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Macroeconomic Determinants and Financial Performance of Healthcare Sectors in Nigeria

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Abstract: There has been persistent instability in macroeconomic indicators, such as inflation and interest rates, which has contributed to fluctuating margins, increased debt burdens, and limited capacity for sustainable growth and development in Nigeria's healthcare sector. This study examines the impact of macroeconomic determinants on the financial performance of the healthcare sector in Nigeria, using interest and inflation rates as key variables. The study employed an ex post facto research design. Data on corporate performance were extracted from the annual accounts of the sampled sectors, while data on the independent variables were obtained from the Central Bank of Nigeria's Statistical Bulletin. A multiple regression analysis was employed to test the hypotheses. The results revealed that the interest rate has a negative, yet non-significant, effect, and the inflation rate has a positive, yet non-significant, effect on financial performance. However, the study reveals that macroeconomic indicators, such as inflation and exchange rates, significantly affect the profitability and financial performance of the healthcare sector in Nigeria, indicating that macroeconomic conditions have a substantial impact on the sector's performance. The study concluded that the interest rate has adverse economic consequences for the healthcare sector in Nigeria. Based on the findings, the study recommends, among others. The healthcare sector requires strategic cost management, diversified revenue streams, and an enhanced financial hedging system. The policy implications suggest that the government should stabilize inflation by strengthening the currency and increasing the microeconomic environment to ensure sustainable economic growth and financial resilience within the healthcare sector in Nigeria.

Keywords: Economic Stability, Financial Performance, Healthcare Sectors, Inflation, Interest Rates, Nigeria.

Introduction

Government and policymakers have embarked on various macroeconomic policies to address economic issues. Some of the policies involved monetary and fiscal policy, an export promotion strategy, an import-substitution strategy, and the National Economic Empowerment and Development Strategy (NEEDS) (Okoye, 2022). The fundamental objectives of the policies include maintaining price stability, balancing the balance of payments, and promoting employment, growth, and sustainable development. These objectives are necessary for attaining internal and external balance of the value of money and promoting long-term economic development (Nwoko, Ihemeji, & Anumudu, 2016). The microeconomic factors within the company are under management's control; these include product, organizational culture, management, production (quality), demand, and production factors (Broadstock, Shu & Xu, 2011; Adidu & Olanye, 2006).

However, macroeconomic factors outside the company are not under management's control; these include social, environmental, and political conditions, as well as suppliers, competitors, government regulations, and policies (Adidu & Olanye, 2006). The primary economic factors include the consumer price index (CPI), unemployment, gross domestic product (GDP), stock market index, corporate income tax, and interest rates (World Bank Group, 2015; Broadstock et al., 2011). These factors (i.e., macros) can pose a positive or negative threat to a company's profits. This was established by the crises in Latin America, East Asia, and Russia, as well as the global financial crisis of 2007 (Issah & Antwi, 2017). Currently, the economic recession in Nigeria, which business analysts believe has contributed to the delisting of some sectors, has underscored the impact of macroeconomic factors on firm performance (Zeitun, Tian, & Keen, 2007). For example, a country's monetary policy affects all sectors through the cost of debt and the availability of money/credit, which can affect a company's ability to access external sources of finance. Fiscal policy affects a firm's net cash flow after taxes, its cost of capital, and, eventually, its product demand and survival (Zeitun et al., 2007). In most developing countries, such as Nigeria, macroeconomic factors, including hyperinflation and rising exchange rates, significantly affect the performance of the manufacturing sector (Owolabi, 2017).

Sectors operating in Nigeria, especially those involved in production, are facing various challenges, including a perennial rise in interest rates, a high exchange rate, and high inflation, among others, due to the government's lack of willpower to create an enabling environment. These variables negatively impact sector financial performance by increasing operational costs, reducing revenue, and

reducing the asset base (net assets). The years of recession led to low foreign currency inflows due to a sharp decline in oil prices and unfavorable exchange rate policies, putting pressure on the manufacturing sector. The implication is that, since the banking sector experienced lower dollar inflows, which led the government to borrow foreign currency, sectors that require dollars for transactions become more expensive, thereby increasing the cost of materials due to dollar scarcity (Egwuatu, 2020). Manufacturing sectors in Nigeria are facing volatility in exchange rates, interest rates, and inflation, as well as inadequate government funding of capital projects, which has led to insufficient funding for modern assets due to excessive increases in operational costs (Ofuonye, Emeka-Nwokeji, & Ezebuilo, 2025).

Despite the existence of the aforementioned variables, there is a sectorial gap in the study of this nature, many researchers regard the exchange rate, government expenditures, unemployment, population, interest rate, inflation rate, money supply, and Gross Domestic Product (GDP) to be the most crucial and well-established factors (World Bank Report, 2019; Haider et al., 2018; Issah & Antwi, 2017; Ngowi, 2015). The literature indicates that there are limited studies on macroeconomic and financial performance (Mwenda, Ngollo & Mwasota, 2023; Okoye, 2022; Idaka, Ugwoke, Ajuh & Onyeanu, 2021; Özlen & Ergun, 2012; Ahmed, Muhammad, Sehrish, Sana, & Muhammad, 2014; Ofuonye, Emeka-Nwokeji & Ezebuilo, 2025; and Ruhomaun, Saeedi & Nagavhi, 2019).

The majority of these studies were carried out in Kenya, Pakistan, the UK, Ghana, and similar countries. The study of this nature is scarce in Nigeria (Okoye, 2022; Idaka, Ugwoke, Ajuh, & Onyeanu, 2021), particularly in the use of banks and consumer goods. This study focused on healthcare to fill the sectoral gap. This study examined the effect of macroeconomic determinants on the financial performance of healthcare companies in Nigeria. Specifically, the study sought to:

a. Ascertain the effect of interest rate on the financial performance of healthcare companies in Nigeria.
b. Determine the effect of the inflation rate on the financial performance of healthcare companies in Nigeria.

Literature Review

Financial Performance

Financial performance encompasses elements in the accounting literature. For decades, researchers have considered the sub-elements or variables as appropriate measures for evaluating the performance of corporate institutions/organizations, large, medium, and small (Kaguri, 2013). Company financial measures which are very conspicuous on the face of the financial statements are: earnings per share (EPS), return on assets (ROA), dividend per share (DPS) etc.; market performance measures are: sales, market share, etc; and shareholder return measured using return on equity (ROE), dividend payout ratio, dividend cover etc. (Richard, Devinney, Yip, and Johnson (2009) reported that all these are metrics

of measuring performance relating to different variables in the financial statements.

Lebans and Euske (2006) clearly provide some basic concepts that better define the term "performance". Financial Performance comprises quantitative and qualitative measures that provide a better understanding of how management achieves the set goals or objectives of their sectors. Financial performance, therefore, is a concept that contains sub-variables used to evaluate management efficiency in the use of resources to create value. It is dynamic, requiring Herculean judgment to use multiple metrics, along with quantitative and qualitative accounting variables, to assess whether management can achieve set goals and how deviations may affect plans.

For this study, ROA is used as a measure of firm performance, which is determined by its asset base and the costs of its other factors of production. ROA measures earnings before interest, taxes, and extraordinary items divided by net tangible assets (shareholder equity plus liabilities). The fundamental hypothesis guiding the empirical research is that ROA, as a measure of a firm's base operating performance, is correlated with changes in economic activity.

Macroeconomics

The word "macroeconomics" is derived from the Greek prefix "makro," meaning "large," and "economy," and is the branch of economics that deals with the functioning, arrangement, behavior, and decision-making of the economy as a whole (Sullivan & Sheffrin, 2003). The macro environment examines the forces surrounding a firm that can affect its operations (Davis & Powell, 2012). The Institute of Chartered Accountants of Nigeria (ICAN) opined that it is a set of factors or conditions external to the company that can nonetheless affect its performance.

The macro environment refers to the conditions and forces external to the firm and beyond the individual business unit, yet which all operate within it (Taher et al., 2010). Duncan (1972) opined that the external business environment refers to the totality of factors outside an organization that it considers in its decision-making. These factors depend mainly on the complexity and dynamism of the environment (Duncan, 1972; Dess & Beard, 1984). The external business environment is classified as stable when it shows no change, unstable when it shows relative change, and dynamic when it undergoes continuous change (Aguilar, 1967).

Interest Rate

The interest rate is the proportion of a loan that is charged to the borrower as interest, typically expressed as an annual percentage of the loan's outstanding balance. Mwangi (2013) explains that several critical macroeconomic factors, including interest rates, exchange rates, inflation, unemployment, the money supply, and the stock market, typically determine an organisation's financial performance. These variables are monitored closely by both governments and individual investors. The findings of this study revealed a weak, negative, and insignificant correlation between return on assets and average interest rate. A study by Baba and Nasieku (2016) found

that interest rates have a negative, significant relationship with the financial performance of banks in Nigeria. A study by Chimkono (2017) examined the impact of both microeconomic and macroeconomic variables on the financial performance of commercial banks in Malawi. The findings revealed that the lending interest rates have a significant effect on the financial performance of banks in Malawi.

A study by Njuguna (2013) on the effects of macroeconomic variables on the financial performance of deposit-taking microfinance institutions in Kenya found that a rise in interest rates is associated with a decline in financial performance, as measured by return on assets. This is supported by a study by Muchiri (2012), which found that lower interest rates are associated with improved stock market performance. The study, conducted by Njuguna (2013), found that several microeconomic variables, including the interest rate, can determine the performance of microfinance institutions. A study by Simiyu and Ngile (2015) examined the impact of macroeconomic factors on the profitability of commercial banks in Kenya. The findings revealed a negative, significant relationship between profitability and the interest rate.

Kungu (2013) revealed that the interest rate ranks third, after inflation, among microeconomic variables with the most significant positive effect on the financial performance of sectors. This is supported by a study by Kipngetich (2011) that examined the relationship between interest rates and the financial performance of commercial banks in Kenya. The study found a positive relationship between interest rates and the performance of commercial banks in Kenya. According to Khan and Sattar (2014), interest rates can affect sector financial performance in both positive and negative ways. Therefore, it can be either positive or negative, depending on its direction of movement. A study by Osamwonyi and Chijuka (2014) studied the influence of macroeconomic factors on the financial performance of commercial banks. The study revealed a significant and negative relationship between interest rates and the financial performance of commercial banks.

Inflation Rate

Jhingan (2002) defined inflation as a persistent rise in the general level of prices. Akers (2014) stated that the inflation rate measures changes in the average price level based on a price index. Inflation can be measured in several ways; however, two commonly used measures are the GDP Deflator and the CPI indicator. The GDP Deflator is a broad index of inflation in the economy; the CPI measures changes in the price level of a broad basket of consumer products. The CPI measures average retail prices that consumers pay. A high or rising CPI indicates inflation. Higher prices tend to reduce overall consumer spending, which, in turn, lowers GDP. While inflation itself is not inherently harmful, rapidly rising inflation rates signal potential problems with macroeconomic health. Economists distinguish between two types of inflation: demand-pull inflation and cost-push inflation. Demand-pull inflation occurs when aggregate demand for goods and services in an economy rises more rapidly than the economy's productive

capacity. Cost-push inflation, on the other hand, occurs when the prices of inputs used in the production process increase.

According to Mwangi (2013), an organization's financial performance is typically influenced by several critical macroeconomic factors, including interest rates, exchange rates, inflation, unemployment, the money supply, and the stock market. These variables are monitored closely by both governments and individual investors. The findings of this study revealed a weak, negative, and insignificant correlation between return on assets and average inflation rate. The inflation rate in Nigeria is primarily measured as the percentage change in the CPI, which includes the food and core index, to determine the headline inflation. In Nigeria, Usman & Adejare (2013) reported a negative relationship between the market all-share index, market volume, and GDP and inflation. Similarly, Alimi (2014) reported a deleterious effect of inflation on financial development, proxied by the broad definition of money as the ratio of GDP, quasi money as a share of GDP, and credit to the private sector as a share of GDP.

Kungu (2013) revealed that the inflation rate ranks second, after gross domestic product, among microeconomic variables with the most significant positive effect on the financial performance of sectors. This is supported by a study conducted by Flamini (2009) on determinants of commercial banks' profitability in sub-Saharan Africa. The study found that inflation positively influenced the bank's profits. A study by Desaro (2012) investigated the effects of macroeconomic variables on the financial performance of commercial banks in Kenya. The study revealed that return on assets positively correlated with inflation. This is supported by a study by Ongeri (2014), which showed that inflation positively influences bank profitability, as banks generate higher revenue from the circulation of money. This is also supported by Baba and Nasieku (2016), who found a positive correlation between the inflation rate and banks' financial performance. A study by Wamucii (2010) found that as inflation increased, so did banks' financial performance.

Alemu & Negasa (2015) investigated the determinants of financial performance of commercial banks in Ethiopia. The findings revealed that measures of return on assets and inflation had an insignificant positive influence on the financial performance of commercial banks in Ethiopia. A study by Baba & Nasieku (2016) found that the inflation rate is unrelated to banks' financial performance in Nigeria. This is disputed by a study conducted by Ongore & Kusa (2013) that investigated the effect of macroeconomic variables on the performance of Kenyan banks. The study revealed a significant negative relationship between inflation and the bank's profitability. A study conducted by Osamwonji & Chijuka (2014) studied the influence of macroeconomic factors on the financial performance of commercial banks. The study revealed a negative, insignificant relationship between the inflation rate and the financial performance of commercial banks. Researchers such as Vong & Chang (2009) dispute the lack of clarity regarding the direction of the relationship

between a bank's performance and inflation. San & Heng (2013) support the notion that macroeconomic factors, such as inflation, have no significant influence on profitability.

Empirical Review

Mwenda, Ngollo, and Mwasota (2023) analyzed the effect of macroeconomic variables on 21 listed sectors on the Dar es Salaam Stock Exchange (DSE) in Tanzania from 2006 to 2021, building on past inconclusive results from other research globally. A mixed-sequential explanatory research design was used. Secondary panel data were collected from DSE, while qualitative data were collected via semi-structured interviews. Random-effects models and thematic analysis were utilized for data analysis. The study found that GDP, inflation, and money supply had significant positive coefficients. In contrast, interest rates and exchange rates had significant negative coefficients, indicating that macroeconomic conditions have a substantial effect on firm performance.

Ally (2022) examined the impact of macroeconomic factors on the financial performance of commercial banks in Tanzania. The study was geared towards achieving the following objectives (i) to assess the influence of interest rate on the financial performance of commercial banks in Tanzania, (ii) to determine the influence of inflation rate on the financial performance of commercial banks in Tanzania, and (iii) to determine the influence of exchange rate on the financial performance of commercial banks in Tanzania. Data were collected using secondary sources. The study employed a descriptive and explanatory research design to examine trends in exchange rates, interest rates, and the inflation rate over 10 years from 2010 to 2019, during which the relationship between these macroeconomic variables and the financial performance of commercial banks was investigated. The data collected for this study were entered into an Excel sheet, and descriptive and correlational analyses were conducted. The study indicates that the correlation analysis conducted between interest rate and return on assets reveals a strong negative relationship of 74.99%. This means that an increase in return on assets results in a 74.99% decrease in the interest rate. Furthermore, the correlation analysis conducted between the inflation rate and return on assets reveals a positive relationship of 0.5922. Additionally, the study revealed that the correlation analysis conducted between the exchange rate and return on assets shows a negative relationship of 65.52%.

Idaka, Ugwoke, Ajuh, and Onyeanu (2021) analyse the effects of economic variables on the financial performance of listed manufacturing sectors producing consumer goods in Nigeria. The researchers employed an ex-post facto research design and Ordinary Least squares multiple regression analysis to estimate the equations. The population comprises 20 listed consumer goods manufacturing companies and a total sample of 13 sectors, covering 17 years of financial reports. The sample was selected using the elimination method and purposive sampling. The study found a strong correlation between the current price index (CPI), interest rates, exchange rates, and net asset value per share. CPI has a significant effect on Net Asset Per

Share (NAPS), and a short-run relationship exists, as indicated by the ARDL coefficients. However, exchange and interest rates showed no significant effect on NAPS. The economic implications of the result, based on the CPI, are that consumers are paying more due to rising inflation, sectors adjust their profit margins to cushion the effect, and a 1% rise in interest and exchange rates results in a decline in NAPS.

Umar, Jaleel, and Shamshair (2020) did a study titled "Do the macroeconomic factors influence the firm's investment decisions"? A generalised method of moments (GMM) approach. The researchers investigated 12 Asian countries over 10 years, using the GMM approach to examine the relationship between macroeconomic factors and capital investment across sectors. Based on the study's results, it was concluded that a rise in inflation leads to a decrease in investment due to higher future investment costs. Additionally, an increase in interest rates reduces capital investment, which, in turn, affects the sector's asset base. Additionally, countries with strong GDPs have opportunities for increased capital investment, but countries with high FDI experience fierce competition and limited investment opportunities.

Alhassan, Anokye, and Gakpetor (2018) examined the effect of interest rate on commercial banks' profitability in Ghana. The research employed a descriptive design, utilizing 24 banks as a sample over ten years. The study's data included interest rate spread, ROE, ROA, and other variables. The results indicate a significant and positive association between the interest rate spread and bank profitability. The study employed a quantitative approach to data analysis, utilizing panel regression. The study relied on secondary data from Ghanaian commercial banks' annual reports. However, the present study focuses only on Deposit-Taking Microfinance Institutions (DTMFIs) in Kenya over a period of six (10) years (2010-2019). It will use the loan-to-deposit ratio (LDR) as a measure of financial performance.

Ghurstskaia (2018) examined the relationship between GDP and bank profitability in Georgia over the period 2003-2017. The bank profitability measure used was Return on Assets. The researchers conducted a correlation analysis. The finding showed that the GDP growth has a weak relationship with bank profitability. The research, nonetheless, was conducted in Georgia, whose prevailing economic conditions differ from those in Kenya, and the present study focuses on DTMFIs in Kenya. Issah & Antwi (2017) investigated the role of macroeconomic conditions in predicting a firm's base performance, as represented by Return on Assets (ROA), and the impact of macroeconomic variables on this performance.

The predictor variables used to construct the models were selected via PCA. For both the whole and industry-specific samples, the regression model assessed the significance of macroeconomic factors using t-statistics and the R-squared (R2) statistic. The full sample and five of six industry-variable models incorporating lead–lag relationships have R2 values between 0.79 and 0.95. For the

full sample, this study's results suggest that macroeconomic conditions should be considered when predicting sector performance. For the industry-specific models, the empirical results present a mixed picture of the effects of macroeconomic factors and lagged ROA on firm performance, and the same conclusion for the full sample cannot be easily drawn from the industry-specific results. The results of this paper provide a compelling argument that firm performance is a function of prior-year ROA and macroeconomic variables, and that these variables can affect future firm performance, as measured by ROA.

Islam (2017) research on the impact of inflation on the growth of net assets of listed companies in Bangladesh: A Study on DS30 Companies. The total sample consists of 30 companies listed on the Dhaka Stock Exchange. The researcher compared the beginning net asset and the ending net asset, taking into account each company's inflation rate, and adjusted net assets using the reported inflation rate. It was concluded that inflation affects the growth of net assets. Issah & Antwi (2017) examined the role of macroeconomic variables in sector performance, drawing on evidence from the UK. The essence of the study was to investigate how economic variables affect ROA to predict base performance. The statistical tools used are principal component analysis and multiple regression to evaluate the model. The study's total sample comprises 116 sectors, covering the period from 2002 to 2014, excluding financial sectors and regulated utilities due to the nature of their financial ratios. Each sample in the study had at least five years of financial data. The results indicate a strong correlation among the variables, and the researchers concluded that sector-specific factors should be considered when predicting sector performance.

Otambo (2016) examined the effect of gross domestic product (GDP) on the financial performance of banks in Kenya. ROA was used as a measure of financial performance, while quarterly GDP was used as a measure of the economy's growth. The model employed was multiple regression. The study duration was from 2006 to 2015. The study found that GDP has a positive impact on financial performance. The focus of the current study, however, is on DTMFIs in Kenya. Chandio, Abdul, Kevek, and Balar (2016) analyzed the impact of the money supply on the performance of deposit money banks in Pakistan, using secondary data from 1996 to 2015. The findings indicate that the money supply has a positive and significant impact on the performance of commercial banks in Pakistan.

Ismaila (2016) examines exchange rate depreciation and the performance of deposit money banks in Nigeria during the SAP and post-SAP period. The study covers the period of 1986–2012, using the Johasen cointegration test and error correction model analyses after conducting the stationary test, the results show that broad money supply, net export and total government expenditure have significant impact on real output performance in the long run while exchange rate has direct and insignificant effect on Nigeria on the performance of commercial banks in Nigeria in both short and long run.

Diala, Kalu, and Igwe-Kalu (2016) examined the relationship between the commercial property market and the foreign exchange market in Nigeria from 2000 to 2010 to determine the effects of Naira/US Dollar exchange rate volatility on commercial property returns. This study was motivated by the progressive Naira/Dollar exchange rate regime and its potential consequences for real estate investment decision-making. The Exponential Generalized Auto-Regressive Conditional Heteroscedasticity (EGARCH) model was used to establish the relationship between exchange rate volatility and property investment returns volatility in Nigeria. A positive, insignificant relationship was found between commercial property returns and the movement of the Naira/US Dollar exchange rate in Nigeria. It was also found that volatility persistence exists in exchange rate returns on commercial properties, implying that the current period's rate affects the forecast variance of future rates. The leverage effect was not sufficiently significant within the study period.

Mary & Willy (2016) examined the effects of the foreign exchange risk management techniques on the financial performance of deposit money banks in Kenya. To achieve the objectives, data were collected from 39 of the 43 banks registered in Kenya, due to data availability constraints. The data collected was both primary and secondary. Primary data were collected using questionnaires administered to individuals in managerial positions. Secondary data were collected using a schedule. Each commercial bank was served with two closed-ended questionnaires. The study found that the use of financial derivatives significantly influenced the performance of commercial banks in Kenya. In particular, options, swaps, and forwards were found to affect the performance of commercial banks in Kenya positively.

Amassoma & Odeniyi, (2016).) Examined the impact of exchange rate fluctuation on the performance of commercial banks in Nigeria using annual data from forty-three (43) years covering the period (1970 – 2013). The standard deviation method was employed to capture and estimate the fluctuations inherent in the model in relation to the research's objective. The study employed econometric techniques, including the Multiple Regression Model, the Augmented Dickey-Fuller (ADF) test, the Johansen Cointegration Test, and the Error Correction Model (ECM). This study's evidence suggests that exchange rate fluctuations have a positive but insignificant impact on Nigeria in both the long and short runs.

Oleka, Sabina, and Ebue (2015) examined the impact of inflation on the performance of Nigerian sectors. In this case, the relevant sector is the commercial banking industry. The secondary data used are from the annual financial statements of 15 years, from 2000 to 2014. EPS measured financial performance. Ordinary least squares was used as a statistical analysis technique. Results showed a positive, but insignificant, relationship between EPS and Return on Equity. However, the present study focuses on DTMFIs in

Kenya. Gado (2015) studied the impact of the inflation rate on the performance of the 20 most capitalised sectors in Nigeria. The return on assets was used as the dependent variable. An ex post facto research design was adopted in the study. The study also employed correlation and OLS analysis. The results indicate that the inflation variable has a significant and positive impact on performance. The present study, however, focuses on DTMFIs in Kenya.

Stella and Augustine (2015) examined the impact of the exchange rate on the financial performance of the manufacturing sector in Nigeria. The sample comprised eight sectors from the tobacco, food, and beverage manufacturing industries. The study duration was from 2005 to 2014. The financial statements of the sectors and the Central Bank of Nigeria's statistical bulletin were used as secondary data. The research design employed was ex post facto, and multiple regression analysis was used for data analysis. The results indicate that the exchange rate positively affects ROA. The study, however, focused on manufacturing sectors in Nigeria, and the present study focuses on DTMFIs in Kenya.

Methodology

To guide the study's conduct and ensure concise, reliable results, an Ex Post Facto research design was employed. Secondary research data were sourced from the Financial Statistical Bulletin, the CBN Statistical Bulletin, and the World Bank Data (various issues) from 2012 to 2022, using time-series data as available. The researcher codified the data into two categories: interest rate (ITR) and inflation rate (IFR), as the independent variables, while return on assets was used to represent financial performance. The study population comprised all eight Healthcare companies in Nigeria as of December 2022. Given the limited number of Healthcare Sectors in Nigeria, the census sampling method was employed to select all eight Healthcare Sectors in the Nigerian Exchange Group. A cross-sectional multiple linear regression analysis was employed in the study to compare and contrast the effects of macroeconomic factors on the financial performance of sampled sectors.

Model Specification

The study modified the model of Muftaudeen and Hussainatu (2014), which examined macroeconomic variables and the performance of commercial banks in Nigeria.

The model is stated thus:

ROA f (MS, EXR, ITR)

Where:

ROA= Return on Assets

MS= Money Supply

EXR= Exchange Rate

ITR = Interest Rate.

€ = Error term

The Model was modified as follows:

ROA f (ITR, and IFR)

$ROA_{it} = \beta 0 + \beta 1 ITR_{it} + \beta 2 IFR_{it} + \mu$ - - - -- - - - - - - - - - - - - - - -- i

ROAit= Return on Assets of firm i in period t (Dependent variable)

ITRit = Interest Rate i in period t (Independent variable)

IFRit = Inflation Rate i in period t (Independent variable)

β0 and μ are the constant and error term, respectively, while β1 and β2 are the

coefficients of macroeconomic variables on the performance of Beverage companies in Nigeria.

However, the data were analyzed using descriptive statistics, and Pearson's correlation and multiple regression were used to test the hypotheses. Since the study's focus was to determine the significance of the effect, regression analysis proved an appropriate tool for this purpose. Descriptive statistics were used to summarise the mean, median, standard deviation, kurtosis, and skewness of the study variables. Multiple regression analysis: Predicts the value of the dependent variable based on the independent variables and explains the impact of changes in the values of the variables using E-Views 9.

Decision Rule

The decision for the hypotheses is to accept the alternative hypotheses if the p-value of the test statistic is less than or equal to alpha and to reject the alternative hypotheses if the p-value of the test statistic is greater than alpha at 5% significance level.

DATA PRESENTATION AND ANALYSIS

Table I: Descriptive Statistics Analysis

	ROA	ITR	IFR
Mean	-0.011135	6.631999	12.95727
Median	0.012301	6.055977	12.22000
Maximum	0.089029	13.59615	18.85000
Minimum	-0.199150	0.919232	8.050000
Std. Dev.	0.081588	3.845168	3.511013
Skewness	-0.924832	0.296198	0.128968
Kurtosis	3.205200	2.224125	1.773878
Jarque-Bera	12.69899	3.494019	5.756320
Probability	0.001748	0.174294	0.056238
Sum	-0.979912	583.6160	1140.240
Sum Sq. Dev.	0.579129	1286.323	1072.467
Observations	88	88	88

Source: E-View output, 2025.

Interpretation of Descriptive Statistics

The descriptive statistics in Table I reveal that the return on assets (ROA) of the sampled companies is -0.011, with a maximum of 0.089 and a minimum of -0.199, and a standard deviation of 0.081. The average interest rate (ITR) from the sampled observations is 6.632, with a standard deviation of 3.845; the maximum observation is 13.596, and the minimum value is 0.919. The mean inflation rate (IFR) was 12.957, with a standard deviation of 3.511; the maximum observation was 18.850, and the minimum was 8.050. Skewness is a measure of how much a random variable's probability distribution deviates from a normal distribution. Table I indicates that the probability distributions for ITR (0.174) and IFR (0.056) are positive but not statistically significant at the 0.05 level. From Table I above, the Jarque-Bera (JB) test, which examines the normality of the variables and the presence of outliers or extreme values, indicates that all our variables are normally distributed and not skewed, with a p-value of 0.05, suggesting that the results can be generalised. This also implies that a least squares regression can be used to estimate the regression models.

Test of Hypotheses

Table II: Regression analysis showing the relationship between ITR, IFR, and ROA

Dependent Variable: ROA
Method: Panel Least Squares
Date: 05/13/24 Time: 01:15
Sample: 2012 2022
Periods included: 11

Cross-sections included: 8
Total panel (balanced) observations: 88

Variable	Coefficient	Std. error	t-Stat.	Prob.
C	-6.292242	0.991237	-6.347868	0.0000
ITR	-0.001922	0.003163	-0.607770	0.5450
IFR	0.001889	0.003137	0.602220	0.5487
R-sq.	0.683671	Mean dependent var		-0.011135
Adj. R-sq	0.664383	S.D. dependent var		0.081588
S.E.of reg.	0.047266	Akaike info criterion		-3.200299
Sum sq. res.	0.183195	Schwarz criterion		-3.031390
Log likelihood	146.8132	Han-Quinn crit.		-3.132250
F-statistic	35.44483	Durbin-Watson stat		3.012110
Prob. (F-statistic)	0.000000			

Source: E-View 9.0

In Table II, a regression analysis was conducted to test the relationship between macroeconomic factors and corporate performance. Adjusted R-squared is a coefficient of determination that indicates the variation in the dependent variable that is explained by changes in the independent variable. According to Table 2, the adjusted R-squared was 0.66, indicating that 66% of the variation in corporate performance was attributable to changes in macroeconomic factors. This implies that only 66% of the changes in corporate performance of the sectors can be accounted for by independent variables, ITR, and IFR. In comparison, 34% was explained by unmeasured variables not included in the model.

The Durbin-Watson Statistic of 3.012110 suggests that the model contains serial correlation. The F-statistic for the regression is 35.44483, and the associated F-statistical probability is 0.00000, indicating that macroeconomics has a statistically significant effect on the corporate performance of healthcare sectors. Therefore, the alternative hypothesis was accepted, and the null hypothesis was rejected.

Hypothesis I

Ho_1: Interest rate has no significant positive effect on the financial performance of healthcare companies in Nigeria.

Therefore, the probability of the slope coefficients indicates that the P-value (0.545) is greater than 0.05. The coefficient $\beta 1 = -0.002$ and $t = -0.607$ indicate that the interest rate is negatively related to corporate performance; however, this relationship is not statistically significant at the 5% level.

Decision

Since the P-value of 0.545 is greater than the 5% critical value (0.05), it can be concluded that the interest rate has not significantly affected the corporate performance of healthcare sectors in Nigeria at the 5% level of significance. Therefore, Ho is preferred over H1. This implies that the interest rate is not essential to the firm's financial performance and therefore cannot be used in policy-making.

Hypothesis II

Ho_2: The inflation rate has no significant positive effect on the financial performance of healthcare companies in Nigeria.

Therefore, the probability of the slope coefficients indicates that the P-value (0.549) is greater than 0.05. The coefficient $\beta 1 = 0.002$ and $t = 0.602$ indicate that the inflation rate is positively associated with corporate performance; however, this relationship is not statistically significant at the 5% level.

From your data, one is positively related, while the other is negatively related.

Please, your interpretation is flawed.

Decision

Since the P-value of 0.549 is greater than the 5% critical value (0.05), it can be concluded that the inflation rate has not significantly affected the corporate performance of healthcare companies in Nigeria at the 5% level of significance. Therefore, Ho is preferred over H1. This implies that the interest rate is a crucial macroeconomic variable in determining sectoral financial performance; therefore, it can be used in policy-making.

Conclusion

This study examined the influence of macroeconomic determinants on the financial performance of healthcare companies in Nigeria, utilizing interest rates and inflation rates as independent variables. In contrast, financial performance was measured by return on assets. Data on corporate performance were extracted from the annual accounts of the sampled sectors. In contrast, data on the independent variables were obtained from the Central Bank of Nigeria's Statistical Bulletin for the period 2012-2022. Multiple regression analysis was employed to test the hypotheses. The results revealed that interest rates hurt financial performance, while inflation rates positively affect the financial performance of healthcare companies in Nigeria. Meanwhile, the overall result Prob (F-statistic) showed 0.000. This study, therefore, concludes that macroeconomics has a statistically significant effect on the corporate performance of healthcare companies in Nigeria; thus, it can be used for policy-making purposes.

Recommendations

Based on the findings, the study proffers the following recommendations.

a. The government should decrease the interest rates to achieve a better performance in the stock market, since it hurts the economy. Therefore, the Ministry of Finance and Planning needs to ensure that inflation is managed to have a moderate impact on the organisation's operations, thereby positively affecting individuals, agencies, and the country's financial system.
b. The execution of aggressive working capital management policies by healthcare administrators aims to build value for the sector, as the cash conversion cycle is closely linked to the profitability of healthcare companies. Therefore, there is a need to improve ethical conduct to enable a short cash conversion cycle and enhance business performance.
c. Diversification is required to reduce the reliance on imported drugs by exploring local and traditional drug sources, which will involve clear policies to control currency volatility that affects imported medical supplies, as well as hedging of the currency (i.e., Naira) devaluation that will help to stabilise exchange rates.

d. The policy implications imply the need for governments and policymakers to promote financial inclusion by giving simple access to finances, particularly for poor and vulnerable populations, in order to increase health access and overall well-being. As a result, the Nigerian federal government should encourage local production and implement policies that promote the manufacturing of medical equipment and medications within the country.

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