

# Financial Market and Economic Growth In Equatorial Guinea

OKON, EKANEM NSIKHE<sup>1</sup>, OBAMA EYANG ELENA AKUM<sup>2</sup>, OKPALOAFE, IVHARUE ALBERT<sup>3</sup>, AGBOR OBA OTANGO<sup>4</sup>

<sup>1</sup>(Arthur Jarvis University Akpabuyo)

<sup>2</sup>(Arthur Jarvis University, Akpabuyo / Equatorial Guinea)

<sup>3,4</sup> (University of Calabar)

**Abstract-** *This study examined financial market and economic growth in Equatorial Guinea. Despite its rich natural resources, Equatorial Guinea faces significant challenges in developing its financial market, which hinders the country's ability to achieve sustainable and inclusive growth. Hence, the study examined the nexus between financial market and economic growth in Equatorial Guinea. Annual time series data sourced from the World Development Indicators were employed. Economic growth was proxied by real gross domestic product while financial market was captured by domestic bank credit. The bound testing and Autoregressive Distributed Lag model estimation techniques were employed for the analysis. It was revealed that a long run relationship exists among the variables in the estimated model. A positive relationship exists between domestic bank credit, foreign direct investment and financial market in Equatorial Guinea. The implication of the findings is that financial market influences the economic growth of Equatorial Guinea. Hence, the study recommends that; there is need for implementing of policies that will enhance the expansion of domestic credits by deposit money banks to investors for economic growth; attract foreign direct investment through the provision of conducive business environment; and monitor exchange rate of the currency vis-à-vis the United States dollar.*

**Keywords:** *Financial Market, Economic Growth, ARDL, Equatorial Guinea.*

## I. INTRODUCTION

It is an acceptable fact that without financial resources no-business enterprise or government can achieve any substantial roles effectively, it helps to share up saving (McKinnon 1974). Equatorial Guinea, a small Central African country, has experienced rapid economic growth in recent years, largely driven by its vast oil and gas reserves. The financial market in Equatorial Guinea has played a crucial role in this growth, with the country's stock market, the Bourse de Valeurs d'Guinée Équatoriale (BVGE), serving as a key platform for companies to

raise capital and investors to participate in the country's economic development (African Development Bank, 2022). However, despite this growth, Equatorial Guinea still faces significant challenges, including a lack of diversification and a heavy reliance on oil exports, which leave the country vulnerable to fluctuations in global commodity prices (World Bank, 2020). This paper will explore the relationship between the financial market and economic growth in Equatorial Guinea, examining the opportunities and challenges facing the country as it seeks to sustain its economic growth and develop its financial sector.

Despite its rich natural resources and rapid economic growth, Equatorial Guinea faces significant challenges in developing its financial market, which hinders the country's ability to achieve sustainable and inclusive economic growth (African Development Bank, 2022). The financial market in Equatorial Guinea is characterized by limited financial inclusion, with a large portion of the population excluded from formal financial services, high interest rates and limited access to credit, other challenges includes constraining private sector growth, dominance of the oil sector, leading to a lack of economic diversification, inefficient financial institutions, lack of financial innovation, limited financial regulation and supervision, leading to instability and vulnerability to external shocks.( African development bank 2020) These are challenges which financial Market development are supposed to solved. *According to Emmanuel Ifeanyi Ajudua & Vivian Anietem Odishika (2022) to assist in the efficient and effective mobilization of resource to speed up the expansion of the Nigerian economy, monetary authorities should develop and implement policies focused on depending the financial sector*

The Main objective of this study is to investigate the nexus between financial market and economic growth in Equatorial Guinea. The study covered a

time period of 29 years ranging from 1994 to 2023. The time frame is considered suitable for the study because it covers the era of financial development and huge foreign capital inflows into the economy of Equatorial Guinea. The rest of the paper is put down as follows, chapter two covers the theoretical / empirical literature, the chapter three covers the methodology section, data estimation and analysis is explained in chapter four while the last section chapter five comprises of the conclusion of the study, policy implication and recommendation.

## II. REVIEW OF RELATED LITERATURE

### 2.1 Theoretical Review

The theoretical explanation on the nexus between financial market and economic growth is analyzed using Efficient Market Hypothesis (EMH) developed by Fama (1965). According to EMH, financial markets are efficient or prices on traded assets have already reflected all known information and therefore are unbiased because they represent the collective beliefs of all investors about future prospects concerning profitability, liquidity and efficiency of the market. The Efficient Market Hypothesis (EMH) states that at any point in time, prices reflect all available information. This implies that no amount of data mining can predict future prices. Furthermore, an analysis of past or current data cannot identify undervalued stocks. Applying this to the securities markets, the EMH implies that no trading mechanism can consistently beat the market. Hence, for a given level of risk, speculators cannot earn supernormal returns. Similarly, no betting system can consistently earn super normal returns.

There are varying degrees of market efficiency, with Fama (1965) providing the traditional framework through which the EMH is examined. The weak form simply states that all past information is reflected in current prices. The semi-strong form states that all publicly available information is incorporated in prices, while the strong form, an extension of the first two, states that all information, including insider information, is included in share prices. In practice, market efficiency is categorized by the strength of the efficiency that can be established with respect to a particular information set. Information sets can be categorized into: past price and volume of information; public information; and public and private information. The efficient market hypothesis exists in three main versions, namely weak form of

efficient market hypothesis, semi-strong market hypothesis and strong market hypothesis.

### 2.2 Empirical Studies

#### 2.2.1 local studies

Enekwe, Eziedo, and Agu (2016) studied whether the capital market improves economic growth in Nigeria or not. Considering variables such as market capitalization, total value of securities traded, number of listed securities, and real gross domestic product. It was found from the results that market capitalization exerts a positive high impact on economic growth.

Abina and Lemea (2019) studied the effect of the capital market and performance of the Nigerian economy from 1985 to 2017. The study employed the error correction mechanism, and it was revealed that total market capitalization and total value of new issues are strong drivers of economic growth in Nigeria.

Ighoroje and Eloho (2022) investigated the efficacy of financial market operations on economic growth in Nigeria from 2008 to 2020. The study considered the post-global financial crises periods and the ordinary least squares methodology was applied. It was found that market capitalization and treasury bills had a positive significant effect on the growth of the Nigerian economy. However, both All-share-index and Bankers' Acceptance had adverse significant effects on the growth of the Nigerian economy. Meanwhile, both commercial papers and turnover ratio had a positive insignificant effect on growth.

Akintola, Oji-Okoro and Itodo (2020) investigated the impact of the financial sector development on economic growth in Nigeria, by looking at the independent contributions of the money, capital and foreign exchange markets to the growth of the economy, using quarterly data between 2000Q1 and 2019Q4. The results indicated that while financial deepening, banking system liquidity and all share index had positive and significant impact on the growth of real output in the long-run, the behaviour of exchange rate spread was consistent with falling levels of real output growth.

Odey *et al.* (2023) examined the nexus between financial indicators and stock market performance in Nigeria using the bound testing and Autoregressive Distributed Lag model estimation techniques for the

analysis. It was revealed that a long run relationship exists among the variables in the estimated model. A positive relationship exists between market profitability, liquidity, efficiency and stock market performance in Nigeria. The implication of the findings is that market profitability, market liquidity and market efficiency have positive impact on stock market performance in Nigeria.

Augustine *et al.* (2022) investigated the effects of selected macroeconomic variables on stock market performance in Nigeria. An Autoregressive Distributive Lag (ARDL) estimation technique was used to establish the long run relationship among the variables, and it was revealed that a long run relationship existed among the variables in the estimated model. The result shows that macroeconomic variables such as gross domestic product, broad money supply, exchange rate, and savings interest rate have a positive effect on stock market performance in Nigeria.

#### 2.2.2 foreign studies

Tito Ondo Ela-Medja & Pilar Alberca (2023) examined the efficiency and competitiveness of the Equatorial Guinea financial sector from 2013 to 2019. the analytical tools used include: parametric approach such as stochastic frontier and nonparametric technique such as data envelopment analysis, the result of the finding shows that banking sector which represent the financial sector of the economy operate with low level of technical efficiency, and average efficiency regarding competitiveness, the study recommend that the economic agent to provide a good business climate in the country and guarantee perfect competition in the financial market to promote national development.

Odunga and Ayoyi (2016) analyzed the impact of financial markets on economic growth within East Africa. They conducted a systematic review of literature papers in the field of financial markets through content analysis to draw conclusion and recommendations. It was found that financial market impacted on growth positively. Hence, governments in less developed countries need to enhance and develop robust financial markets in order to realize the full potential of foreign direct investment. Furthermore, financial markets act as linkages between the foreign financial markets and the economy.

Jun wen Hamid Mahmood, Samia Khalid and Muhammad Zakaria (2022) examined the effect of financial development on major economic indicators, such as economic growth, employment and inflation, using system GMM estimation technique for a panel data of 120 countries for 20 years (1997 - 2017) the result from the finding reveal that there is a negative relationship between financial development and economic growth whereas financial development is positively related to employment and inflation. The study recommends the need for reform and strengthen the supervision of the financial intermediaries in other to ensure prudent lending practices as well as allocate more credit to highly productive firms.

Younesse EI Menyari (2019) examined the impact of financial development and foreign bank penetration on African economies. An empirical study for the period 1995–2015 was conducted using the system GMM estimator. the empirical results indicate that foreign bank entry has a positive and significant impact on economic growth in the countries of North and Southern Africa, while in the other two regions considered in this study (West and Central Africa, East Africa) the impact is negative and rarely significant. In addition, our results show that the development of financial markets has a positive and significant effect on economic growth only in the Southern African region. The paper concludes that policymakers should focus on long-term policies to strengthen the financial sector to truly meet the needs of African people.

Yohannes Getachew (2016) updated through revisiting “the finance – growth nexus” using different and recent time series data from 20 selected sub-sahara Africa region. Variables used for the study include economics growth, geographic location allotting sea door, macroeconomics stability, investment, domestic savings, foreign legal system origin and financial development. Multilevel mixed effect regressions (MMER) was employed and the result revealed that there is a significant and positive effect of economic growth geographic location allotting sea door, macroeconomics stability, investment, domestic savings, while a negative relationship existed between foreign legal system origination and financial system.

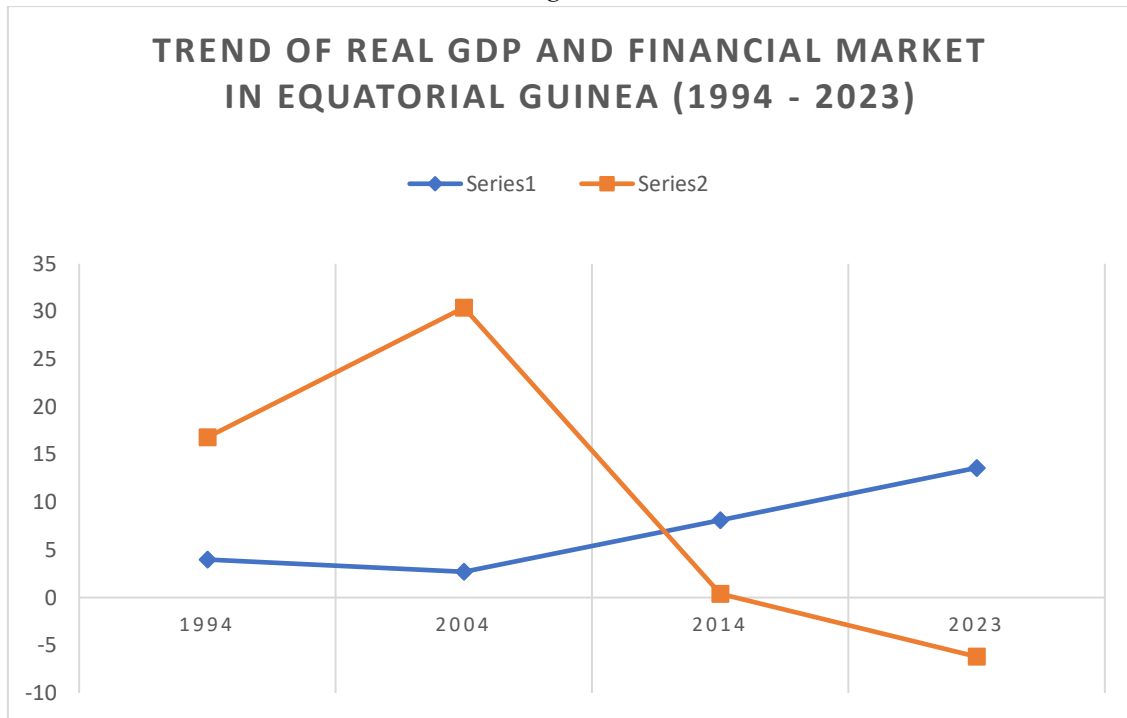
It is revealed from the empirical reviews that most of the studies were not directly on the impact of

financial market on economic growth, rather they dwell basically on financial indicators and financial sector development outside Equatorial Guinea. Furthermore, the scope of most of the closely related studies ended before 2020. The findings of the work must have been taken by events knowing full well that there have been series of new policies which the

new administration in Equatorial Guinea have introduced that may have impacted on the economy, hence the need to extend the scope to 2023 to capture the most recent issues such as the COVID-19 pandemic and its effect on Equatorial Guinea economy.

### 2.3 STYLIZED FACT BETWEEN FINANCIAL MARKET AND ECONOMIC GROWTH IN EQUATORIAL GUINEA

Figure 1



Series 1 represent the trend in financial market while Series 2 represent the trend in real gross domestic product in Equatorial Guinea for the period (1994 - 2023). The technique of analysis includes the bound testing and Autoregressive Distributed Lag model estimation techniques, which is obtained to show how financial market impact economic development.

### III. METHODOLOGY

#### 3.1 Model Specification

The model for this study is anchored on the efficient market hypothesis which states that prices on publicly traded assets reflect both past and current publicly available information on financial market. The model for this study in its functional form is expressed as follows:

$$RGDP = f(DBC, FDI, EXCHR) \quad 1$$

The equation in 1 can also be expressed in logarithmic form as follows:

$$RGDP_t = \beta_0 + \beta_1 DBC_t + \beta_2 FDI_t + \beta_3 EXCHR_t + U_t \quad 2$$

Where: RGDP = Real gross domestic product, measuring economic growth in Equatorial Guinea, DBC= Domestic bank credit and EXCHR= Exchange rate (Units of CFA Franco BCEAC per US dollar);  $U_t$  = Stochastic error terms;  $t$  = time dimension. The *a priori* expectations are:  $\beta_0, \beta_1, \beta_2, > 0$ ;  $\beta_3 < 0$ . The data for this study were obtained from the World Development Indicators, 2023.

#### 3.3 Estimation Procedures

The time series properties of the data were examined in order to avoid spurious result emanating from the non-stationarity of the data and to analyze the dynamic structure of the relationship. The estimation begins with a unit root test to confirm the stationarity

state of the variables that enter the model using Augmented Dickey Fuller (ADF). Consequently, conducting the tests with and devoid of a deterministic trend (t) for all the series and comparing P-values with the critical values at 5% significance level, we observed that the series had first order of integration and that led us to the application of Auto-regressive distributed lag (ARDL) model. Meanwhile, to determine the short-run and long-run coefficients of the series, the ARDL model is applied in the analysis.

#### IV. ANALYSIS AND DISCUSSION OF RESULTS

In order to investigate the relationship between financial market and economic growth in Equatorial Guinea, annual data obtained from World Development Indicators were subjected to multiple regression analysis using autoregressive distributed lag technique.

##### 4.1 Unit Root Test

In other to test for the presence or absence of unit root in the data used for the empirical analysis, Augmented Dickey-Fuller (ADF) test was employed and the test result is as presented below:

Table 1: Augmented Dickey-Fuller (ADF) Unit Root Test

Series	Levels	First Difference	Order of Integration	Remarks
RGDP	-0.976043	-3.689342	I(1)	Stationary
DBC	-0.473288	-3.745471	1(1)	Stationary
FDI	-2.337123	-5.833571	1(1)	Stationary
EXCHR	-1.448857	-6.636042	1(1)	Stationary

Source: Researcher's Compilation from E-views 9.

The characteristic, validity and reliability of the data employed were established using the ADF test. The Augmented Dickey Fuller unit root test was conducted to examine the stationarity condition of the variables. As indicated in table 1 above, all the variables were stationary at first difference. This unit root test result therefore revealed the existence of first order of integration, i.e., I (1) among the variables of the study. The order of integration from the unit root test results implies the possibility of long-run relationship among the variables of the study, though

further investigations using ARDL-Bound test result will reveal if actually long run relationship exist among the variables of the study.

##### 4.2 ARDL Bounds Test

The bound test is used to examine whether the variables are co-integrated. The variables are said to be co-integrated if the F-statistics is greater than the critical values and otherwise if it is less. The result of Bounds test is presented in the Table 2 as follows:

Table 2: ARDL Bounds Test Result.

Test Statistic	Value	K
F-statistic	4.812022	3
Critical Value Bounds		
Significance	I0 Bound	I1 Bound
10%	2.72	3.77
5%	3.23	4.35
2.5%	3.69	4.89
1%	4.29	5.61

Source: Researcher's Compilation.

From the bound testing result reported in Table 2, long run relationship exists amongst the variables in the estimated equation, given that the value of the F-statistic (4.8) is greater than the critical value at five per cent level in both the upper (4.35) and the lower bounds (3.23). Therefore, the null hypothesis of absence of co-integration is rejected, while the study proceeds to estimate the long run coefficient of the equation.

#### 4.3 Long Run Results

The long run relationship between financial indicators and economic growth in Equatorial Guinea is accessed by the lower part of the result of Autoregressive Distributed Lagged (ARDL). The result is presented as follows in the Table 4 below:

Table 3: Long Run Results

Dependent Variable: RGDP

Variable	Coefficient	Std. Error	t-Statistic	Prob.
DBC	1.986968	0.696661	2.852130	0.0093
LFDI	3.645392	2.980104	1.223243	0.2342
EXCHR	-0.229652	0.053797	-4.268864	0.0003
C	151.07580	57.77900	2.614718	0.0158

Source: Researcher's Compilation

The long run results of financial market and economic growth in Equatorial Guinea is reported in table 3. From the results and in consonance with theoretical expectation, a positive relationship exists between domestic bank credit and economic growth. The value of the coefficient of 1.98 percent implies that an increase in domestic bank credit (DBC) by 1 percent will result in an increase in economic growth by 1.98 percent. The p-value indicates that DBC is statistically significant at the 5 percent alpha level. This simply means that the expansion in domestic bank credit has a significant impact on economic growth in Equatorial Guinea in the long run.

Equally, a positive relationship exists between foreign direct investment and economic growth and is statistically insignificant. That is a 1 per cent

increase in foreign direct investment will lead to an increase in economic growth by 3.64 percent, ceteris paribus. However, the relationship between exchange rate and economic growth is negative and consistent with a priori expectations. Therefore, a 1 per cent increase in exchange rate will lead to a decrease in economic growth by 0.22 percent.

#### 4.4 Short-Run Results

The upper part of Autoregressive Distributed lagged (ARDL) model result shows the short-run relationship between financial market and economic growth in Equatorial Guinea. The estimate is significant if the p-value is less than 0.05 and insignificant if otherwise. The result is presented in Table 4 as follows:

Table 4: ARDL Short Run Results

Dependent Variable: D(RGDP)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(RGDP(-1))	0.492515	0.206812	2.381458	0.0263
D(DBC)	2.765841	1.071762	2.580648	0.0171
D(LFDI)	5.074351	4.061409	1.249407	0.2246
D(EXCHR)	-0.319673	0.107294	-2.979415	0.0069
CointEq(-1)	-1.391991	0.288426	-4.826159	0.0001

$R^2 = 0.540404$ ; Adjusted  $R^2 = 0.513223$ ; F-statistic = 3.462819; DW = 2.280066

The short run results of financial market and economic growth in Equatorial Guinea is reported in table 5. From the results and in consonance with theoretical expectation, a positive relationship exists between the current and one period lag of real gross

domestic product. The values of the coefficients of 0.49 percent implies that holding other variables constant real gross domestic will increase by 0.49 percent annually in Equatorial Guinea. From the short run results, a positive relationship exists

between domestic bank credit and economic growth in the short run and is statistically significant. That is, a 1 per cent increase in domestic bank credit will lead to an increase in economic growth by 2.76 percent. The relationship between foreign direct investment and economic growth is equally positive and consistent with a priori expectations in the short run. Therefore, a 1 per cent increase in foreign direct investment will lead to a rise in economic growth by 5.07 percent. The relationship between exchange rate and economic growth in the short run is positive but statistically significant. Therefore, a 1 per cent increase exchange rate will lead to a decrease in economic growth in Equatorial Guinea by 0.31 percent in the short run.

The error correction mechanism (ECM) has the correct sign and size. The ECM coefficient of -1.391991 indicates that, it takes about 13.9 percent for the short run disequilibrium to adjust to the long run equilibrium within the year. The t-statistic of -4.826 showed that the error correction term is statistically significant at 5 percent level of significance. The R-squared value of 0.540 and the value of R-squared adjusted of 0.513 indicates that about 51 percent of the total variation in economic growth is explained by domestic bank credit, foreign direct investment and exchange rate, and about 49 percent was unexplained which may be accounted for by other factors not included in the model. The F-statistic of about 3.462 shows that all the variables in the model are together as a group statistically significant which means that the model has a good fit. The Durbin-Watson (D-W) statistic of 2.280 indicates no autocorrelation in the model.

The error correction mechanism (ECM) within the framework of Autoregressive Distributive Lag (ARDL) technique shows that the model has the ability to adjust to short term equilibrium. From the results, the coefficient of error correction term is -1.391991. This reveals that 13.9 percent of the errors in the short run are corrected each year. Consequently, the estimated result confirms the presence of long run relationship among the variables in the model. The value of the adjusted R-squared imply that the model has good fit as the independent variables have good explanatory powers. The Durbin-Watson Statistic connotes absence of autocorrelation in the estimated equation. The study, therefore, accepts the null hypothesis of no serial correlation in the model. This further

implies that the error terms of different periods are not serially correlated.

## V. DISCUSSION OF FINDINGS

The findings, shows that there is a positive and statistically significant relationship between financial market and economic growth in both long run and short run period which means that domestic bank credit promotes economics growth in Equatorial Guinea which aligned with Odunya and Ayoyi (2016) who analyzed the impact of financial market on economic growth within eastern Africa and the study found that financial market impacted positively on economic growth.

Foreign direct investment is positively related to economic growth in both short run and long. A 1 percent increase in foreign direct investment will lead to a rise in economic growth by 5.07 percent in a short run but in the long run 1 percent increase in foreign direct investment will lead to 3.64 percent economic growth Also, the relationship between exchange rate and economic growth is negative in both long run and short run, meaning that a 1 percent increase in exchange rate will lead to a decrease in economic growth in Equatorial Guinea by 0.31 percent in a short run and 0.22 percent in a long. This finding can be compared to Akintola, Oji-Okoro and Itodo (2020).

### Policy implication of the finding

The finding of the study reveals that domestic bank credit and foreign direct investment are statistically significant impacting on economic growth in Equatorial Guinea because of the sign and magnitude while exchange rate is statistically insignificant impacting on economic growth of Equatorial Guinea because of the sign and magnitude. In the light of the finding, the study recommend that government should adopt and maintain a stable flexible interest rate policy that that will stimulate investment and attract more foreign direct investment to boast the economy.

## VI. CONCLUSION AND RECOMMENDATIONS

From the results, a positive and statistically significant relationship exists between financial market and economic growth in both the short run and long run. This implies that domestic bank credit

promotes economic growth in Equatorial Guinea. In the light of the findings, it is recommended that; there is need for the implementation of interest friendly policies that will enhance the expansion of domestic credits by deposit money banks to investors for economic growth; the positive impact foreign direct investment calls for government to create and maintain a conducive business environment in order to attract more foreign direct investment and the negative impact calls for monitoring of exchange rate of the currency vis-à-vis the United States dollar.

#### Suggestions For Further Studies

Though the study titled “effect of financial market development on economic growth in Equatorial Guinea has been research upon with relevant data, pre-estimation test and estimation techniques in line with the current trend in research and econometric analysis, I wish to suggest the topic “Capital flight and economic development in Equatorial Guinea” for further studies.

#### REFERENCES

- [1] Abina, A.P. & Lemea, G. M. (2019). Capital market and performance of Nigerian economy. *International Journal of Innovative Finance and Economics Research*, 7(2), 51-66.
- [2] African Development Bank group (2022). Annual report
- [3] Akintola, A. A, Oji-Okoro, I. & Itodo, I. A. (2020). Financial sector development and economic growth in Nigeria: An empirical re-examination. *Central Bank of Nigeria Economic and Financial Review*, 58(3), 59-84.
- [4] Augustine O. J. & Udo, S. S. & Odey, F. I. (2022). Effects of selected macroeconomic variables on stock market performance in Nigeria, *Malaysian E Commerce Journal (MECJ)*, Zibeline International Publishing, 6(2), 54-58.
- [5] Enekwe, C. I. Eziedo, K. N. & Agu, C. I. (2016). Effect of capital market on economic growth in Nigeria. *GOUNI Journal of Management and Social Sciences*, 4(1), 20-35.
- [6] Emmanuel Ifeanyi Ajudua & Vivian Anietem Odishika (2022) financial deepening and economic growth in Nigeria. *Lafia journal of economics and management sciences: volume 7, issue 2; 2022.*
- [7] Fama (1965). Efficient Market Hypothesis (EMH) the nexus between financial market and economic growth.
- [8] Ighoroje, J. & Eloho, O. (2022). Financial market operations and economic growth of Nigeria: An empirical insight. *African Journal of Accounting and Financial Research*, 5, 13-31.
- [9] Jun Wen, Hamid Mahmood, Samia Khalid & Muhammad Zakaria (2022) The impact of financial development on economic indicators: a dynamic panel data analysis, *Economic Research-Ekonomska Istraživanja*, 35:1, 2930-2942, DOI: 10.1080/1331677X.2021.198557
- [10] McKinnon, R. I (1973) Money and capital 9in economics development Washington, DC: The brookings institution.
- [11] Odey, F.I, Owan, J.O & Owan, J. N. (2023) Financial indicators and stock market performance in Nigeria, *Global Journal of Arts, Humanities and Social Sciences*, 11(5), 53-69.
- [12] Odunga, R. & Ayoyi, I. R. (2016). Impact of financial markets on the economic growth of East Africa. *European Journal of Logistics, Purchasing and Supply Chain Management*, 4(5), 25-33.
- [13] Siabu, N., Wosa, D. & Agbeluyi, V. (2011). Foreign direct investment and the Nigerian economy. *American Journal of Economics*, 2(3), 33-40.
- [14] Tito Ondo Ela-Medja & Pilar Alberca (2023) examined the efficiency and competitiveness of the Equatorial Guinea financial sector. Publish by universidad Nacional de educacido a distancia (UNED), Paseo senda del rey, 11,28040 Madrid, Spain.
- [15] World Bank Report (2020).FY 2020 Equatorial Guinea country opinion survey report.
- [16] World Development Indicators, (2023) REPORT
- [17] Younesse EI Menyari (2019) examined the impact of financial development and foreign bank penetration on African economies