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Critical Indicators on Macro Economics adoption in GDP: A systematic review

Sani Abdullahi Sule
Universitas Sebelas Maret UNS/ Saadatu Rimi University of Education, Kano

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ABSTRACT

The study's goal is to investigate how important macroeconomic factors affect certain African nations. These metrics are crucial for the economies' effective development and can be utilized to address the many economic issues that the chosen countries are currently dealing with. 91 publications published between 2004 and 2022 were examined using the Scopus database. With an emphasis on five major factors: Growth Domestic Product (GDP), Interest Rate, Exchange Rate, Inflation, and Foreign Direct Investment this study evaluated and analyzed the literary elements and themes explored in order to give guidance for future research. The findings revealed that Interest rates, inflation, exchange rates, and foreign direct investment (FDI) are some of the macroeconomic variables that can affect the selected African economies. Foreign direct investment has been identified as the most important factor in improving industrial prosperity and living standards in developing economies such as Nigeria, South Africa, Egypt, Algeria, and Morocco after stabilizing interest rates, inflation and currency exchange rates. The study's findings are supported by material that has been published in previous years. Given that a number of recent economic issues have had an impact on the expansion of the economy, it is necessary to evaluate the ideas using panel data from the past 20 years in order to ascertain whether they are still valid. The report highlights the key macroeconomic factors that may have an impact on five different African economies. The study combines a number of economic metrics that have previously been studied separately to assess the trend in the economies it has chosen. To the best of my knowledge, this study is one of the few that evaluates both the individual countries used and the indicators in general.

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Corresponding Author:

Name: Sani Abdullahi Sule
Institution: Universitas Sebelas Maret UNS/ Saadatu Rimi University of Education, Kano
Email: joeliaty@unpad.ac.id

1. INTRODUCTION

One macroeconomic indicator of economic expansion from one era to the next is the GDP growth rate. However, by employing these measures, economies are curious to find out how more generalized phenomena, such as global commerce through FDI and inflation, among others, may affect their economic growth; this is especially true for African countries that are facing several economic challenges. The primary macroeconomic factors may include exchange rates, inbound foreign direct investment, and economic complexity, according to [1]. [2] states that changes in economic production,

inflation, interest and foreign exchange rates, and the balance of payments (FDI) should be the main concern for macroeconomic indicators. However, the macroeconomic indicators and their impact on the chosen countries' economic development are the main emphasis of this study. Even if macroeconomic indices have a huge influence, the chosen countries have had their fair share of issues. For example, the lack of foreign currency that importers could use to bring in goods and services from abroad was one of the Central Bank's economic policies that had a negative effect on the economy [3]. Nigeria's economy is still very reliant on imports, and this situation is not going to change overnight. The eventual implementation of flexible exchange rates was ineffective since the value of the currency relative to the dollar continued to rise, causing the general public much pain. [4] discovered that inflation has a significant negative correlation with economic progress in South Africa and Nigeria, with the exception of Egypt. This suggests that while FDI tends to boost GDP, rising inflation tends to hamper growth in Africa. FDI plays a major role in economic growth, especially in emerging and developing nations. Furthermore, developing countries must realize that, in contrast to local popular assumptions, foreign direct investment (FDI) does not necessarily translate into economic progress. It is vital to take into account measures that will restrict the money supply and promote a low and constant inflation rate in order to fully profit from FDI inflows.Furthermore, from the global financial crisis until it declined once more following the outbreak, Morocco's real neutral interest rate has been moving lower [5]. The results indicate that Morocco's central bank has responded somewhat mutedly to its forecasts for GDP growth and inflation. The short- and medium-term impulsive response of output to a monetary policy shock is limited, even while the impact on inflation shows less advantages of FDI inflows. Enhancing the dissemination of monetary policy is crucial in a setting where the exchange rate is flexible and inflation is targeted. Even if Algeria's economy has been characterized by some political and macroeconomic stability, foreign investors are nevertheless apprehensive about deciding to relocate their assets to the Algerian market [6]. It is clear that the expansion in the money supply must account for the inflation rates, as it might grow in response to an increase in nominal expenditure in an inflationary environment. This is required as there is no long-term or short-term impact of the money supply on economic growth [7]. A few of these are low productivity and low global competitiveness, as well as a lack of economic resilience, uncertain trading conditions, and pricing distortions brought on by the fiscal system that discourage sustainability. The economies of all countries, including Nigeria, are susceptible to the effects of macroeconomic variables such as interest rates, inflation, currency rates, and foreign direct investment (FDI). Various factors that might impact a country's growth have been examined by macroeconomic theory, including new growth, Keynesian, and neoclassical models [8]. According to [9], there is an inverse relationship between interest rates and the GDP. Interest accrues when the central bank grants a financial institution a line of credit. Interest rate changes immediately affect inflation. [10] states that in order to accelerate sustainable economic growth and inclusion, developing countries need to address a number of interrelated underlying issues. A couple of these are low productivity and global competitiveness, in addition to price. Interest rate changes immediately affect inflation. High inflation is mostly to blame for rising interest rates. When conditions are favorable, low interest rates lead to lower inflation, which boosts the economy [11]. Rising interest rates obstruct the growth of the economy. Consequently, interest rates and growth rates are closely correlated. This study's main objective is to evaluate how macroeconomic factors affect the economic growth of particular African nations. The precise objectives include figuring out how interest rates, inflation, currency rates, and foreign direct investment affect economic development in a few chosen countries. This study is pertinent given the

present economic conditions of the top African nations. This study's main objective is to evaluate how macroeconomic factors affect the economic growth of particular African nations. The precise objectives include figuring out how interest rates, inflation, currency rates, and foreign direct investment affect economic development in a few chosen countries. This study is pertinent given the present economic conditions of the top African nations. Macroeconomic factors, which are essential to these nations' stability and long-term survival, are the primary source of confidence in this research. But for the countries to overcome their present difficulties, the development and expansion of the economy hinge on how well fiscal and monetary policies are approved based on these factors. The top African economic system will be affected if the study's findings and conclusions are made public and used by decision-makers. Due to the contemporary topics covered in the study's background, literature evaluation, and conclusions, academics, students, business entities, and individuals who may come across them will also benefit from the study. By offering theoretical and empirical ways to enhance understanding of macroeconomic variables, economic development, interest rate operation, and its links with transmission mechanisms among nations, the research also seeks to close empirical and theoretical gaps. Still, this study is not often done because it included five important macroeconomic indicators and five nations as a whole.

2. METHODOLOGY OF RESEARCH

The research focuses on the effects of macroeconomic variables on the economic growth of the top Five African economies. The literature on macroeconomic variables and their relationships with economic growth and progress would be reviewed. The research project will also assess economic development through GDP and relate it to macroeconomic variables such as interest rate, inflation, foreign exchange rate, and foreign direct investment, to determine their impact.

An analysis of pertinent conceptual and theoretical frameworks, research methods, and empirical the literature review study is one of the most popular and widely used techniques in macroeconomic research [12]. Unlike the typical narrative review, a systematic review follows a rigorous, standardized, open-ended, scientific technique. It evaluates the corpus of current research, utilizing precise screening techniques to scrutinize the articles and evaluate each related study in a critical and convincing manner [13]. According to some theories, reading up on macroeconomic growth, or GDP, can teach us about the best and worst methods that have been employed, establish guidelines for applying macroeconomics correctly, identify gaps in knowledge, predict potential problems, and more. It can also help us create a plan to deal with those problems [14]. Moreover, results from studies based on systematic reviews are more reproducible and credible than those from narrative analyses of the literature [15]`. Reducing the subjectivity of the review process and improving the quality of the investigation are two benefits of the systematic review technique [16]. According to several proposals [13], [17], [18], Furthermore, it is possible to generate extremely important quantitative and qualitative knowledge through the use of the systematic review method [19]. We therefore followed the methodology that many systematic studies have employed to avoid biases in the study's execution [13], [20]–[22]. The sample literature was gathered using Scopus, one of the largest and most comprehensive databases for high-quality publications [23]. The first sample consisted of 109 scientific papers. Then, because the authors were fluent in English, the search was restricted to works published in that language. We further narrowed the results to include studies in Growth Domestic Product (GDP), Interest Rate, Exchange Rate, Inflation, and Foreign Direct Investment because the field of interest (economics) is dependent on economic development. The number of sample studies was lowered to 91 articles by restricting the search to research that was

published in the previously listed domains using this process. Finally, every paper in the 73 studies has to touch on these five factors: GDP growth, interest rates, currency rates, inflation, and foreign direct investment all increased.

Studies would be conducted. Time series data from 2000 to 2020 would be obtain.

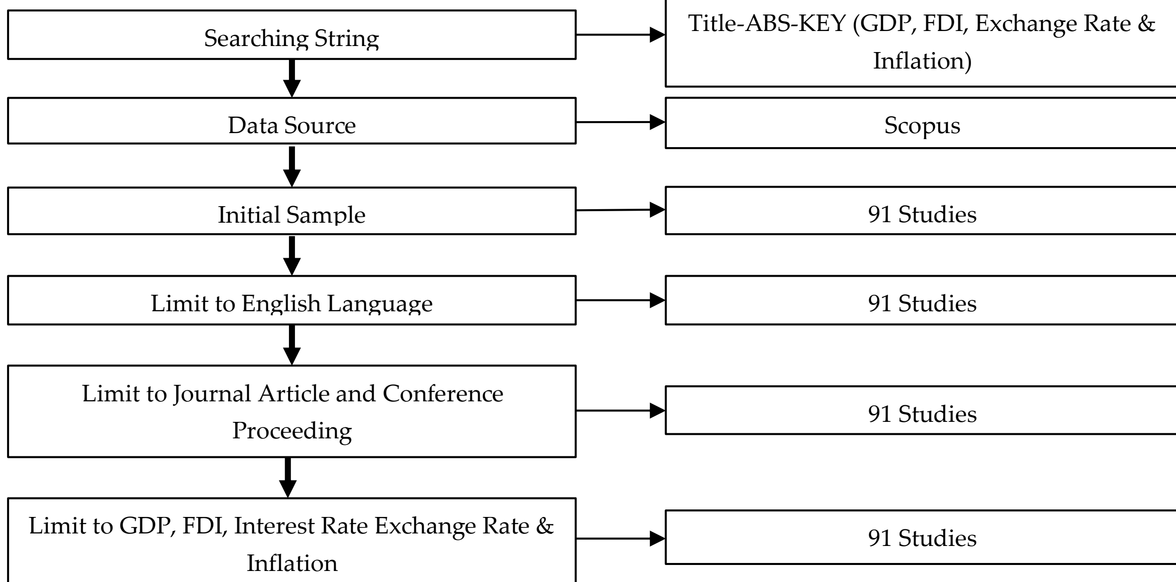

Figure 1. Research Protocol

2.1 *Assessing the Macroeconomic Variables of The Selected Countries*

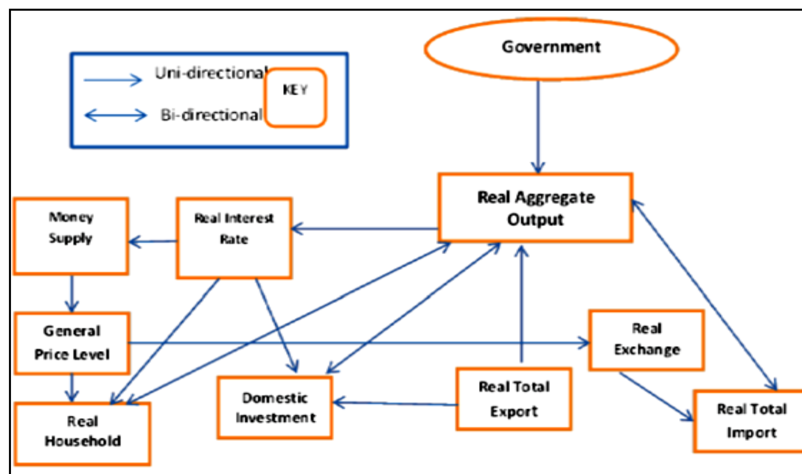

Figure 2. Schematic Representation of the Macroeconomic Model
Source: Adapted from [6]

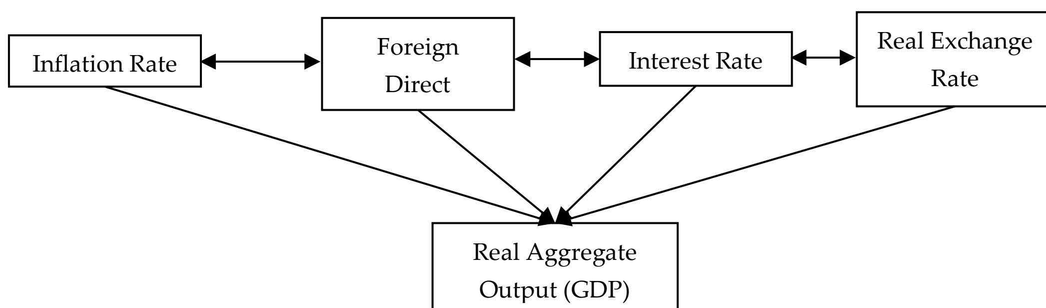

Figure 3. Research Framework of the Study

This study summarizes previous research on critical macroeconomic variables that have influenced the economic growth of specific African countries. The research looks at macroeconomic variables. Figure 1 represents the schematic representation of the macroeconomic model. This is adapted from [6] and it is used to develop the Research framework of the study as shown in Figure 2. The prospects for economic growth in selected African countries are also discussed.

2.2 *Data Analysis Techniques*

In this study, only secondary data would be collected. The data would be obtained from selected countries' Central Bank statistical bulletins, the National Bureau of Statistics website, the World Bank website, the World Bank performance indicator database, text books, journals, seminar papers, and the internet, among other sources. All data would be collected from 2000 to 2020.This is done to improve fit. Data on interest rates, inflation rates, exchange rates, foreign direct investment, and GDP would be collected. As a major statistical tool, multiple regression analysis would be used to analyze the data. Nigeria, South Africa, Egypt, Algeria, And Morocco would be the subjects of five multiple regression analyses. Panel data will be used to compare the independent variables, such as interest rate, inflation, exchange rate, and foreign direct investment, to the dependent variable, GDP. Since the study is based on cross-sectional data, the impact of key macroeconomic variables on the growth of the selected African countries has been highlighted while yielding outcomes based on prior scenarios, resulting in unique findings.

2.3 *Research Themes*

a. Gross Domestic Products

GDP is defined precisely by the Bureau of Economic Analysis (BEA) as follows:

The value of the products and services generated by the country's economy less the value of the goods and services used up in production is known as the gross domestic product (GDP) [24]. GDP is also equal to the total of government consumption expenditures and gross investment as well as gross private domestic investment, net exports of goods and services, and personal consumption expenditures [24].

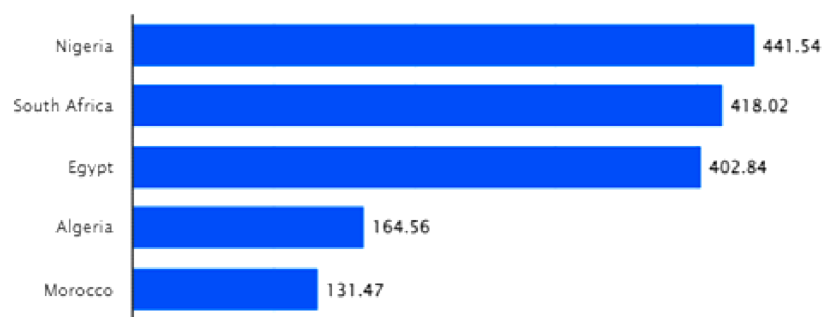

Figure 4. African countries with the highest Gross Domestic Product (GDP) in 2021 *(in billion U.S. dollars)*
Source: [25]

Based on the chosen African GDP, Figure 1 shows that Nigeria has the greatest GDP in Africa, projected to reach around 441.5 billion US dollars in 2021. After that, South Africa ranked second on the continent with a GDP of 418 billion US dollars. Algeria and Morocco came in fourth and fifth place, respectively, after Egypt, which has the third-largest GDP in the world [26]. Following a decade of almost zero GDP growth per capita, overall GDP growth has been extremely low, averaging less than 4% per year from 1995 to 2010. This has led to weak per

capita GDP growth (2.1 percent annualized from 2000 to 2011) (IMF, 2012). By applying multiple regression approaches to data from 2011 to 2017, [27] discover a significant influence on the GDP growth rate. GDP is not merely a measure of growth. It serves as the benchmark by which nations evaluate themselves. South Africa's economy is being impacted by increased amounts of debt. [28] assert that the financial accelerator mechanism operates via the balance sheets of all economic organizations. The move to a higher leverage ratio for banks is anticipated to have negative short-term economic repercussions, contingent upon the institutions' selected adjustment strategy. The largest effect on GDP will occur if the financial sector decreases leverage by decreasing its assets rather than by raising its liabilities. The shock also alters the perception of risk within the financial system, which reduces the size of the money multiplier and increases lending spreads. The shift to a larger leverage ratio affects monetary signal transmission as well and may have an effect on the dissemination of monetary policy.

[29] the results of the ECM show a statistically significant positive short-run relationship between government expenditure and economic expansion. Government expenditure can thus be used as a temporary stabilization tool because the correlation is positive and statistically significant. Long-term government support for investment is nevertheless necessary, as it promotes economic expansion and lessens the risk of investment in South Africa squeezing out other sources of capital. The bulk of subnational government revenue was accounted for by federal allocation (FA), indicating that states' domestic revenue generation was insufficient. According to Adeleke et al. (2021), subnational government revenue is dispersed geographically. The GDP per capita was found to be negatively correlated with pay-as-you-earn (PAYE), revenue from Ministries and Departments (MDAs), direct assessment, road taxes, and FA. It was also suggested that states focus on producing goods for which they have a comparative advantage in order to increase revenue creation. The government must also carefully distribute funds to accomplish infrastructural and social development on a broad scale. The results of [30] show a positive relationship between financial inclusion and economic growth. The results of the non-causality tests indicated a bidirectional causal link between the variables for the overall region and the lower-income and lower-middle-income nations. Financial inclusion and economic growth are causally related in just one way in upper-middle-income countries.

[31] This study uses time series data from 1980 to 2018 to investigate the causal effects of the three variables in a vector autoregressive (VAR) paradigm. Growth in the economy and gross capital formation The first model yielded favorable long-term relationships between GDP andHowever, the first model predicts that unemployment (UNEMP) has no immediate effect on GDP growth. The findings of the second model point to a robust and positive link between UNEMP and GCF, whereas the third model shows an inverse relationship between GDP and UNEMP. Based on these results, the paper recommends fiscal authorities adopt a broad fiscal policy that promotes investment, employment, and economic development.

[32] consequently, if the level of the financial development indicators falls below the anticipated tipping point, there is a drag on the country's economic growth. According to the study, the financial development threshold points should be used as the lowest thresholds possible in order to have a positive impact on the economic growth of the country. Increasing financial access, streamlining financial transactions, and enhancing the effectiveness and control of the financial

markets are more recommendations for propelling financial growth swiftly. Consequently, when [33] applied their models to two other countries during the study period, they found that while the long-run equilibrium relationships between economic growth and socio-economic inequalities in some countries vary from one country to the next, they were generally insignificant.

According to [34], the socioeconomic variables that had the most long-term impact on infrastructure development were unemployment and GDP per capita. The results of the study indicate that Nigerian infrastructure development may promote growth and all of the benefits and indices that come with it. The report recommended improved public capital expenditure budgetary provision on social and economic infrastructure in order for the building and construction economy sector to contribute to Nigeria's economic growth and development. According to [35] empirical research, shifts in the financial sector's expansion as well as patterns of energy usage are important long-term drivers of economic growth in the FATF countries. [36]. The analysis uses the yearly SA commercial real estate returns from the Investment Property Databank (IPD), which includes total returns, rental growth, and capital growth during the last 20 years, from 1995 to 2014. The measures of macroeconomic the most significant and prominent factors that explain total returns across all property types and provinces in South Africa are GDP, unemployment rates, and interest rates.

As stated by [37], "the results demonstrate that significant factors influencing economic growth in Southern African economies during the study period included real growth in services, real growth in manufacturing, real growth in agriculture, real growth in mining, real growth in trade openness, real growth in foreign direct investment, and real growth in human capital. As a result, countries in Southern Africa endowed with natural resources should encourage their own development instead of worrying about the potential "resource curse." [38] The result also shows that trade openness has a very positive effect on how well industrial capacity is used. The study concludes that Nigeria's manufacturing performance is influenced by both domestic innovation shocks and trade policy shocks. To enhance manufacturing performance, the paper recommends enacting trade, economic, and industrial development policies that support a gradual, long-term improvement in the use of manufacturing capacity.

The results of the study by [39] suggest that there may be a correlation between financial development and economic growth in the short and long terms. The BRICS countries should focus on the elements that are most appropriate to encourage economic growth inside their respective economies, given that financial figures and resources may differ from one economy to the next. [40] Only 20–30% of Africans, according to the report, are now on board the rising ship. If Africa is rising, the main issue confronting the continent at the moment is including the majority of Africans who have been left out of growth. Scholars researching development studies, political economy, and development economics will find it intriguing, and it is mandatory reading for scholars and students studying African studies. According to [41] research, financial liberalization policies have a positive and significant effect on economic growth over the long run. Therefore, the report recommends that suitable financial liberalization policies be implemented in order to support economic growth in Nigeria. [42] note that there has been much debate about whether a nation's foreign reserves should rise or fall, especially for emerging countries like Nigeria. There are others who contest the assertion that a nation's foreign reserve

determines its position in the global market. Given this, the interaction's impacts on several macroeconomic parameters, such as GDP, were examined in this study. According to [43], predicting economic growth using a range of economic indicators is the main objective of this research project. In this study, the prediction performances of an upgraded multi-layer perceptron (MLP) model are evaluated and compared with those of the current model.

b. Interest Rate

[44] revealed that through the addition of financial development factors, this this study examines the structural relationship between the liberalization of interest rates and development in Sub-Saharan African countries between 1980 and 2012. This study makes use of the institutional theory of growth in conjunction with the McKinnon-Shaw framework. The results show that other factors, such as price stability and trade openness, are significantly more crucial for interest rate liberalization and economic growth in sub-Saharan African countries. Moreover, the extent and caliber of financial development contributed to the decline in interest rates, which therefore enabled investment and, eventually, expansion.

[45] used the World Bank Annual Data from 1981 to 2013 for their analysis, using regression, the Granger Casualty Test, and the Unit Root Test. This research will encompass the whole economic output, even if the previous study solely focused on a particular agricultural sector. A nation's investment activity and, consequently, economic growth are largely determined by the movement of interest rates [46]. Investment is determined by the interest rate on funds obtained from the capital market. Contrary to earlier research, [27] find no meaningful relationship between interest rates and economic production. It was demonstrated that financing costs and GDP in Nigeria were significantly correlated. Additionally, it was shown that there was a strong correlation between Nigeria's total national production and the currency exchange rate [47]. It is recommended that the Central Bank of Nigeria (CBN) create an interest rate regulation framework that would continuously encourage and promote a saving culture in the real sector in light of these findings. Raising the interest rate on savings from both local and foreign investors is one way to achieve this. Furthermore, since it promotes financial development by decreasing lending rates and raising savings rates, aggregate economic production should be seen as the antithesis of government policy pushback. Interest rates and economic development in Nigeria are negatively correlated, according to the findings of the VAR-based impulse response function and the variance decomposition calculations that go along with it [48]. Moreover, the Granger causality test demonstrates that interest rates and economic growth have a bidirectional causal relationship. Therefore, in addition to considering other variables that obstruct the growth of investment, monetary authorities should design and execute interest rate policies that promote investment. Monetary authorities and policymakers should adopt growth-oriented policies that may propel the economy to higher productivity and sustained economic growth in order to attain the necessary level of growth in Nigeria. Financial liberalization has a strong causal impact on lending interest rates and is a substantial predictor of lending interest rate behavior, according to a study based on data from 1987 to 2018 [49].

This finding led to the recommendation that the government keep creating economic policies that will structurally enable complete deregulation of the financial industry, especially the foreign exchange market, which is still vulnerable to sporadic regulatory actions. [50] employed the structural VAR (SVAR)

model to examine data spanning from 1981 to 2015. Their results indicate that economic output, including natural gas consumption, is highly susceptible to shocks resulting from changes in the money supply, both in the short and long term. Nonetheless, a larger share of the economic shocks have been caused by the money supply. According to [51], the money supply and interest rate results demonstrate that, at 5%, the interest rate coefficient is negative and substantial, while the money supply coefficient is positive but not significant. The findings of [52] show that although globalization fosters economic growth, rising interest rates and inflationary pressures have the potential to counteract this benefit. The revised numbers also show how economic globalization may be used to increase investment, lower corruption, and eventually maintain economic development in South Asian nations, which are still in the nascent stages.

Analysis by [53] indicates that "real interest rates showed a strong negative long-term correlation but a weakly positive short-term association with economic growth." M2 was shown to have a negative link with the money supply, but M3 showed a positive association over short and long durations. M1 and South Africa's economic growth have a long-term positive correlation but a short-term negative one. The paper suggests that the SARB implement contractionary monetary policies in the long run and expansionary monetary policies in the medium term, respectively, to boost economic growth in South Africa. [54] the empirical results show that decreasing corruption gradually increases domestic savings. Significant long-term determinants of domestic savings in Nigeria include income level, deposit interest rate, inflation rate, unemployment rate, and oil price. After determining the major elements influencing Nigeria's GDP development.

According to [55], the interest rate (INTR), exchange rate (EXGR), inflation rate (INFR), market capitalization (MKCP), and all share index were the macroeconomic variables taken into account. The study looked at how macroeconomic factors affected Nigerian Real Estate Investment Trusts' (N-REITs') dividend return performance (ASI). The annual financial reports of the Nigerian REITs for the research period (2008–2017) and secondary data obtained from various governmental entities serve as the foundation for the quantitative analysis. A bound test and autoregressive-distributed lag (ARDL) were employed to examine the data. According to [56] study, a government may decide to implement a standard economic strategy, a negative interest rate policy (NIRP), or an ultra-low interest rate policy (ULIRP). The current study attempts to investigate the dynamics between many important macroeconomic variables (interest rates, GDP, exchange rate, inflation, and foreign direct investment) in the local Indian context, with specific reference to the ultra-low and negative interest rates seen in the economies of the United States and the United Kingdom. The unfavorable link between Indian foreign direct investment and US interest rates was one significant finding. Thus, the top five African nations will be the focus of this study. [27] The research shows that GDP growth rate and inflation rate significantly affect ROA, but interest rate and exchange rate have no appreciable effect. This research will attest to whether some goods have a noteworthy effect on GDP.

c. ***Exchange Rate***

The GMM estimate indicates that throughout the study period, real exchange rate misalignment has had a significant and adverse impact on economic growth. In order to mitigate the issue of exchange rate misalignment and sustain sustained economic growth, the paper recommends an appropriate exchange rate [57]. Exchange rate policy, productivity, and interest rate differentials are significant predictors of

real exchange rate volatility, according to the results of the Behavioral Equilibrium Exchange Rate (BEER) model [3]. Using purchasing power parity (PPP) and the generalized method of moment (GMM) approaches, the improved growth model was computed using annual data from 1960 to 2011 in Nigeria (Ibraheem, 2016). It was found that it would take four years for the exchange rate to stabilize. The PPP technique states that, as compared to the fixed exchange rate regime, the actual exchange rate misalignment over time is significantly less during the flexible exchange rate regime era. The goal of this research is to ascertain the degree of correlation between the real exchange rate and economic growth by utilizing the variables that have been identified as constituting the equilibrium exchange rate. Determining how exchange rate variations affected Nigeria's economic progress between 2004 and 2014 was the primary objective. Similarly, a declining exchange rate positively affects GDP by increasing previous GDP, FER, and FDI. This period of steady expansion in Nigeria's economy was made possible by persistent rises in these factors. It follows that anybody with a common interest, including investors and officials, should acknowledge that currency depreciation benefited Nigeria.

[45] used a multivariate co-integration technique and found no significant correlation between Nigeria's economic production and currency rates. [27] corroborated earlier results and demonstrated that the exchange rate has no discernible impact. [50] provided evidence to support the claim that exchange rate shocks have no appreciable impact on economic production over the long term. Using structural equation modeling (SEM), [58] found that the Egyptian economy affects the exchange rate and skews the accuracy of the nation's statistics and official records. But when [30] used the autoregressive-distributed lag, their results showed that, while exchange rates are not statistically significant, their coefficients indicate a negative relationship with the manufacturing sector. The autoregressive distributed lag (ARDL) model and yearly panel data from 2010 to 2020 are used by [59] to analyze the South African economy. The study's conclusions show that economic growth and exchange rates have a beneficial long-term impact. None of the independent factors had a statistically significant impact on performance fluctuations in the near term. In order to improve company performance, policymakers and institutional governing bodies were advised to create and put into practice strategies that support and strengthen the nation's economic growth and stable exchange rate. et al. [60] We find that the most accurate form of the Phillips curve model to improve inflation predictions in Nigeria is the enlarged one that includes the currency rate pass-through. We conclude that, given the consistency of our results across a number of models, a deeper comprehension of the exchange rate channel by which shocks to the price of oil enter the economy is necessary to increase the accuracy of inflation estimates.

[61] state that "the asymmetric effect's results demonstrate that exchange rate depreciation has a notable positive influence on the financial market over the short- and long-terms, at roughly 0.06 and 0.04%, respectively, for both sectors, while having a negligible negative impact on the capital market." On the other hand, the capital market benefits from currency appreciation in the short and long terms (1.23 and 0.66%, respectively), whereas the banking industry suffers from negative short and long-term impacts (0.09 and 0.02%, respectively). The report recommends effective public policy management since currency depreciation and exchange rate volatility are bad signs for the capital market. This suggests public control over key macroeconomic variables by pressuring the central bank to maintain interest rates that encourage

raising private investors' productive capacity. Supporting such a program might also come from granting inexpensive access to investment capital.

The results of [62] investigation show a negative relationship between FPI inflows, real exchange rates, capital openness, and inflation rates. However, as seen by the positive correlation between the independent and dependent variables, institutional quality, real economic growth rate, and stock market development pull FPI inward due to their respective lags. Appropriate Applications: Based on these findings, we draw the conclusion that governments in host countries that have put in place fiscal and monetary policies can ensure macroeconomic stability and a closely monitored exchange rate by promoting exports and inhibiting imports in order to attract foreign direct investment (FDI). [63] These reform efforts resulted in the deregulation of interest and exchange rates as well as a reduction in government expenditure to combat inflation. Numerous FDI-attracting policies were put into place, and a large amount of money was spent on infrastructure. In light of the variety of these indicators, this study attempts to pinpoint the main growth drivers during the years 1985–2007 and assesses their relative significance in influencing economic growth.

d. Foreign Direct Investment Inflow

[64] found that Morocco's economy seems to be the most favorable when looking at individual metrics. When compared to the economy of Egypt, the angle's horizontal axis at the current account deficit to GDP ratio reveals a sizable deficit of almost 4% on both sides. [45] found that important factors influencing Nigeria's economic output include the trade balance, particularly in relation to food import value.

According to [57], using the VAR technique to analyze the data, one may conclude that RER variation was significantly controlled in terms of real GDP and foreign direct investment, given the existing situation of the Nigerian economy during this time period. [65] utilized ordinary least squares to analyze 22-year time series data from 1994 to 2015 and came to the empirical conclusion that patterns in foreign direct investment inflow may be used to forecast a country's economic development. The study ignored regional comparisons in favor of focusing only on comparisons between emerging and developing nations. According to [66], total imports have a significant role in both the short- and long-term explanation of Algeria's economic growth. These results indicate that, given that total imports raise GDP by 3.7%, economic diversification is necessary to maintain the nation's economic growth.

According to [67], variations in oil prices have contributed to shifts in economic growth metrics. Granger causality test results also show that oil prices affect Algerian exports. The IMF (2012) found that it will be especially important to create an environment that is conducive to foreign direct investment. Algeria missed out on the opportunity of the mid-2000s, when significant FDI flows were directed toward other countries in the region, and its FDI inflows are insignificant by global standards (about 1% of GDP). Moreover, foreign direct investment (FDI) is mostly directed towards the oil sector, with minimal advantages to knowledge and private sector expansion. Algeria's 2009 move to mandate 51 percent national ownership in all FDI projects has hurt the country's appeal. In the short run, opening the FDI regime would encourage faster capital accumulation and, through a network of local suppliers, may also encourage knowledge diffusion within the economy.

In addition to [68], the suggested empirical model adds electricity consumption and foreign direct investment (FDI) as new explanatory variables, therefore addressing the dearth of prior research on the EKC for the case

of Algeria. Therefore, in order to understand the influence of foreign direct investment on economic growth, this study will look at it.

The results of [69] show that inbound foreign direct investment has a major impact and can greatly accelerate economic growth. These results imply that the degree of governance in emerging countries has little impact on economic growth and foreign direct investment. These results imply that the degree of governance in emerging countries has little impact on economic growth and foreign direct investment. We shall reiterate in this study that foreign direct investment (FDI) has an influence on economic growth in some African nations. According to [70], empirical research indicates that the "attractiveness" of transportation and logistics infrastructure for foreign direct investment (FDI) and long-term economic growth is enhanced by it. Policymakers in developing countries would find these findings especially interesting as they could help them design and develop modern logistics and transportation systems, as well as related technological elements that could be used for sustainable economic development and attract foreign direct investment.

According to [69], policymakers in both wealthy and poor countries should take particular note of these empirical findings. They show how important transportation and ICT infrastructure are to the economic growth of host nations by making a substantial contribution to increasing FDI attractiveness. Moreover, the results corroborate the hypothesis that ICTs and transportation might assist nations in opening up their economies and engaging more actively in international commerce.

[71] state that we conclude that foreign direct investment (FDI) has had a favorable effect on the listed deposit banks' development and financial outcomes, leading some of the institutions to transform from tiny local banks in Nigeria into some of the continent's leading global banks. According to [72], there is a significant positive effect on Nigeria's GDP from the interplay between EXRV and FDI as well as EXRV and remittances. This results in a positive outcome, offsetting the significant negative impact of EXRV and the little negative impact of remittances. The relationship between EXRV and FPI still significantly lowers Nigeria's GDP. It is vital to investigate this interaction's threshold in order to improve Nigeria's economy going forward.

[73] The study's findings demonstrated that, both in the short and long run, political risk and economic development affect the amount of foreign direct investment. It was shown that FDI flow was more influenced by the political risk rating than by GDP. As political risk declines, FDI inflows rise, creating a highly rated index. Empirical data utilizing the Granger causality technique revealed a bi-directional causal link between FDI and economic development, despite the fact that it was shown that political risk causes changes in FDI. Put another way, political risk and GDP have independent effects on changes in FDI. The study's results include that in order to increase foreign investment and promote the country's economic growth and well-being, the South African government has to rapidly reduce political risk.

e. Inflation

According to [30], they employed time series data spanning from 1986 to 2019 and found that the inflation rate coefficient of these variables indicated a negative correlation, with statistical significance, in the manufacturing sector. The manufacturing industry was the sole focus of the investigation. That being said, the whole economic output will be examined in this study. In their analysis of the South African economy, According to [59] analysis of the South African economy, there was no discernible influence of inflation or economic growth on a company's performance changes in

the near term. There isn't much research on inflation in the South African economy. A two-threshold point model with appropriate inflation threshold values of 11.2 and 12.0 percent is proposed by [74]. Based on these results, it is estimated that inflation will start to negatively impact growth in Nigeria at a threshold of 10.5 to 12% [75]. The results show that 4% is the threshold for inflation in South Africa. Inflation and growth have a positive but negligible association at inflation levels below and up to 4%. The relationship becomes significant and negative when inflation rises beyond 4%. The robustness tests validate these findings [76]. It has also been demonstrated that inflation significantly affects total national production in Nigeria [47].

According to [64] usage of a magical polygon for the years 2007–2012, Morocco's economy seems to be the most advantageous when looking at individual metrics. The vertical axis of the angle is split into GDP growth and inflation in relation to the Egyptian economy. According to earlier research, there is no discernible impact of Nigeria's economy on the country's inflation rate [27].

According to [66], the nation's economic development cannot be sustained without economic diversification. The inflation rate causes Algeria's economic growth to increase by 0.5 percent. Using time series data for Algeria during the longer period of 1990–2016, Manel and Driouche (2019) found that changes in economic growth indicators were a result of variations in oil prices. It is also established by the Granger causality test that oil prices affect inflation. [58] show that Egypt's economy affects inflation and skews the accuracy of the nation's statistical data and official records.

Table 1. Sample of studies that related to the macro-economic growth GDP

Author and year	**Research objectives**	**Methodology**	**Significant findings**	**Comments**
[30]	RGDP, inflation rate and exchange rates interest rate and money supply	using the autoregressive distributed lag to analyze data source from 1986 to 2019 within the context of two macroeconomic theories: The Solow growth and the endogenous growth theories	On inflation rate and exchange rates, the results of the coefficient of these variables suggest that they are negatively related in the manufacturing sector, with statistically significant coefficients. The result of interest rate and money supply shows that the interest rate coefficient is negative and significant at 5% while that of the money supply is positive but not significant	The debate on the role of the manufacturing sector in advancing economic growth is inexhaustible; hence, the study suggests that further studies should look at other macroeconomic variables not discussed here, employs other methodologies, and extends the study to other economies.
[59]	Economic growth, inflation rate, exchange rate and share price on asset returns	The Autoregressive Distributed Lag (ARDL) model was used to examine the short and long run effects of	The study's findings indicated that economic growth, exchange rate, and share price have a positive effect on asset	Based on the findings, policymakers and economic authorities were advised to introduce

		macroeconomic variables on a company's performance.	returns, while economic growth and share price assist a company's equity return in the long run. In the short run, none of the independent variables had a satisfactorily significant effect to impact a company's performance variations.	and implement strategies that favour and strengthen the country's economic growth and stable exchange rate in order to boost performance of the business.
[77]	Public sector expenditure, public consumption spending, and taxation	The autoregressive distributed lag model	Empirical evidence suggests that fiscal policy instruments (public sector spending, public consumption spending, and taxation) have a positive relationship with economic growth	These findings imply that if more resources are diverted from government consumption to investment spending, South Africa's economy will likely perform better.
[58]	Inflation rate, currency exchange rate, GDP Growth Rate, Unemployment rate	The MIMIC model is a structural equation modelling (SEM), being a confirmatory method	The shadow economy distorts the precision of the country's government records and statistical data, and it has an impact on the state's monetary and fiscal policies..	
[66]	total imports, broad money, GDP, economic growth, inflation	Autoregressive distributed lag co integration	The results reveal that the consumer price index, total imports, and broad money are important in explaining Algerian economic growth in the short and long run. These findings suggest that economic diversification is required to sustain the country's economic growth. Broad money appears to have contributed significantly to a 0.3 percent increase in economic growth. Algeria's economic growth is increased by 0.5 percent as a result of the inflation rate, while total imports	From a policy standpoint, there is an urgent need to diversify the economy in order to achieve higher GDP levels. To address growing financial stability risks, financial sector policies should be strengthened further. Monetary policy must adapt to a changing liquidity environment while avoiding inflationary pressures.

			increase GDP by 3.7 %.	
[27]	Interest rate, inflation rate, exchange rate and the gross domestic product (GDP) growth rate, while the firm characteristics were size, leverage and liquidity. The dependent variable financial performance is measured as return on assets (ROA).	*Ex post facto* research design The population comprised all quoted manufacturing firms on the Nigerian Stock Exchange.	The study finds no significant effect for interest rate and exchange rate, but a significant effect for inflation rate and GDP growth rate on ROA. Second, the firm characteristics showed that firm size, leverage and liquidity were significant.	Few studies have addressed the interplay of macroeconomic factors and firm characteristics in determining the profitability of manufacturing firms in the country and developing countries in general.
[65]	GDP growth (annual %), Agriculture, value added, Foreign Direct Investment net inflows, Inflation consumer prices Industry Value Added, Manufacturing, Value Added, Trade, Unemployment	A test of stationary was done using the Augmented Dickey Fuller (ADF)	The study therefore concluded with empirical evidences that trends in macro-economic variables can be used to predict the economic growth of the countries	The next research focus then needs to be centered on an economic and financial system that recognizes people, cultural and behavioural pattern of Nigerians, Africans and indeed peoples of the southern economies. The research only concentrated on comparison between emerging and developing countries but fail to look at regional comparison
[50]	Money supply, inflation, exchange rate and real GDP Natural gas consumption	The paper employs Structural Vector Autoregressive (SVAR) model with sign restrictions to examine the transmission of shocks from macroeconomic variables, namely money supply, inflation, exchange rate and real GDP onto natural gas consumption in Nigeria so as to know how natural gas consumption responds to shocks	The results revealed that both in the short run and long run, natural gas consumption responds significantly to the shocks emanating from money supply and real GDP while its response to inflation shock is significant only in the short run but exchange rate shock is not significant. However, money supply has contributed greater proportion of the	For further research on this topic, we would recommend that the study be extended by utilizing disaggregated data so that natural gas consumption can be utilized in the electricity plants, industrial sector, and for domestic use. Other variables such as crude oil, industrial output, labour force, capital stock and employment rate,

		from macroeconomic variables	shocks followed by the real GDP, inflation and exchange rate in the ordering of the variance decomposition	can be incorporated in further research. Although this topic has been approached using structural VAR with sign restrictions, it is expedient that a panel data study be carried out so as to take into account the global dynamics of the relationship as this paper has focused only on Nigeria. Moreover, the period can be extended in order to capture the recent dynamics in the relationship.
[47]	Interest Rate proxy by Minimum Rediscount Risk (MRR) EXR= Exchange Rate Inflation Rate proxy by consumer price index M2 = Money Supply IPI = Industrial Production Index LNRGDP = Log of Real Gross Domestic Product	The APT model was employed which assumes that stock returns can be explained by multiple risk factors	There is no causality running from INT to ASI or INF to ASI. It is possible to deduce from the preceding that these macroeconomic variables are critical for stock market performance in Nigeria. The regression result also reveals that the sign of all variables conforms to economic theory, but only INT and RGDP contribute significantly to Nigerian stock market performance.	Moreover, the Stock Market Performance could be proxies by other parameters such as Share Prices and Share Dividend Payoff. These could be considered in further research work on this area.

2.4 Theories

a. Economic Theories

1. Classical Theory

Classical economists believe that the equilibrium interest rate is determined by demand and supply. They consider interest rates to be the cost of credit. While savings increase supply, investment increases demand. Interest rates have a negative effect on investment. The investment demand curve always has a downward slope in this case. According to [30], an increase in interest rates causes savings to rise while decreasing investment. Interest rates have an impact on other macroeconomic variables.

Analysis of the economic development process was a fundamental component of the work of the English classical economists, most notably Adam Smith, Thomas Malthus, and David Ricardo [79]. Regardless of the theories of those before them, they must be considered

the primary forerunners of current growth theory. The concepts of this school achieved their pinnacle of development in Ricardo's writings. Given the perceived importance of the rate of profit in a capitalist economy, accounting for changes in the rate of profit connected with the process of capital accumulation and economic development becomes a critical challenge in classical political economics. Such motions are a critical reference point for comprehending long-term development.

The market rate of interest is the current or money rate in the market at any particular time. In contrast to the real rate, which is not immediately observable, the market rate is what we see in the markets. This is because the market rate represents the amount of loans measured in money units rather than products. The market rate of interest is the current or money rate in the market at any particular time. In contrast to the real rate, which is not immediately observable, the market rate is what we see in the markets. This is because the market rate represents the amount of loans measured in money units rather than products.

2. ***Keynesian Theory***

Keynes held a different viewpoint on how interest rates function in an economy [80]. Instead of viewing interest rates as the cost of credit, he saw them as a payment for the use of money. He also disagreed with the traditional view of saving (supply) and investment (demand) as independent factors that interact to determine interest rates. Saving, according to him, is determined by the level of income, whereas income (output) is determined by investment. Although interest rates are determined by supply and demand for money in the Keynesian analysis, supply is said to be exogenous, whereas demand is said to be endogenously determined in the market place. However, there is a caveat to the nature of demand that determines interest.

The General Theory of Employment, Interest, and Money assumed that the interest rate is the price that puts the desire to retain wealth in cash into equilibrium with the availability of cash resources, as well as the incentive for parting with liquidity at the same time [81]. The study identified liquidity preference as a major component of the theory of money demand, but money supply is a discretionary factor, i.e. dependent on monetary authorities' policy.

It has been demonstrated that such a method has at least three errors: discrepancy in defining interest rates, a vicious loop in reasoning, and a divergence from the economics of value for functional adequacy

b. **Econometric Approach**

The research variables are GDP, INT, FDI, IFL, and EXR, which stand for GDP, Foreign Direct Investment, Inflation, Interest Rate, and Exchange Rate, respectively. An ARDL regression model is mathematically represented as $GDP = \beta0 + \beta1FDI + ... + \beta INTt + \alpha IFLt\text{-}1 + \alpha 1EXRt\text{-}2 + \ldots + \varepsilon$………….. (1) Where: εt is a random "disturbance" term. $\beta 0$ = function intercept $\beta 1$, $\alpha 0$, $\alpha 1$, $\alpha 2$, $\alpha 3$ are parameter estimations Before presenting empirical results from the ARDL model, this study intends to undertake the following econometric processes required for data stationary testing. The investigation will first employ the Augmented Dickey-Fuller and Philips-Perron tests, after which the F-test for the ARDL Model will be determined.

3. CONCLUSION

The study examines the macroeconomic variables that affect certain African economies. The primary objective of

the research is to assess the macroeconomic factors that might impact the GDP growth of the chosen nations. We used a methodical methodology to gather the sample literature for the inquiry in order to provide answers to these issues. It has been proposed that a thorough examination of the topic under study, highlighting the fundamental problems that have surfaced and their theoretical and practical ramifications, may be accomplished through the use of systematic review. Socioeconomic factors, trade openness, real estate investment, reduction of corruption, financial liberalization policies, logistical infrastructure technology, ICT, risk rating, and market capitalization are only a few of the variables that this study will not be able to employ due to time limits. Since the data will only be gathered once, the study uses cross-sectional data; however, future studies should adopt a longitudinal design. Previous studies that were thought to be pertinent to this one were examined. Among the subjects addressed are GDP, foreign direct investment, interest rates, currency rates, and macroeconomic indicators. There was discussion of the hypotheses that were thought suitable for this investigation. Based on frequency, secondary data is seen as having more reliability than primary data. A quantitative technique will also be used in this study. Most of the research concluded that GDP is influenced by macroeconomic factors. The macroeconomic variables that will be considered in this study are the interest rate, inflation rate, currency rate, and foreign direct investment, despite the fact that each of the analyzed works has a distinct point of view. One of the metrics (performance indicators) used to gauge economic growth is GDP.

The Limitations of the Study

The current study primarily focuses on a literature review methodology due to limitations in resources and time. It is suggested that future research should consider adopting a cross-sectional time series data approach, as this can provide valuable insights into trends and changes over time. Additionally, it is recommended that researchers take a longitudinal approach to gain a deeper understanding of the subject matter. Since the present study does not involve the collection of primary data, future studies should explore qualitative or triangulation techniques, such as structured questionnaires and interviews, to gather firsthand information and perspectives. This will enhance the richness of the research and provide a more comprehensive view of the subject. Furthermore, to improve the robustness of the research, it's advisable to incorporate a broader range of variables. In addition to macro-economic factors, socioeconomic conditions should also be considered. Combining these variables can provide a more holistic and accurate measurement of economic growth, contributing to a more thorough and meaningful analysis. There was discussion of the hypotheses that were thought suitable for this investigation. Based on frequency, secondary data is seen as having more reliability than primary data. A quantitative technique will also be used in this study. Most of the research concluded that GDP is influenced by macroeconomic factors. The macroeconomic variables that will be considered in this study are the interest rate, inflation rate, currency rate, and foreign direct investment, despite the fact that each of the analyzed works has a distinct point of view. One of the metrics (performance indicators) used to gauge economic growth is GDP.

REFERENCES

[1] K. Kasapi, A. Lampou, G. Economakis, G. Androulakis, and I. Zisimopoulos, “The Impact of Macroeconomic Factors on FDI Attractiveness: Romania, Slovakia and Greece in Comparison,” *Dev. Turbul. Times*, p. 133, 2019.

[2] W. H. Organization, *Translating community research into global policy reform for national action: a checklist for community engagement to implement the WHO consolidated guideline on the sexual and reproductive health and rights of women living with HIV*. World Health Organization, 2019.

[3] S. N. Essien, S. O. U. Uyaebo, and B. S. Omotosho, “Exchange rate misalignment under different exchange rate

regimes in Nigeria," *CBN J. Appl. Stat.*, vol. 8, no. 1, pp. 1–21, 2017.
[4] A. F. Opeyemi, "Impact of foreign direct investment and inflation on economic growth of five randomly selected Countries in Africa," *J. Econ. Int. Financ.*, vol. 12, no. 2, pp. 65–73, 2020.
[5] M. E. R. Rigo *et al.*, *State-Owned Enterprises in Middle East, North Africa, and Central Asia: Size, Costs, and Challenges*. International Monetary Fund, 2021.
[6] O. Aregbeyen and T. Ibrahim Mohammed, "Public investment and output performance: Evidence from Nigeria," *Zagreb Int. Rev. Econ. Bus.*, vol. 19, no. 1, pp. 1–24, 2016.
[7] A. Hicham, "Money supply, inflation and economic growth: co-integration and causality analysis," *Stud. Univ. Babes Bolyai-Oeconomica*, vol. 65, no. 2, pp. 29–45, 2020.
[8] S. Antwi, E. F. Mills, and X. Zhao, "Impact of macroeconomic factors on economic growth in Ghana: A cointegration analysis," *Int. J. Acad. Res. accounting, Financ. Manag. Sci.*, vol. 3, no. 1, pp. 35–45, 2013.
[9] V. M. Kiberu, J. K. B. Matovu, F. Makumbi, C. Kyozira, E. Mukooyo, and R. K. Wanyenze, "Strengthening district-based health reporting through the district health management information software system: the Ugandan experience," *BMC Med. Inform. Decis. Mak.*, vol. 14, pp. 1–9, 2014.
[10] Y. Bin-Humam, J. C. Braunmiller, and M. Elsaman, "Emerging trends in national financial inclusion strategies that support women's entrepreneurship," 2023.
[11] T. Ghaffar *et al.*, "Recent trends in lactic acid biotechnology: a brief review on production to purification," *J. Radiat. Res. Appl. Sci.*, vol. 7, no. 2, pp. 222–229, 2014.
[12] B. Hedin, C. Katzeff, E. Eriksson, and D. Pargman, "A systematic review of digital behaviour change interventions for more sustainable food consumption," *Sustainability*, vol. 11, no. 9, p. 2638, 2019.
[13] S. F. A. Khatib, D. F. Abdullah, A. A. Elamer, and R. Abueid, "Nudging toward diversity in the boardroom: A systematic literature review of board diversity of financial institutions," *Bus. Strateg. Environ.*, vol. 30, no. 2, pp. 985–1002, 2021.
[14] J. A. Blackmore, "A critical evaluation of academic internal audit," *Qual. Assur. Educ.*, vol. 12, no. 3, pp. 128–135, 2004.
[15] A. Kotb, H. Elbardan, and H. Halabi, "Mapping of internal audit research: a post-Enron structured literature review," *Accounting, Audit. Account. J.*, vol. 33, no. 8, pp. 1969–1996, 2020.
[16] M. Massaro, J. Dumay, and J. Guthrie, "On the shoulders of giants: undertaking a structured literature review in accounting," *Accounting, Audit. Account. J.*, vol. 29, no. 5, pp. 767–801, 2016.
[17] I. Hristov, A. Appolloni, A. Chirico, and W. Cheng, "The role of the environmental dimension in the performance management system: A systematic review and conceptual framework," *J. Clean. Prod.*, vol. 293, p. 126075, 2021.
[18] S. A. Hazaea, J. Zhu, S. F. A. Khatib, A. H. Bazhair, and A. A. Elamer, "Sustainability assurance practices: A systematic review and future research agenda," *Environ. Sci. Pollut. Res.*, vol. 29, no. 4, pp. 4843–4864, 2022.
[19] K. Goyal and S. Kumar, "Financial literacy: A systematic review and bibliometric analysis," *Int. J. Consum. Stud.*, vol. 45, no. 1, pp. 80–105, 2021.
[20] G. Adunlin, V. Diaby, and H. Xiao, "Application of multicriteria decision analysis in health care: a systematic review and bibliometric analysis," *Heal. Expect.*, vol. 18, no. 6, pp. 1894–1905, 2015.
[21] R. Rialti, L. Zollo, A. Ferraris, and I. Alon, "Big data analytics capabilities and performance: Evidence from a moderated multi-mediation model," *Technol. Forecast. Soc. Change*, vol. 149, p. 119781, 2019.
[22] A. Alheet, A. Adwan, A. Areiqat, A. Zamil, and M. Saleh, "The effect of leadership styles on employees' innovative work behavior," *Manag. Sci. Lett.*, vol. 11, no. 1, pp. 239–246, 2021.
[23] A. M. Sahi, H. Khalid, A. F. Abbas, K. Zedan, S. F. A. Khatib, and H. Al Amosh, "The research trend of security and privacy in digital payment," in *informatics*, MDPI, 2022, p. 32.
[24] K. Dynan and L. Sheiner, "GDP as a measure of economic well-being," Hutchins Center Working Paper, 2018.
[25] L. Kamer, "GDP of African countries 2021, by country." Statista. https://www. stati sta. com/stati stics/11209, 2022.
[26] Y. Li, S. Preihs, and J. Peissig, "Acquisition of continuous-distance near-field head-related transfer functions on kemar using adaptive filtering," in *Audio Engineering Society Convention 152*, Audio Engineering Society, 2022.
[27] C. F. Egbunike and C. U. Okerekeoti, "Macroeconomic factors, firm characteristics and financial performance: A study of selected quoted manufacturing firms in Nigeria," *Asian J. Account. Res.*, vol. 3, no. 2, pp. 142–168, 2018.
[28] K. Makrelov, R. Davies, and L. Harris, "The impact of higher leverage ratios on the South African economy," *Stud. Econ. Econom.*, vol. 45, no. 3, pp. 184–207, 2021.
[29] N. W. Hlongwane and O. D. Daw, "Monetary policy in South Africa: A VECM approach," *Int. J. Econ. Financ. Stud.*, vol. 14, no. 1, pp. 1–28, 2022.
[30] A. I. Lawal *et al.*, "Impact of macroeconomic variables on the Nigerian manufacturing sector," *Cogent Econ. Financ.*, vol. 10, no. 1, p. 2090664, 2022.
[31] M. T. Pasara and R. Garidzirai, "Causality effects among gross capital formation, unemployment and economic growth in South Africa," *Economies*, vol. 8, no. 2, p. 26, 2020.
[32] R. O. Alenoghena, O. M. Saibu, and B. W. Adeoye, "Financial development and economic growth in Nigeria: asymmetric cointegration and threshold analysis," in *Forum Scientiae Oeconomia*, 2020, pp. 43–63.
[33] O. D. Awolusi, J. Mbonigaba, and C. K. Tipoy, "Mineral resources endowment and economic growth in Southern African countries," *Int. J. Dipl. Econ.*, vol. 4, no. 1, pp. 59–79, 2018.
[34] A. E. Ojo, "The socio-economic drivers of public infrastructures development in Nigeria," *Int. J. Crit. Infrastructures*, vol. 16, no. 4, pp. 328–341, 2020.
[35] R. P. Pradhan, M. B. Arvin, M. Nair, S. E. Bennett, and J. H. Hall, "The dynamics between energy consumption

patterns, financial sector development and economic growth in Financial Action Task Force (FATF) countries," *Energy*, vol. 159, pp. 42–53, 2018.
[36] O. Akinsomi, N. Mkhabela, and M. Taderera, "The role of macro-economic indicators in explaining direct commercial real estate returns: evidence from South Africa," *J. Prop. Res.*, vol. 35, no. 1, pp. 28–52, 2018.
[37] O. D. Awolusi and J. Mbonigaba, "Socio-economic inequality and economic growth in BRICS countries: relationships and policy options," *Int. J. Serv. Econ. Manag.*, vol. 11, no. 4, pp. 390–429, 2020.
[38] J. Tsan, C. F. Lynch, and K. E. Boyer, "'Alright, what do we need?': A study of young coders' collaborative dialogue," *Int. J. Child-Computer Interact.*, vol. 17, pp. 61–71, 2018.
[39] A. Stiglingh and D. Vijloen, "An analysis of the relationship between economic growth and financial development for BRICS countries," *Int. J. Econ. Financ. Stud.*, vol. 10, no. 1, pp. 81–92, 2018.
[40] H. Chitonge, *Economic Growth and Development in Africa: Understanding trends and prospects*. Routledge, 2015.
[41] E. L. Owusu and N. M. Odhiambo, "Financial liberalisation and economic growth in Nigeria: an ARDL-bounds testing approach," *J. Econ. Policy Reform*, vol. 17, no. 2, pp. 164–177, 2014.
[42] F. O. Olokoyo, E. S. C. Osabuohien, and O. A. Salami, "Econometric analysis of foreign reserves and some macroeconomic variables in Nigeria (1970–2007)," *African Dev. Rev.*, vol. 21, no. 3, pp. 454–475, 2009.
[43] M. Olaifa and T. Zuva, "Principal Component Analysis Enhanced Multi-layer Perceptron for Multi-economic Indicators in Southern African Economic Prediction," in *Software Engineering Perspectives in Intelligent Systems: Proceedings of 4th Computational Methods in Systems and Software 2020, Vol. 2 4*, Springer, 2020, pp. 674–684.
[44] E. Tajudeen, A. T. Olusola, and B. A. G. Ademola, "Interest rate liberalization, financial development and economic growth in Sub-Saharan African economies," *African J. Econ. Rev.*, vol. 5, no. 2, pp. 109–129, 2017.
[45] O. P. Oluwatoyese and N. A. A. Razak, "Macroeconomic factors and agricultural sector in Nigeria," *Procedia-Social Behav. Sci.*, vol. 219, pp. 562–570, 2016.
[46] S. A. Ajayi, O. A. Oladipo, L. B. Ajayi, and T. I. Nwanji, "Interest rate and economic growth: The case of Nigeria," *Int. Rev. Bus. Res. Pap.*, vol. 13, no. 1, pp. 141–150, 2017.
[47] E. N. Obim, J. I. John, and A. B. Orok, "Interest rate policy and the growth of the Nigerian economy (1990-2016)," *J. Bank. Financ. Dyn.*, vol. 2, no. 1, pp. 16–23, 2018.
[48] M. Idris, "Macroeconomic analysis of interest rate and economic growth in Nigeria: a time series approach," *Int. J. Financ. Bank. Res.*, vol. 5, no. 4, pp. 91–104, 2019.
[49] O. A. Damilola and O. Adeleke Kareem, "Effect of Agriculture on Sustainable Financial Sector's Growth in Nigeria".
[50] M. D. Galadima and A. W. Aminu, "Shocks effects of macroeconomic variables on natural gas consumption in Nigeria: Structural VAR with sign restrictions," *Energy Policy*, vol. 125, pp. 135–144, 2019.
[51] I. M. Lawal *et al.*, "Proximate analysis of waste-to-energy potential of municipal solid waste for sustainable renewable energy generation," *Ain Shams Eng. J.*, p. 102357, 2023.
[52] Y. Liu, A. V. Adejumo, O. O. Adejumo, and T. A. Aderemi, "Globalization and Economic Growth: A Sustainability Analysis for South Asian Countries," *Glob. Policy*, vol. 13, no. 4, pp. 507–522, 2022.
[53] N. W. Hlongwane, T. D. Mmutle, and O. D. Daw, "THE relationship between government expenditure and economic growth in South Africa from 1981-2019: An ardl and ecm approach," *Int. J. Econ. Financ. Stud.*, vol. 13, no. 2, pp. 131–159, 2021.
[54] N. Abu and M. Waldemar Staniewski, "An empirical investigation of the effect of corruption on domestic savings in Nigeria," *Econ. Res. istraživanja*, vol. 35, no. 1, pp. 4092–4112, 2022.
[55] O. O. Olanrele, O. B. Fateye, T. O. Adegunle, C. A. Ajayi, R. Said, and K. Baaki, "Causal effects of macroeconomic predictors on real estate investment trust's (REIT's) performance in Nigeria," *Pacific Rim Prop. Res. J.*, vol. 26, no. 2, pp. 149–171, 2020.
[56] M. U. Ahmad and M. S. Abou Elseoud, "Macroeconomic Variables in India with a Focus on Interest Rates," *SCMS J. Indian Manag.*, vol. 16, no. 3, pp. 38–48, 2019.
[57] N. P. Azu, A. Nasiri, and S. D. Street, "Exchange rate fluctuation and sustainable economic growth in Nigeria: VAR approach," *Exchange*, vol. 6, no. 13, 2015.
[58] A. M. A. E. A. Mansour and I. M. Zaki, "Egyptian Macroeconomic status with reference to the shadow economy during the period 1991-2018," *Open Access Libr. J.*, vol. 7, no. 8, pp. 1–30, 2020.
[59] A. K. Benson, T. Habanabakize, and G. Fortune, "The impact of the selected macroeconomic indicators' volatility on the performance of South African JSE-listed companies: a pre-and post-Covid-19 study," *Int. J. Res. Bus. Soc. Sci.*, vol. 11, no. 4, pp. 193–204, 2022.
[60] K. O. Isah, A. C. Mahomedy, E. A. Udeaja, O. J. Adelakun, Y. Yakubu, and D. Musa, "Revisiting the accuracy of inflation forecasts in Nigeria: The oil price–exchange rate–asymmetry perspectives 1," *South African J. Econ.*, vol. 90, no. 3, pp. 329–348, 2022.
[61] E. P. Mesagan, X. V. Vo, and I. P. Amadi, "Symmetric and asymmetric effects of exchange rate: Evidence from capital market and financial sector in Nigeria," *J. Public Aff.*, vol. 22, p. e2776, 2022.
[62] P. L. Makoni, "Foreign portfolio investments, exchange rates and capital openness: A panel data approach," *Int. J. Econ. Bus. Adm.*, vol. 8, no. 2, pp. 100–113, 2020.
[63] R. Hammam, A. Elshennawy, and W. Mikhail, "The determinants of Egypt's economic growth over 1985-2007," *Int. Res. J. Financ. Econ.*, vol. 96, p. 43, 2012.
[64] I. Majerová, "The Success of Macroeconomic Policies of Selected Countries of North Africa," *Indicator*, vol. 2007, p. 2008, 2009.
[65] B. A. Oshodi, "Analysis of macroeconomic indicators on economic growth: Empirical studies of Nigeria and China,"

Available SSRN 3358697, 2018.

[66] Z. Mohamed, O. Abdellaoui, and N. Ben Amara, "Determinants of the Algerian Economy: Autoregressive Distributed Lag Approach," *Int. J. Econ. Financ. Issues*, vol. 8, no. 5, p. 7, 2018.

[67] D. M. DRIOUCHE and A. MANEL, "Assessing the fluctuations of macroeconomic aggregates: Evidence from Algeria," *J. Empir. Econ. Soc. Sci.*, vol. 1, no. 1, pp. 17–28, 2019.

[68] M. Chaouachi and D. Balsalobre-Lorente, "Environmental strategies for achieving a new foreign direct investment golden decade in Algeria," *Environ. Sci. Pollut. Res.*, vol. 29, no. 25, pp. 37660–37675, 2022.

[69] Y. Saidi, A. Ochi, and S. Maktouf, "FDI inflows, economic growth, and governance quality trilogy in developing countries: A panel VAR analysis," *Bull. Econ. Res.*, vol. 75, no. 2, pp. 426–449, 2023.

[70] S. Saidi, V. Mani, H. Mefteh, M. Shahbaz, and P. Akhtar, "Dynamic linkages between transport, logistics, foreign direct Investment, and economic growth: Empirical evidence from developing countries," *Transp. Res. Part A Policy Pract.*, vol. 141, pp. 277–293, 2020.

[71] T. I. Nwanji *et al.*, "Impact of foreign direct investment on the financial performance of listed deposit banks in Nigeria," *Int. J. Financ. Res.*, vol. 11, no. 2, p. 323, 2020.

[72] O. E. Ajayi, T. O. Akinbobola, S. Okposin, and O. Ola-David, "Interactive effects of exchange rate volatility and foreign capital inflows on economic growth in Nigeria," in *3rd International Conference on African Development Issues.(CU-ICADI 2016)*, 2016.

[73] D. F. Meyer and T. Habanabakize, "An analysis of the relationship between foreign direct investment (FDI), political risk and economic growth in South Africa," *Bus. Econ. Horizons*, vol. 14, no. 4, pp. 777–788, 2018.

[74] D. David, G.-P. Pedro, and H. Paula, "Threshold effects in the relationship between inflation and growth: A new panel-data approach," 2005.

[75] S. I. Doguwa, "Inflation and economic growth in Nigeria: Detecting the threshold level," *CBN J. Appl. Stat.*, vol. 3, no. 2, p. 6, 2012.

[76] T. L. A. Leshoro, "Estimating the inflation threshold for South Africa," *Stud. Econ. Econom.*, vol. 36, no. 2, pp. 53–65, 2012.

[77] A. Simba, M. Tajeddin, L.-P. Dana, and D. E. Ribeiro Soriano, "Deconstructing involuntary financial exclusion: a focus on African SMEs," *Small Bus. Econ.*, vol. 62, no. 1, pp. 285–305, 2024.

[78] R. Hushiarian, N. A. Yusof, and S. W. Dutse, "Detection and control of Ganoderma boninense: Strategies and perspectives," *Springerplus*, vol. 2, no. 1, pp. 1–12, 2013, doi: 10.1186/2193-1801-2-555.

[79] D. J. Harris, "The classical theory of economic growth," *new Palgrave Dict. Econ.*, vol. 11, 2007.

[80] V. A. Mathur, Z. Trost, M. O. Ezenwa, J. A. Sturgeon, and A. M. Hood, "Mechanisms of injustice: what we (do not) know about racialized disparities in pain," *Pain*, vol. 163, no. 6, pp. 999–1005, 2022.

[81] K. Appelt, "Keynes' theory of the interest rate: A critical approach," *Theory, Methodol. Pract. Bus. Manag.*, vol. 12, no. 01, pp. 3–8, 2016.