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RESEARCH ARTICLE

Sustainability Practices and Financial Stability of Non-Financial Companies in Sub-Saharan Africa: Camel Parameter Ratio Approach

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Abstract

Most countries in Sub-Saharan Africa (SSA) have witnessed challenges with their financial stability, as most of their non-financial companies could not balance their performance. The study examined the effect of sustainability practices on financial stability of listed non-financial companies in SSA, using CAMEL parameter. Within the framework of ex-post facto research design, 183 non-financial companies Listed on the exchanges of Ghana, Nigeria and Johannesburg, South Africa as at December 31, 2020 constituted the population from which purposive sampling technique was used to draw a sample of 20 firms based on pre-determined criteria. Data covered 10 years period from 2011 to 2020 were analysed via Ordinary Least Squares (OLS) estimation techniques. The study concluded that Size and age significantly enhanced the effect of sustainability practices on the CAMEL ratio of the firms. Hence, strict monitoring and low risk profile on the part of the directors of corporate non-financial companies were recommended.

Keywords: Sustainability practice, Financial Stability, Economic Value Added, CAMEL Parameters ratio.

1. Introduction

Country's economic growth and development hinge heavily on the ability of financial system to ensure smooth operation of market discipline. This is corroborated by the submission of Adegboro, Adekunle and Orekoya (2020) that the level of growth and development witnessed by a country has been ascribed to numerous factors and financial stability is one of them. Financial stability is an

essential requirement not only for price stability, the policy goal of the central bank, but also for healthy development of the economy. This is because financial instability entails heavy costs for an economy, since the volatility of price variables in the financial markets increases and financial institutions or corporations may go bankrupt. Financial stability is the condition in which individual financial institutions are sound enough to carry out their financial intermediation function adequately, without assistance from external institutions including the government. Financial stability is the ability of financial system to facilitate and enhance economic processes, manage risks, and absorb shocks (Job, Fikirini & Ronald, 2018).

In recent time, issues relating to financial stability have been receiving attention from the financial experts and researchers. As submitted by Enyi (2018), corporate financial stability is the most discussed issue in the field of finance on account of the fact that contemporary investors are more concerned about survival of the prospects of corporate entities rather than immediate financial gains. Some of the organizations that expressed concern on the issues relating to financial or monetary stability are International Association of Insurance Supervisors, International Accounting Standards Board, International Organization of Securities Commissions, and the International Association of Deposit Insurers (Yakubu, 2021). The reason for the financial stakeholders' concern on the financial stability may not be far from the negative results of the East-Asian financial crises of late 1990s which led to the introduction of the Financial Sector Assessment Programme (FSAP) in 1999 by World Bank and the International Monetary Fund (IMF) with the aim of ensuring regularly assessment of the strengths and weaknesses of the financial systems in the affected member countries. Other notable reason for the attention being received by financial stability is the global financial recess of years 2007 and 2008. The financial crises seem to have taught financial experts and countries lessons in hard ways.

According to Central bank of Nigeria (2013), the resilience of the financial system to unexpected adverse stresses or shocks is achieved through financial stability. The condition allows unending smooth functioning of the financial system's intermediation process. This implies that financial stability could lead to smooth functioning of financial and monetary system in an economy. It is believed that for financial system not to witness shocks, economic downturn or imbalances, there is a need to make a room for the sustainability of the financial stability. Sustainability has changed from being one of contemporary slogans to a full-fledged discipline with internationally recognition (Stainer and Stainer, 2011). Alhadhrami and Nobanee (2019) opined that sustainable business growth which involves opportunity for growing market position and improving the management of risks has become one of the highest priorities of business identities, from private to public sectors and from small enterprises to multinational companies. Johnson (2012) was of the opinion that organizations that embrace sustainable practices are more financially stable and maintain a lower risk profile than those that purely focus on generation of short-term financial returns. It is expected that sustainability condition would remain stable and favourable to sustain business performance (Nzekwe, Okoye & Amahalu, 2021). This implies that sustainability allows continuous and smooth running of financial stability of non-financial companies.

Sustainability practices are usually put in place to ensure financial stability are economic, social and environmental practices. This corroborates the assertion of El-Khalil and El-Kassar (2018) that sustainability practices refers to the way organizations enhance their long-term economic, social, and environmental performance. It also concurred with the submission of International Organisation for Standardisation (2018) that sustainability reporting has to do with a company's reporting on its economic, environmental and social performance. Brauers, Ginevicius and Podvieszko (2014) were of the view that political, social and economic as the exogenous factors are the major sustainability practices that matters.

For non-financial companies to effectively and efficiently meet their objectives there is a need for them to suitably adapt or adjust themselves to their environments. In most African countries, the environment in which financial companies and businesses operate is on an unsustainable course and this may have negative impact on the stability of the companies. There is prevalence of environmental challenges such as global warming, health care and poverty. In ameliorating the challenge caused by the harsh environment in the zone, there is a need for non-financial companies to inculcate environmental sustainability.

Social sustainability is viewed as the most important and critical element of sustainable development not only because it ensures long-term survival of human civilization, but also because the human and social capital is the most important component of national wealth (Moldan *et al.*, 2012). The major objective of social sustainability is the preservation of social capital through investment and creation of services that constitute the framework of our society. Most of the countries in the sub-Saharan Africa have culturally and socially diverse groups and for them to achieve a fair degree of social homogeneity that affords creation of decent livelihood and equitable access to resources and social services, there must be life enhancing condition within the communities that actively support the capacity of future generations to create healthy and livable communities (Spangenberg & Omann, 2006).

Economic sustainability aims at maintaining not only the quality of growth but also the quantity of such growth by improving the standard of living through the efficient and effective use of assets to maintain the organization's profitability over time (*The Four Pillars of Sustainability*, 2017). To the economists various kinds of capital like man-made capital, natural capital, human capital and social capital should be maintained in a sustainable manner (Moldan *et al.*, 2012). That is the main reason why Spangenberg (2005) opined that in the economic debate, most often than not sustainability development is described as the need to maintain a permanent income for humankind, generated from non-declining capital stocks.

The major concern of economic sustainability therefore, is optimal resource management which ensures that the use of resources today should not in any way reduce real incomes in the future because sustainability requires that the conditions necessary for equal access to the resource base be met for each subsequent generations (Moldan *et al.*, 2012). In the same vein, Fokina, Yachmenev and Ivanova (2020) opined that the on-going transformation of the global economy and environment which has led to depletion of natural resources, deterioration of human health, and a decrease in life expectancy, is currently acquiring particular and significant importance in a modern world. Environmental problems has taken a global dimension and the ultimate impact of these problems are drastic changes to quality and quantity of all life, including human life and there is also a rising evidence that environmental issues have become an important parameter for firms to gain competitive advantage, better economic performance, reputation and to enhance organizations' internal and external legitimacy (Masud, Nurunnabi & Bae, 2018; Osbaldiston & Schott, 2012).

While presenting a business case for sustainability, Cavaleri and Shabana (2018) observed that the potential nexus between the corporations' vital sustainability interests and financial performance has narrow and broad perspectives. The narrow view of sustainability justifies a direct linkage to firm's financial performance in form of immediate cost savings. Broad view, on the other hand support investment in sustainability that will yield both direct and indirect benefits such as cost and risk reduction, creation of competitive advantage, reputation and legitimacy benefits and synergistic value creation. In the same vain there is nested model of sustainability which emphasizes that sustainable development must take cognizance of the absolute dependence of the economic and social dimensions on functioning ecosystems that can supply ecosystem services such as water, air, natural resources, disaster risk mitigation and so forth.

Financial stability of corporate organizations including financial and non-financial institutions is as important as the institution itself. The interest of stockholders in non-financial companies' performance has grown significantly over the past few years. It is believed that the financial system has to maintain balances and move away from external shocks that could lead to its misfortune. Financial stability of any corporate organization is the degree to which the whole of the system is capable of resisting external and internal shocks. There is a need for the accomplishment of the financial stability of non-financial companies which implies that the financial stability needs to be established to ensure steadiness in the financial system (Dovhal & Chamara, 2015).

In order to ensure financial stability of the companies, various steps have to be taken and notably among them is the application of sustainability practices. Sustainability is currently a burning issue and a major cause of concern across the globe once the issue of financial stability is mentioned. This indicates that sustainability is a powerful approach to address the seemingly imbalances in financial systems in Sub-Sahara Africa. Rizvi and Garg (2021) submitted that to ensure survival of their entities, business operators embark on untenable blind pursuit of profit at all costs. For a long time and in order to ensure stability in their operations, business executives in Nigeria and other Sub-Saharan African countries have treated sustainability as a dispensable philanthropic option by taking a piece meal approach of corporate social responsibility which is merely a fraction of what sustainability entails (Amaeshi, 2017).

Observations revealed that majority of the countries in Sub-Saharan Africa do not lay much emphasis on the sustainability of financial stability and this seems to have contributed to imbalances in the financial system. It is believed that sustainability of financial stability carried out within the areas covered only banks and other financial companies while little or no attention is given to the sustainability of non-financial companies. The inability of the non-financial companies to bring in sustainability practices of economic, social and environment seems to have negative impact on the stability of the companies. Kumar (2016) observed that the use of CAMEL parameters is common for testing the financial stability of financial institutions. However, in this study this parameter was applied to test the financial stability of non-financial companies in Sub-Saharan Africa.

Based on the foregoing, this study examined the impact of sustainability practices on financial stability of listed non-financial companies in Sub-Saharan Africa using CAMEL Parameter ratio. Though the study proposed no significant effect of sustainability practices on financial stability of the non-financial companies in SSA, the findings were otherwise.

2. Literature Review

According to Yakubu (2021), financial stability as a concept has no universal definition and even has no generally accepted method of measurement given the interdependence and the complex interactions of different elements of the financial system among themselves and with the real economy. The narrow definition is relatively simple to formulate, but fails to capture the positive contribution of a well-functioning financial system to overall economic performance. Indeed, broader definitions of financial stability encompass the smooth functioning of a complex nexus of relationships among financial markets, infrastructures and institutions operating within the given legal, fiscal and accounting frameworks. Such definitions are more abstract but are more inclusive of the macro-economic dimension of financial stability and interactions between the financial and real sectors. From this perspective, European Central Bank (2007) defined financial stability as “a condition in which the financial system—comprising financial intermediaries, markets and market infrastructure – is capable of withstanding shocks and the unravelling of financial imbalances, thereby mitigating the likelihood of disruptions in the financial intermediation process which are severe enough to significantly impair the allocation of savings to profitable investment opportunities.” Strictly speaking, financial stability is

a financial system that is stable, secured, safe, steady, sound and in the absence of excessive volatility, stress or crises.

Sustainability is concerned with the effect a present action will have on the options available in the future especially as it relates to the utilization of finite natural resources (Uwuigbe, 2011). For instance, the extraction of raw materials like coal, iron or oil which are finite in nature might be used up and once used up may not be available for future use. Consequently, the depletion of such resources will require alternatives that will fulfill the functions that the resources is presently providing and this may come at a higher cost which will invariably increase the operation costs of the organizations involved. Therefore, the principle of sustainability implies that society must not use resources more than the carrying capacity of ecosystems that ensures its regeneration at the same rate of its usage (Uwuigbe, 2011). Anand and Sen (2017) observed that the implication of this is that we cannot be allowed to abuse and plunder our common stock of natural assets and resources by using them up or contaminating them as we wish thereby violating the rights and the interests of the future generations.

Möller, Bizer, Krüger & Kubach (2014) argued that the concept of sustainability includes components that constantly assert that present generation should ensure that future generations are not environmentally, economically or socially burdened to increase its present well-being. But the term sustainability is broadly used to indicate programs, initiatives and actions aimed at the preservation of a particular resource. However, its actual meaning refers to four distinct areas: human, social, economic and environmental - known as the four pillars of sustainability.

Miska, Szöcs and Schiffinger (2018) described three domain of sustainability highlighting their implications; these are economic domain, social domain and environmental domain. The economic domain concentrates on financial bottom-line that creates long-term economic prosperity through efficient use of resources and the productive capacity of organizations. The social domain refer to a corporate entity's impact on social justice that reflects knowledge, skills, motivation, and loyalty of employees, as well as its social impact on and trust of its business partners, communities, and society as a whole. However, the environmental domain refers to a company's ecological integrity and its efforts to reduce the size of its environmental footprint.

Financial stability of non-financial companies can be assessed using different approaches and one of the most used is CAMEL methodology which is also known as the Uniform Financial Institution Rating system. It was originally embraced by North American bank regulators to evaluate the financial and managerial soundness of U.S. commercial lending institutions. Later it adopted by the Federal Financial Institution Examination council on November 13, 1979, and then adopted by the National Credit Union administration in October 1997 (Rahman & Islam, 2017 and Kumar, 2016).

Kumar (2016) and Yakob *et al.* (2012) observed that the CAMEL parameters is commonly used for testing the financial stability of financial institutions; in the sense that it is applied to all financial institutions (FI) encompassing development banks, commercial banks, merchant banks and finance companies. It takes into account the managerial, financial, operational and compliance aspects of FI and the evaluation is often conducted in a comprehensive and uniform manner. The CAMEL model is made up of five parameters, namely, capital adequacy, asset quality, management capability, earnings ability and liquidity ratio.

Sangmi and Nazir (2010) have asserted that the capital adequacy ratio reflects the bank's inner strength and may enhance the investment decisions made by the bank. A strong capital adequacy ratio offers a platform to increase its credit undertakings and reduce its unexpected risks. While Manu *et al.* (2011) viewed capital adequacy as a high ratio that gives an indication of a reduced likelihood of banks becoming insolvent. When banks become insolvent, it may lead to a loss of confidence in the financial system and a reduction in savings.

Asset quality is an important aspect of the bank's performance as a poor asset quality that will lead to bank failure. Merchant (2012) opined that the asset quality aids the understanding of the risks

that confront a bank with respect to the exposure of a bank to the debtors. Therefore, as emphasized by Dang (2011) every bank should consider performing credit risk management and evaluate the quality of their loan portfolio, which may be a challenge as the analysis will be subjective by nature.

Management capability which is qualitative in nature is generally subjective because it depends on management systems, organizational culture and so on (Sangmi & Nazir, 2010). The capability in this sense manifests in the management's ability to utilize its resources aggressively to boost the income, utilize the facilities in the bank productively and reduce costs. But it can be gauged through maximization of shareholder wealth, total expenditure to total income, operating expense to total expense and so on (Sarker, 2006).

The earning ability is the traditional parameter for measuring financial performance. Good and consistent earning builds public confidence in the bank and reduces the likelihood of bankruptcy by absorbing the loan losses. Liquidity ratio measures the availability of assets that can easily be converted to cash with minimum loss to the bank (Dang, 2011). Liquidity management is very important for a firm as excess cash held has no yield and inadequate cash will lead to unpaid demands.

The CAMEL parameters are capital adequacy, asset quality, management capacity, earnings capacity and liquidity ratio. However, for the purpose of this study, all other variables of CAMEL apart from assets quality relate to non-financial entities; therefore, asset quality for our purpose will be determined in relation to the addition of impairment loss and bad debt provision, subtracted from total asset and this figure will be divided by the total asset. These measures of this parameter is in agreement with Koros' (2001) measurement.

3. Methodology

The research design adopted in this study was non-experimental research design of *ex-post facto* type. This is relevant to the study as it allowed the researcher to collect and evaluate data related to past events on the impact of sustainability practices on the financial stability of listed non-financial companies in sub-Sahara Africa. The population of the study was the non-financial companies listed on the Nigeria Stock Exchange (NSE), Ghanaian Stock Exchange (GSE) and Johannesburg Stock Exchange (JSE) as of December 31, 2020. In NSE there are 105 non-financial companies; in GSE there are 38 non-financial companies while in JSE 40 most capitalized stocks was used as the population of this study. The sample for the study consisted of 30 non-financial companies representing 10 most capitalized companies from each of the stock exchanges (Nigeria, Ghana and South Africa) considered for this study were selected using purposive sampling technique. Secondary data collection procedure was adopted as the annual financial reports, fact book of the Stock Exchanges (Nigeria, Ghana and South Africa) and websites of the selected non-financial companies on financial stability and corporate sustainability.

The validity of the instrument (data) used had been previously validated by the sampled non-financial companies and their external auditors in line with the Generally Acceptable Accounting Principles (GAAP) and International Financial Reporting Standards (IFRS) yet the researcher presented the data to the experts within the research area for validity. Equally, the reliability of the instrument (data) had been carried out by the institutions that prepared the data such as International Financial Reporting Standards (IFRS) which reinforces the quality of the financial statements. Statistical tools adopted in the study were ordinary least square, random effect or fixed effect regression analysis depending on the outcomes of pretest analyses carried out to ensure that the problems of heteroscedacity, autocorrelation and multicollinearity were excluded from the analysis.

4. Results and Discussion

Table 1: Estimation Results on the Impact of Sustainability Practices on CAMEL Parameter of Non-Financial Companies

Models	Model			
Estimation Techniques	Random-effects Regression with Driscoll-Kraay Standard Error			
Dependent Variable: CAMEL	Coeff.	Std. Err	T-Stat	Prob
Constant	8.49	2.68	3.16	0.012
NIG	0.13	0.07	1.90	0.090
EVA	-0.08	0.04	-0.22	0.829
SSP	0.01	0.02	0.41	0.689
ENVSP	-0.01	0.03	-0.51	0.621
FS				
FA				
Overall/Adjusted R ²	0.0192			
F-Stat/Wald Stat	Chi ² ₍₄₎ = 5.30 (0.26)			
Hausman Test	Chi ² ₍₄₎ = 6.95 (0.14)			
Testparm/LM Test	Chi ² ₍₁₎ = 213.05 (0.00)			
Heteroscedasticity Test	Chi ² ₍₁₎ = 0.03 (0.85)			
Serial Correlation Test	F _(1, 37) = 17.014 (0.00)			
Cross-Sect Dep. Test	7.522 (0.00)			

@ Chosen Significant level of 5%

In Table 1, the results showed that the value of the Wald-Stat is 5.30 and there are four independent variables in the model; with probability of Wald-Stat of 0.26, that is 26 per cent, which is more than the 5 per cent chosen significant level. Therefore, the null hypothesis which states that there is no significant effect of sustainability practices on CAMEL parameter of listed non-financial companies in Sub-Saharan Africa was not rejected. The alternate hypothesis which states that there is significant effect of sustainability practices on z-score ratio of listed non-financial companies in Sub-Saharan Africa is hereby not accepted.

Table 2: Estimation Results for Firm Size and Age as Control of the Impact of Sustainability Practices on Financial Stability using CAMEL Ratio

Models	Model

Estimation Techniques	Pooled OLS Regression with Cluster Standard Error			
Dependent Variable: CAMEL	Coeff.	Std. Err	T-Stat	Prob
Constant	-4.04	2.63	-1.54	0.125
NIG	0.13	0.07	1.82	0.070
EVA	-0.11	0.07	-1.51	0.131
SSP	0.03	0.02	1.49	0.137
ENVSP	-0.04	0.02	-2.10	0.037
FS	2.71	0.62	4.38	0.000
FA	-0.14	0.03	-4.97	0.000
Overall/Adjusted R ²	0.1359			
F-Stat/Wald Stat	F _(6, 372) = 10.9 (0.00)			
Hausman Test	Chi ² ₍₆₎ = 13.07 (0.04)			
Testparm/LM Test	F _(8, 327) = 1.22 (0.29)			
Heteroscedasticity Test	Chi ² ₍₁₎ = 7.62 (0.01) F _(1, 37) = 13.429 (0.00)			
Serial Correlation Test				
Cross-Sect Dep. Test				

@ Chosen Significant level of 5%

Results in Table 2 revealed that the value of Wald-Stat is 10.9 and there are four independent variables and two control variables in the model; with probability of Wald-Stat of 0.00, that is 0%, which is less than the 5 per cent significant level. Also, considering the changes in the overall Adjusted R-squared due to the inclusion of firm size and firm age in the model as control variables, which have improved the predictive power of the model by additional 11.67%. The null hypothesis which states that firm size and firm age do not significantly control the effect of sustainability practices on CAMEL parameter of listed non-financial companies in Sub-Saharan Africa was rejected. The study accepted the alternate hypothesis which states that firm size and firm age do significantly control the effect of sustainability practices on z-score ratio of listed non-financial companies in Sub-Saharan Africa.

Discussion

The finding of the study revealed that sustainability practice has a significant effect on CAMEL parameter of listed non-financial companies in sub-Saharan Africa and this is evidential as the null hypothesis is rejected at $p\text{-value} < 0.05$ (5% significance level). The finding was in agreement with that of Chong, *et al.* (2018) that sustainability practice has a positive significant effect on firm's performance, indicating consistency and appropriate with findings of this study since the study also made use of secondary data for regression in the relationship or findings in the effect of board composition, political connections and sustainability practices. In Hong Kong also, the findings of Beck, Frost and Jones (2018) conducted a research on the cross-country comparative analysis of three stock exchanges of the developed nation of Australia, Hong Kong and the United Kingdom. According to the findings, CSR engagement can predict actual CSR performance. There was also evidence of a link between corporate social responsibility and financial performance. These findings were significant and positively contributed to the effect of sustainability practices on stability of companies. Furthermore, the study aligned with this study in that it also included firm size as one of the moderating variables employed for their study.

In the research of El-Manzani, Sidmou and Cegarra (2017), where they developed a framework of the relationship between total quality management, corporate social responsibility, innovation capability, and financial performance. TQM, according to the report, can catalyze inventive capacity and CSR, as well as serve as a platform for improving financial performance, which is in consistent with our findings. Solovida and Latan (2017) showed a positive significant effect between environmental strategy and the use of environmental management accounting, which in turn can improve companies' environmental performance. However, the work of Solovida and Latan, unlike this study, makes use of survey research technique to reach this conclusion.

The finding agreed with the finding of Manrique and Martí-Ballester (2017) that environmental practices have a considerable and favorable impact on firm financial performance in both developed and developing countries. It also agreed with the finding of Batruch (2017) that sustainability has become a business strategy for dealing with shifting societal norms and stakeholder expectations on company behavior. Also, in a study conducted by Yakob *et al* (2012), it was revealed that CAMEL rating is an appropriate approach for determining the financial strength of corporate entities. These studies were in line with the findings of this study which found that a significant impact between sustainability practices and CAMEL parameter of listed non-financial companies in sub-Saharan African countries.

In contrary to the findings, result of Kabote and Mangi (2018) stated that sustainability in Sub-Saharan Africa, in all of its various and unequal manifestations in voluntary disclosures, can be realized by striking a balance between the environment, society, economy, and institutions, while also tackling the issues that obstruct sustainable development efforts of the region. Also, concentrating on the macroeconomic effect of financial stability which was outside the purview of this research, the findings of Adrian and Borowiecki (2018) revealed that the collapse of Long-Term Capital Management in 1998 was caused not only by asset leverage or high risk taking, but also by its size relative to the markets in which it was invested as stated in the study.

5 Conclusion and Recommendations

The study concluded that sustainability practice had a significant impact on financial stability (CAMEL parameter) of listed non-financial companies in sub-Saharan Africa countries. The study also concluded that firm size and age have moderating impact on sustainability practices significant effect on CAMEL parameter ratio of listed non-financial companies in sub-Saharan Africa.

Based on the findings and conclusion, the study recommends that non-financial companies in Africa work towards improvements in sustainability performance, corporate reporting practices should be regulated. In addition, the stock exchanges in Africa should come up with rules and regulations that would prevent the preparers of financial reports from engaging in sharp practices and earnings management in form of window dressing that seek to aid information asymmetry in order to increase their market shares. Furthermore, directors of corporate non-financial companies in Africa should always take strategic steps that would ensure they monitor and keep the risk profile of their companies to barest minimum in order to enhance the financial stability of their entities. Moreover, the firms in sub-Sahara Africa should invest more in social and environmental performance to achieve manifold performance objectives in form of outstanding visibility and better financial stability, which would stimulate quality competitive advantage and enhance them to be up to speed with global best practice.

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