NEXUS BETWEEN CAPITAL RISK, FINANCIAL PERFORMANCE AND BASEL II IN THE COMMON MONETARY AREA (CMA)

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Abstract: Financial institutions should be operated and supervised to bring about greater financial stability. The CMA (Namibia, South Africa, Swaziland and Lesotho) are also in agreement, hence they implemented Basel II. However, current literature is contradicting. Hence, the empirical study to seek confirmation by examining the nexus between Basel II, capital risk and financial performance in CMA. Annual data from 2001 to 2023 was used. Data favoured the Fixed Effect Model (FE). STATA sofware was used and found insufficient evidence to either support or refute the acalimed benefits of implementing Basel II. However, overhead costs had a significant positive relationship on the financial performance of banks. An increae of 1% in such costs would result in about 1.1% increase in the financial permance of banks. Thus banks ought to be diligent in managing their overheads. The findings of this study will benefit academicians, bankers and contribute towards the limited research.

Keywords: Capital risk, Basel II, Basel implementation, Fixed Effect & CMA

INTRODUCTION

various countries have emphasised the importance of critically ensuring that financial institutions (such as banks) are operated, regulated and/or supervised so that all persons derive maximum benefits from these institutions (Thamae, Odhiambo, Khumalo, 2023). The global implementation of the Accord is argued to contribute to such initiatives. Hence, this study seeks to confirm or refute such benefits by considering the nexus between capital risk, financial performance and Basel II in the CMA member countries.

The CMA is a monetary arrangement in the Southern part of Africa that consist of four countries. South Africa, Namibia, Lesotho, and Eswatini (Shumba & Mukorera, 2023). The CMA member countries seem to pay attention to the global regulators to implement the accords. In 2008, South Africa implemented Basel II and became the second country in Africa to do so. Two years thereafter, Namibia also implement the same accord and took the third place in Africa to do so (International Monetary Fund, 2018; South African Reserve Bank, 2024). Currently all CMA member countries have either implemented the latest accord or are encouraged by the World Bank/IMF to do so.

The Basel Accords was issued on the global basis without considering all the national competencies of all countries on the globe. In fact, such expectation would be an enormous task to achieve. Thus, the Accords need to incorporate some elements of national competencies to create a level-playing field (Shenoy, Mohane, and Singh, 2014; (Berger et al., 2020). Globalising the Basel accords was also not supported due to compounded gaps in the financial market infrastructure reinforced by the variation in the underlying political economy of the banking sectors (Jones and Zeitz, 2017). As mush as the CMA member countries are all unique, the fact that they have the monetary agreement provides a balance between the characteristic of the individual country in the midst of globalisation.

Capital risk is the potential decrease in the market value of assets to or below the market value of liabilities, indicating that the economic net worth is zero or negative (Koch & MacDonald, 2015). Bank capital management is very important, more so as the licencing and hence the legal operation of any banking

institution depends on it (BoN, 1998). The financial performance identifies how well a company generates revenues & manages its assets, liabilities and financial interests of its stakeholders & stockholders.

The data used was mainly obtained from the World Bank and the International Monetary Fund (IMF). It employed a balanced annual panel data of 92 observations, starting from 2001 to 2023. Missing data was also sought from the respective central banks.

Hence this study seeks to assess the nexus between the Basel II that all CMA member countries have implemented, the regulatory capital that they record in their books and the financial performance of these countries.

PROBLEM STATEMENT

The Basel Committee, IMF and the World bank is of a stance that countries should implement the Basel accords. Within the CMA region, Lesotho and Eswatini have implemented Bael II while South Africa and Namibia have advance to Bael III. However, empirical studies have found contradicting results on the implementation of these accords. Hence, the assessment of the second accord, capital risk and financial performance in the CMA region to either refute or confirm the implementation of the accord. In addition, a study by Nikolaidou & Vogiazas (2017), found that there are numerous studies that are focusing on developed countries and large emerging markets while little research output is seen on bank-based financial sectors of Sub-Saharan Africa (SSA). It was indeed observed that there was a scarcity of research aimed at knowledge-sharing among different emerging countries. Thus, this study will attempt to test some of the benefits claimed and fill the identified literature gap for the implementation of Basel II in the CMA member countries focusing on capital risk and financial performance.

METHODOLOGY

Pearson's Correlation

The study found that there was no perfect linear relationship amongst the regressors.

Cross Sectional Dependence (CD) Test

Before conducting the unit root test, the CD test needs to be conducted to guide on the type of panel unit root tests that needs to be applied to the data. The CD test is important to confirm the presence or absence of cross sectional dependence amongst the variables (Atemnkeng & Tingum, 2024; Tugcu, 2018). Pesaran's CD test and Frees' test confirmed the presence of CD in data.

Test for Stationarity

Since the above CD tests confirms that there is cross sectional independence, it was then necessary to proceed to use the first generational unit root tests to analyse the stationarity characteristics of the variables. The LLC test showed that all variables are stationary at levels while the Breitung test confirmed that the chosen variables are stationary at mixed levels.

Cointegration test

The Cointegration test is conducted to confirm whether there is a long-run relationship between the variables. The study considered Pedroni and the Westerlund test and found that there is no cointegration amongst the financial performance variables in the CMA member countries

Hausman test (DWH)

the Hausman test was conducted to determine whether the random or fixed effect model should be chosen as a better fit for our panel data (Msomi, 2022; Thanh Cuong et al., 2012). The results of the chi-square were 16.22, with a p-value of 0.0010. Thus, the null hypothesis was rejected and the study concluded that the fixed effect model was more appropriate. For robustness, the finding remained consistent even when the measurement of financial performance in the same model was changed to ROA.

Proxies of variables & sample of literature

Table1: Description of determinants of Profitability, proxies, symbols & literature

Determinants	Proxy	Symbol	Sample of the literature
Profitability	2.1 Net income/Total Equity	ROE	(Mirović et al., 2024; Morara & Sibindi, 2021)
	2.3 Net income/Total Assets	ROA	(Isayas, 2022; Mirović et al., 2024; Morara & Sibindi, 2021; Zheng et al., 2017)
Industry-specific variables			
Capitalization	Bank total capital to total assets ratio	CAR	(Ashraf et al., 2020; Berger & N, 1995; Iannotta et al., 2007; Lee & Hsieh, 2013; Marandu & Sibindi, 2016; Pomuti et al., 2021)
Inefficiency	Overhead costs/Total Assets	OVHCOST	(Zheng et al., 2017)
Macroeconomic variables			
Inflation rate	Annual Inflation Rate	INFL	(Isayas, 2022)
Economic growth	Annual change in real gross domestic product in percentage	GDPGR	(Isayas, 2022; Mirović et al., 2024; Zheng et al., 2017)
Dummy Variables			
Implementation of the Basel Accords	It's a dummy variable for the implementation of the Basel Accords which takes the value of 1 if Basel II was implemented and zero otherwise.	BASEL	(Ashraf et al., 2020; Ferreira et al., 2021; Van Roy, 2011; Zheng et al., 2017)
Global Financial Crisis	It's a dummy variable for the 2007/2009 global financial crisis which takes the value of one for 2008 and 2009 and zero otherwise.	GFC	(Ashraf et al., 2020; Ferreira et al., 2021; Zheng et al., 2017)

Source: Authors compilation, 2025

FINDINGS

The below two regressions were specified, and the results are discussed below:

$$roe_{it} = \beta_0 + \beta_1 basel\_c2_{it} + \beta_2\, gfc_{it} + \beta_3 car_{it} + \beta_4 gdpgr_{it} + \beta_5 infl_{it} + \beta_6 ovhost_{it} + \mu_{it}$$

Where subscripts t is the time dimension arguments and remaining variables are as illustrated under Figure 1, controlling for industry & macroeconomic variables.

Since the p-value of the F-statics in our regional regressions is 0, we conclude that our variables used in the regression of the nexus between capital, Basel II and Financial performance are statistically significant at 5% (as well as at 1%) significant level. Hence, our model has some predictive powers. The coefficient of determination (R2) for the regional model is 36%. This means that the 36% of the variation in the financial performance is explained by the chosen model. This percentage is similar to the findings of other financial performance studies such as Augustin et al. (2022b); Dimitriu et al. (2012) and Mehmood & De Luca (2023). The analysis found that Basel II and the level of capital did not have a significant impact on the financial performance of the CMA region between 2001 and 2023. However, the overhead cost was found to have a significant positive relationship on the financial performance in the CMA region. If the overhead costs in the region increases by 1%, the average financial performance in the CMA member countries will also increase by around 1.1%.

CONCLUSIONS

The study did not find sufficient evidence to either support the implementation of Basel II or not. It also could not confirm the absence or presence of the impact of capital on the financial performance of the CMA banks. However, it cautioned CMA banks to balance between financial performance and the overhead costs. This suggest that banks in the CMA region should be diligent in their management of overhead costs to improve the financial performances of their respective banking industries.

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