affect the stability of banks in Ghana.

Keywords: Ghana, Stock Exchange, Bank's stability,

INTRODUCTION

Stability of the financial system is a key to economic development (Batuo, Mlambo, & Asongu, 2018). The economic prospects of any country are dramatically enhanced by sound finances Rajan & Zingales, 2003; Saif-Alyousfi & Saha, (2021) The role played by the banking sector is a very critical one. It appears all the economic prospects on the economy are hinged on a vibrant banking sector. Tiwari & Sontakke,(2013) observe that various sectors of the economy (Industry, mining, agriculture, manufacturing, personal and government) benefit from this role played by Banks.

The banking sector of every economy thrives on confidence; thus, banking sector stability remains a major concern for governments all over the world. The critical financial intermediation role played by banks in the economy is hamstrung if banks are unstable. Thimann, (2014) believes that if the financial system fails to function correctly, the consequences will be severe for the economy as a whole. As a result, policymakers, regulators, researchers, and practitioners in all countries are concerned about the sector's health and stability (Head, 2016). The United States government, then headed by President Bush, signed the Emergency Economic Stabilization Bill into an Act to restore the financial system to health after the financial crisis (Shah, 2009). This created a Treasury Fund of $700 billion to buy bank assets which have collapsed. The government of Ghana in order to correct the financial sector crisis had to institute a number of measures such as increasing bank capitalization from 120 million cedis to 400 million cedis. The government is estimated to spend 20 billion cedis

equivalent to 3.5 billion dollars to bring confidence in the financial sector back. The shocks to the financial system can be triggered by bank-specific or macroeconomic factors.

The essence of banks' work is that they are subjected to risk from a multitude of outlets. Alkalha, Al-Zu'bi, Al-Dmour, Alshurideh, & Masa'deh, (2012) states that the origins of financial institutions at risk can be divided into two main categories: systemic and non-systematic. In addition, the author considered that systemic risk factors have an important influence on all financial institutions on the market and that systematic risk sources refer to variables outside of the control of the bank. The risk sources that are non-systematic differ and are partly related to the bank's variables.

The Financial Stability Index, according to Stock & Watson, (2003), is a delicate predictor of financial stability as all financial, company, and business operations and economies are flexible to easily withstand financial crises and low losses, as many structural, financial and behavior-based factors interact in developing a financial system. Menurut Nasreen, Anwar, & Ozturk, (2017) Financial stability variables reduce the power of financial crises in countries through the provision of a financial crisis early warning system, and vice-versa, by having a system of early warning that financial instability will negatively impact economies and financial markets, demolishing the financial system of the country and in the long-term affecting the size of itself. This study contributes aims at contributing to the ongoing debate from an emerging market perspective examining the factors that determine bank stability in Ghana.

In 2007, several developed and emerging countries introduced models to warn early on the financial crisis, as well as initiatives by the countries to find the frameworks and studies and experiments to absorb possible losses. Notwithstanding the relevance of financial sector stability in the life of an economy, the literature on bank stability determinants in Africa is rather scanty, this gap in knowledge must be filled. This research contributes to the current debate through the empirical investigation from an emerging market perspective of predictors of the financial sector crisis. Thus, the study analysed the determinants of Ghana's bank stability and its influence on the country's economy on sustainable growth.

Banking sector instability or crisis means a lot of economic loss to a country. This loss comes in the form of government huge budget with the view to correcting the situation, loss of confidence in the banking sector, and an overall reduction in the national output of the economy. Therefore, there is the need for studies to be conducted in identifying the factors that cause instability in the banking sector, the relative weight of these factors and to prevent instability in the banking sector.

METHOD RESEARCH

The study used an explanatory design which was quantitative approach in nature. In quantitativeresearch, data are captured in numerical form and analysed quantitatively (Teddlie & Tashakkori, 2011).

The study used secondary data. These includes financial reports and statements of selected banks on the Ghana Stock Exchange. The research used data from the Ghana Stock Exchange's audited financial statements (GSE). Each bank's financial reports from 2015 to

2019 were reviewed. The study consisted of 8 out of 9 banks for the study listed on the Ghana Stock Exchange.

Many reports, such as Gan, (2004) and Fell and Schinasi, have addressed and concentrated on financial banking stability (Fu, Lin, & Molyneux, 2014). The model used by the authors has been adapted slightly. The model is specified below:

Financial Banking Stability $BS_{it} = \beta_0 + \beta_1 ID_{it} + \beta_2 SB_{it} + \beta_3 INF_{it} + \beta_4 GDP_{it} + €_{it}$…. 1

The model is a combination of banks and macroeconomic factors.

Where:

BSit = Banking Stability defined as insolvency risk measured by Z-score companyi at time t.

B_0	=	is the constant for each bank.
$B_1, \beta_2, \beta_3\ \beta_4\ \beta_5$	=	is the regression coefficients values
IDit	=	is income diversity banki at time t
SBit	=	is the size of banki at time t
INFit	=	is the inflation rate of Ghanai at time t
GDPit	=	is the Gross Domestic Producti at time t
εit	=	is the error term

Definition of Variables

Dependent Variable

Banking stability (BS) defined as the calculated risk of insolvency is a dependent variable by Z-score: [ROA +(E/TA)] / SD of ROA.

Independent Variables

Bank Specific Factor (BS): This measure refers to the bank's internal factors and its sensitivity to the bank's financial stability, in which internal adjustments represent the Bank's rules of procedure, then this effect applies to the whole of the national financial banking system and defines the degree of stability of the financial banking system and measures it by: **Income Diversity**

(ID) = 1 - │ (Net interest income - Other operating income) / Total operating income │

Size of Bank (SB)= Logarithm of the total assets of a bank

Banking Sector Factor (BSE): This measure demonstrates that the banking sector as a whole is vulnerable to banking stability. P/E ratio is used to index banking sector factor.

External Governance (Economic Freedom) (EG): This measure refers to the scale of economic freedom variables, by which the share of foreign trade and the magnitude of the contribution it makes to the gross national product and its reflection on financial banking stability calculated by government size (SG) and Regulation are measured (RE).

Data Processing and Analysis

Data was analyzed for measurement, comparison, examination of relations, forecasts, test hypotheses, concepts and theories to be built, exploration, monitoring and clarification. In this investigation the determinants of banks at the Ghana Stock Exchange are investigated using quantitative research technologies. In this analysis, regression panels are used for analyzing results. The analysis was carried out with the aid of STATA software (version 14.0).

RESULT AND DISCUSSION

Table 1: Descriptive Statistics

Variable	N	Mean	Std. Deviation
BS	40	9.8120	32.15822
ID	40	-2.1278	8.42309
INFL	40	12.3920	4.44642
GDP	40	58.0200	6.55498
SIZE	40	22.1500	.55787
REG	40	1.0000	.00000

Source: Author's Construct (2020)

The descriptive statistics of the analysis are given in Table 1 above. As other statistical statistics, the key characteristics of the data set used for the analysis are listed. From the tables it can also be seen that the average of BS is 9,8120. Usually that is a deviation of the value of 32,15822, the mean is -2.1278 and the standard deviation is 8,42309. INFL has a mean of 12,3920 and standard deviations are 4,44642 and the mean of GDP is 58,0200.

Table 2: Correlations Matrix

Variable	BS	ID	INFL	GDP	SIZE	REG
BS	-	.039	-.203	.198	.097	
ID		-	.187	-.178	-.115	
INFL			-	-.934*	-.098	
GDP				-	.138	
SIZE					-	
REG						-

The Table 2 above shows the correlation between the variables (both dependent and independent) used in the study. Correlation explains the nature and strength of relationship between variables. The sign describes the direction of the relationship whilst the values describe the magnitude of the relationship between the variables. From the table above, it can be seen that the correlation coefficient for bank stability and income diversity is 0.039, this means that there is a weak positive relationship between income diversity and bank stability. The Pearson Correlation coefficient for bank stability and gross domestic product (GDP) is 0.198 (Ausloos, Eskandary, Kaur, & Dhesi, 2019). This means that there is a weak positive relationship between bank stability and the GDP of Ghana.

Table 3: Model Summary

R	R square	Adjusted R square	Durbin Watson
.235[a]	.055	.053	1.996

a. Predictors: (constant), SIZE, INFL, ID, GDP
b. Dependent Variable: BS

The Table 3 shows the extent to which variations in banking stability is explained by the dependent variables put together. The R value of 23.5% illustrates the connection between the BS and SIZE, INFL, ID and GDP. The R value implies that the relationship between the dependent variable and the independent variables is small. The R Square describes the variance in bank stability caused by size, inflation, income diversity and GDP. This means that the independent variables account for only 5.3% of changes in bank stability.

The 1.996 Durbin Watson value shows that the majority of the residues in the regression model are not autocorrelated. This is because the Durbin Watson has a maximum 1.5 and a minimum

of 2.5. A DW figure below 1.5 indicates that the residuals are autocorrelated. Autocorrelation violates classic linear regression criteria. Autocorrelation.

Table 4: ANOVA

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	2219.252	4	554.813	.510	0.029
Residual	38112.633	35	1088.932		
Total	40331.885	39			

The Table 4 measures or tests the appropriateness of the model used for the study. From the test of significance above, it can be seen that, the regression model used for the study is very significant in explaining the relationship between the variables used for the study. This is because the sig. value is less than 0.05 which means we reject the null hypothesis which says that the model is not relevant in explaining the relationship between the variables.

Table 5: Multicollinearity Test

Variables	Tolerance	VIF
ID	.955	1.047
INFL	.127	7.899
GDP	.126	7.937
SIZE	.964	1.038

Table 5 shows the Multicollinearity status of the independent variables. There is no multicollinearity if Tolerance value is greater than 0.10. Also, if Variance Inflation Factor is less than 10, then it means there is no multicollinearity and vice versa. Therefore, there was no problem of multicollinearity among the independent variables because the tolerance values were all less than 1.0 and the VIF values were all above 1.0.

Table 6: Coefficient

Model	Unst Coeff.	Stand Coeff.	t	Sign
(Constant)	-91.469		-.356	.724
ID	.340	.089	.529	.600
INFL	-1.290	-.178	-.386	.702
GDP	.176	.036	.077	.939
SIZE	4.866	.084	.504	.617

From the results above (Table 6), it can be seen that Income diversity of banks, inflation, the size of a bank and the GDP of Ghana at any particular time do not impact on the stability of banks in Ghana. This is due to the fact that they all return sig values greater than 0.05 which means we fail to reject the null hypothesis.

The study found Income diversity, the size of a bank, inflation, regulation and gross domestic product do not determine the stability of banks listed on the Ghana Stock Exchange (GSE). The study found no autocorrelations among the residuals (Adjasi, Harvey, & Agyapong, 2008). The multi-collinearity test also implies that the independent variables are not multi-linear. The study also found that the relationship between bank stability and all the independent variables used in the study had been marginally positive. This is attributed to a R value of 23.5% in the study review. Therefore, the relationship between income diversity, a bank's size, inflation, regulation, and the Ghana Stock Exchange's gross national product is slippery.

CONCLUSION

The study concludes that income diversity, size of a bank, inflation rate in the country, the gross domestic product does not determine the stability of banks listed on the Ghana Stock Exchange. This means that the effect of these variables on the stability of banks listed on the GSE is not statistically significant at 5%. These variables therefore do not determine the stability or otherwise of banks listed on the GSE.

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