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Foreign Currency Exchange Rate and Return on Assets of Listed Manufacturing Firms in Nigeria

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Abstract
This study examined the foreign currency exchange rate effect on Return on Assets of listed manufacturing firms in Nigeria between 2013 – 2022. Financial data of ten selected manufacturing firms quoted on the Nigeria stock exchange that embark on production of industrial and consumer goods were collected through CBN Statistical Bulletin and annual reports of the selected companies. The obtained data were analysed with E-view version 9.0. The result showed a positive-relationship between the Real Effective Exchange Rate and the return on assets metrics as the Granger Causality Wald Tests-result offers insights into potential causality relationships of the economic variables. The study concludes that the significant interactions between financial performance variables and the real exchange rate of an economy dictates a broad spectrum of economic opportunity indicators in a complex and interconnected economy and it remains essential to grasp the dynamics due to the global economic intertwinements and external forces capable of shaping Nigeria economy at any rate. With this, the result of the study provides a guidepost to manufacturers in their transactions with their trade partners across the border. The study strongly recommends the utilization of Real Currency Exchange rate by financial and economic regulators in Nigeria to enhance manufacturing entity's performance financially in developing economy

Key words*: Exchange Rate, Real Exchange Rate, Nominal Exchange Rate, Interest Rate, ROA.*

1. INTRODUCTION.

Currency exchange rate represents the price relationship between a nation's currency and that of other country base on a crucial price on which bilateral trade occurs in an open economy. It exerts considerable pressure on the balance of payments, inflation, and other macroeconomic variables, that controls the flow of goods, services, and capital within a country (Ezenwakwelu, 2019). To intervene in the foreign exchange market, countries often maintain reserves of other currencies. For instance, if there is a rise in demand for the US dollar against the Nigerian naira, the Central Bank of Nigeria will supply the dollar, which is in greater demand, while withdrawing the supply of naira, whose demand has declined. As a result, the naira exchange rate depreciates and the dollar exchange rate appreciates. The fluctuation of the real exchange rate provides an indication of a currency's strength or weakness concerning foreign currency. It is also a means of illustrating the competitiveness of domestic industries in the global market (Razazadehkarsalari et al., 2021). An appreciation of the exchange rate signifies increased imports and decreased exports. Conversely, a depreciation of the exchange rate signifies increased exports, decreased imports, and a shift from foreign goods to domestic goods (Aliyu, 2021). The Nigerian foreign exchange system possesses distinct characteristics that differentiate it from other developing countries. Its frequent fluctuations stem from the tumultuous economic environment. Similar to other market economies, the currency exchange rate provides pertinent information and incentives that

inform decisions regarding production and consumption (Ukangwa et al., 2023). The central bank of Nigeria (CBN) recognized the need for a realistic and sustainable market-determined exchange rate of the naira upon the introduction of the Second-Tier Foreign Exchange Market (SFEM). The goal of this initiative was to mitigate the demand for foreign exchange and ease the pressure on the balance of payment, this was unadventurously unrealistic. The inherent volatility and unpredictability of exchange rates in Nigeria have continued to have profound implications for manufacturing firms as it affects the cost structures, pricing strategies, competitiveness, and ultimately the bottom lines of transactional decision.

A depreciating Naira is increasing the cost of imported raw materials on daily basis thereby squeezing profit margins and simultaneously reducing Nigerian manufactured goods value in international markets. Nigeria has a diverse manufacturing sector that contributes significantly to its GDP and employment generation but the sector is highly exposed to changes in foreign exchange rates due to its reliance on imported raw materials, machineries and export of finished products. The Nigerian Naira (NGN) has experienced periods of volatility against major global currencies, impacting the cost of production, export competitiveness, and profitability of manufacturing firms. According to Goodluck and Iliemena (2019), the survival of corporate organizations in Nigeria is largely dependent on the stability of the foreign exchange rates and tye economic structure at any rate. The Naira unit to a unit of dollar for instance had fluctuated from ₦8.0378 (1990) - ₦85.98 (1999), ₦151.51 in 2010 to ₦162.30 in 2011 to ₦156.15 in 2012, ₦158.05 in 2013, ₦175.85 in 2014, ₦232.40 in 2015, ₦ 300.757 in 2016. Further in 2017, the average exchange of one dollar to naira (CBN rate) moved from ₦ 390 - ₦370 in 2018, ₦359.50 in 2019, ₦388.9 in 2020, ₦411.21 and ₦445.40 in 2022 and presently it is ₦1300 to a dollar. When a company with transactional foreign exchange exposure suffers business interruptions, loss often results and if this extends, the relevant exchange rates will continue to fluctuate, it is then important to appreciate the impact that exchange rates can have on sales, cost of sales and gross profit variables (Egolum et al., 2020).

The multiplicity of exchange rates, which includes nominal and real exchange rates, coupled with other closely related macroeconomic variables such as inflation and interest rates poses considerable challenges to manufacturing companies in terms of their financial performance. It is crucial to understand the key macroeconomic factors that influence financial performance if the manufacturing sector is to remain sustainable.

Past researches focused on the relationship between foreign exchange rate and financial performance in Nigeria, the concentrated primarily on overall economic indicators and their effect on the broader economy, leaving a gap on the specific impact the fluctuating currency rate usually had on Return on Assets (ROA) of manufacturing companies. Function ability of an entity's assets is a prima facie to the sustainability of manufacturing sector survivals in any economy and as such in this period of nebulitic exchange rate in Nigeria economy, there is a need to address this gap by examining how different measures of foreign exchange rates influence the return on assets – a proxy of financial performance of manufacturing firms as a key metric. This unpleasant trends and volatility in exchange rate call for serious attention of financial scholars and it is therefore against these backdrops that this study examined the effect of foreign exchange rate, its fluctuation and ROA of manufacturing companies listed on the Nigerian Exchange.

2. THEORETHECAL REVIEW

Foreign Currency Exchange Rate

This is the rate at which one currency is exchanged for another, it is the present rate at which one currency is valued in relation to another (Jhingan, 2021). According to Obadan (2019), one of the most crucial macroeconomic indicators for the implementation of general economic policy is the currency rate. Exchange rates are crucial for maintaining a healthy balance of payments, integrating other countries' pricing systems, and enabling firms to easily compare prices. They also encourage exporters while discouraging imports. The pre-

monetary 1970s saw a protracted period where international trade flows dominated the factors influencing the currency rate. Exchange of one nation's money for another nation's during an international transaction, it is known as foreign exchange, and a network of financial institutions oversees the entire process, according to Adewuyi (2019). In its simplest form, an exchange rate is the cost of one currency relative to another. It is the number of naira needed to purchase one unit of the other country's money, such as the Euro used in the Republic of Ireland, in the instance of Nigeria and Ireland. This is the equivalent of one naira in euros, dollars, or pounds (UK), depending on where you are in the world. A policy on exchange rates plays a role in the choice about international transactions (Obadan, 2019). In order to achieve the medium-term domestic balance in each country, the monetary authorities use a variety of macroeconomic management strategies, one of which includes exchange rate control. Internal balance in this context refers to the level of economic activity that is consistent with an acceptable inflation control. Contrarily, sustainable current-account funds or foreign deficit funds get long-term capital inflows. It is common knowledge that Nigerian inflation is significantly influenced by the exchange rate. The national currency's exchange rate and the foreign currency's exchange rate are equal. An effective exchange rate estimates the whole currency value by referring to a number of different currencies, in contrast to a fixed base date. For each of these calculations, the currency and the proportionate priority (weight) define a value or measure. The Military Exchange Rate Model (MERM) of the International Monetary Fund (IMF) is the foundation for the effective naira exchange rate indicators used by the Central Bank of Nigeria.

In Nigeria, the exchange rate is among the key determinants of the level of economic strength, apart from factors such as interest rates and inflation. The role it plays in its level of trade cannot be overemphasized because of the fact that it cuts down on the purchasing power of income and affects other income factors such as interest rates, inflation and capital gains from domestic securities (Nwachukwu et al., 2016). As a result, it has become imperative to observe, analyse and investigate the basic fundamentals of the real effective exchange rate. They further opined that the real exchange rate measures the cost of foreign goods relative to domestic goods. It gives a measure of competitiveness, and it is a useful variable for explaining trade behaviour and national income. It is thus calculated as a nominal exchange rate adjusted for the different rates of inflation between two currencies. On the other hand, REER reflects on a particular currency's relative value compared to a basket of other currencies that are weighted according to the volume of trade occurring between the countries. The table below illustrates the movement of the USD, Euro, GBP and JPY to the Nigerian naira exchange rate from November, 2013 to April 2022.

Table 1: Naira fluctuation against other currencies

Time (Years)	USD	GBP	EURO	JPY
2013	167.14	250.76	210.17	1.59
2014	175.85	249.96	107.60	1.48
2015	232.40	299.38	211.53	1.61
2016	415.36	379.49	329.84	2.76
2017	429.48	378.13	327.35	2.83
2018	364.55	464.39	419.02	3.28
2019	359.50	470.00	405.65	3.30
2020	383.41	488.05	434.36	3.56
2021	411.21	555.15	477.27	3.67
2022	445.40	523.58	446.24	3.24

Source" Author survey. 2023.

Typology of Foreign Exchange Market Rate

The two types of foreign exchange market rate are mainly the spot exchange market and forward exchange market.

The Spot Foreign Exchange Market

The spot market is one where financial instruments for immediate delivery are traded, including commodities, currencies, and securities. Delivery is the process of exchanging money for a financial instrument. The delivery of the underlying asset at a later time is the basis for a futures contract, on the other hand (Obadan, 2022). In a spot market, financial instruments like commodities, currencies, and securities are traded for immediate delivery. Here, delivery refers to exchanging money for a financial instrument. A futures contract, in contrast, is predicated on the underlying asset being delivered at a later time. Exchanges and over-the-counter (OTC) markets may offer futures trading in addition to spot trading. Dealers and traders who buy and sell commodities, equities, futures, options, and other financial instruments come together on exchanges (Ogbeide, 2018). The exchange gives the current price and volume available to traders with access to the exchange based on all the orders supplied by participants. For this reason, spot markets frequently exhibit high levels of activity and liquidity. Producers and consumers of commodities will trade in the spot market before hedging their positions in the derivatives market. The best way to think of the spot exchange rate is as the cost in one currency to purchase another at any given time. Spot rates are typically decided on the forex market, which is a global clearinghouse for currency merchants, organizations, and nations. With trillions of dollars changing hands every day, the FX market is the biggest and most liquid market in the whole world. The US dollar, the euro, the British pound, the Japanese yen, and the Canadian dollar are the currencies that are exchanged the most. Numerous nations in continental Europe, notably Germany, France, and Italy, use the euro. Large, international banks, businesses, mutual funds, hedge funds, insurance firms, and governments all conduct electronic global FX trading (Ganti, 2023).

The Forward Foreign Exchange Market

An over-the-counter market known as a forward market determines the price of a financial instrument or asset for future delivery. Although a variety of assets can be traded on forward markets, the phrase is most frequently used to refer to the foreign exchange market. In addition to commodities markets, it can also be used to describe interest rate and security markets. The informal over-the-counter financial sector known as the forward market is where contracts for future delivery are made. The contracts are primarily used to hedge against foreign exchange risk while dealing in foreign currencies (Uduakobong & Enobong, 2019) Additionally traded in future markets are commodities. Contracts on a forward market are often tailored to the needs of the trading parties and transactions are not typically standardized. Standardized forward contracts, on the other hand, are referred to as futures contracts and exchanged on a futures exchange. When a bank engages into a forward contract with an investor, the forward exchange rate is the rate at which it agrees to exchange one currency for another at a later time (Eze & Okpala, 2019; Dada & Oyeranti, 2022). To benefit from the forward rate for hedging purposes, multinational firms, banks, and other financial institutions enter into forward contracts. The forward exchange rate indicates an economic equilibrium in the foreign exchange market where arbitrage opportunities are removed and is determined by a parity relationship between the spot exchange rate and variations in interest rates between two countries. The parity criterion indicates that the forward rate contains a premium or discount representing the interest rate differential when the two countries' interest rates are out of equilibrium and different. Theoretically, forward exchange rates have significant ramifications for predicting future spot exchange rates. The forward rate accurately forecasts the future spot rate, according to financial economists, but actual support for this claim is equivocal (Pugel, 2020).

Operators of Foreign Exchange Market in Nigeria

Central Bank of Nigeria

The Central Bank of Nigeria keeps track of foreign exchange and conducts monitoring. To promote investment and, as a result, the health of the economy, CBN constantly works to maintain a stable and target exchange rate. In the case of Nigeria, the CBN controls the naira's exchange rate, foreign exchange reserves, and supply of

foreign currency. It also employs monetary policy to collaborate with the ministry of finance in order to effectively influence the foreign exchange market through fiscal policy (Oloye, 2019).

Bureau de Change

A licensed organization acting as a retail foreign exchange trader may be considered Bureau De Change. In order to support the Central Bank of Nigeria's (CBN) objective of exchange rate stability, bureau de change plays a crucial role in guaranteeing rate convergence between the official rate and parallel market rate by offering liquidity in the foreign currency market. Anywhere there is likely to be a market for persons wanting to convert money for international transactions, such as next to a bank, in a travel agency location, at a train station, an airport, etc., a Bureau De Change is frequently found nearby. Currency exchange is a lucrative business for a bureau de change. The Bureau De Change could be able to turn a profit by charging commission based on the amount of cash exchanged. The Bureau De Change market is frequently referred to as a spot market (Makinen & Berument, 2019; Oyejide, 2021).

Real Exchange Rate Versus Parallel Exchange Rate

The Real Effective Exchange Rate (REER) is an index number in relation to a base year. It is a measurement of the trade-weighted average exchange rate of a currency against a basket of currencies after accounting for inflation differences with respect to the nations in question. Obadan, (2021) described real exchange rate as that rate which measures the relative price indicators in terms of economic international competitiveness. The purchasing power of one currency in relation to another at the present exchange rates and prices is known as the real exchange rate (RER). It is the difference between the quantity of a given country's currency required to purchase a market basket of goods in another country after purchasing that currency on the foreign exchange market and the quantity of that same country's currency required to purchase the market basket directly in that country. While the term parallel market is used in Nigeria interchangeably with the terms black market, illegal market, shadow market, hidden market, and grey market. Exchange rates that differ from those set by the government are frequently used in the parallel market. An informal market that coexists with the official foreign currency market side by side is referred to as a parallel market .The Central Bank of Nigeria (CBN) is responsible for issuance of new guidelines for the payment of diaspora remittances in 2021, along with several other policies designed to combat the high demand for foreign exchange. In 2022, the CBN prohibited the sale of foreign currency to Bureau de Change and opposed the dollarization of the Nigerian economy. In addition, the CBN issued multiple circulars at the end of 2022 stating that they would no longer sell foreign currency to Deposit Money Banks (DMBs) going forward. Despite the unprecedented changes that continue to occur in the international financial system, Nigeria's monetary authority intervenes periodically in the economy to determine and maintain exchange rate stability to this day (CBN bulletin).

Interest Rate

The amount that a lender charges a borrower for the use of assets is referred to as interest rate and is stated as a percentage of the principle. The cost of debt, the availability of money and credit, and the impact of interest rates on all economic sectors can have an impact on a firm's ability to access external sources of funding. Fiscal policies have an impact on a company's after-tax net cash flow, cost of capital, and sometimes even the demand for its products and survival. Interest rates were controlled administratively before interest rate liberalization, while market forces-controlled interest rates after liberalization (Loto, 2022).

Inflation Rate

The main goals of macroeconomic policies are to promote economic growth and maintain moderate levels of inflation. Inflation is a familiar term in global market economies. Due to its unfavourable outcomes, it is a

problem that poses a danger to all forms of economics. Without a doubt, the inflation problem is not a recent development. Over the years, it has been a significant issue for the nation.

Manufacturing Firms and Exchange rates.

The exchange of commodities and services between nations is known as international trade. It simply involves the import and export of commodities and services, to put it another way. It entails the transfer of products and services across international borders. While imports are the act of purchasing goods and services into the country, exports are the act of selling goods and services outside of the country. Products that are moved or sold from one party to another are considered imports from the country of the receiving party and exports from the country of origin. The imports of "B" could be regarded as exports of "A." Imports and exports are the fundamental components of global trade, and important ideas like trade terms and trade balance exist. This could be observed in a nation's current account and payment balance (E-Finance Management, 2017). Global economies benefit from international trade because it allows nations access to fresh ideas and resources that would otherwise be unavailable while also minimizing the likelihood of an economic collapse. Without international trade, exporters would not have been able to sell their products to the local market alone. One of the advantages of the exporter is the ability to earn foreign cash. Then, goods can be imported using foreign currency. This has a significant impact on global economic and social performance, particularly progress and possibilities for international trade. No big manufacturing firms have ever developed without trade assistance. Trade serves as a catalyst for growth and development, therefore expanding individual options is necessary to continuously better the lot of people (Oke et al., 2019). Therefore, evolving economic and social characteristics, particularly in rising nations, are significantly influenced by international commerce. Beyond national borders, international commerce operations such as import and export take place (Kanu & Nwadiubu, 2020).

Return on Asset

The ratio of net profit before tax to total assets is what is meant by this. According to Brealey, Myers, and Allen (2019) it is argued that ROA shows how well a company uses its assets to generate profits. The ratio is used to assess the company's operational profitability in relation to total assets. Return on Assets, which examines a company's capacity to produce income based on its assets, belongs to the category of financial performance measurements. Donations and non-operating income are not included in the ratio. As a reflection of the manufacturing company's profit margin, ROA is anticipated to be positive; otherwise, it will reflect a loss. According to Babalola (2022), return on assets is a measure of how much profit a business made for every naira of assets. It can also be used to estimate a company's asset intensity. The ROA measures a company's profitability in relation to its total assets, and it shows that businesses with more assets should be able to generate more money.

It demonstrates how the company is successfully managing its assets to generate more net income (Casu, Girardone, & Molyneux, 2019). Although ROA is a useful indicator of a company's financial performance, equity holders may not place the greatest importance on it. According to Guru (2020), ROA is the ratio of net income to total assets, which assesses the management effectiveness and profitability of a company based on its total assets. The return on assets (ROA) reveals the profits made from capital investments (assets). One of the most often used accounting-based performance measures in the corporate governance literature is return on assets. Rouf and Abdur are the ones who are knowledgeable. Previously, the rate of return on a company's total assets was used to determine its profitability (Rouf & Abdul, 2015). It demonstrates how the company's board and management understand how to maximize their resources. This is why it is preferable to compare ROA when used as a comparative metric to a firm's historical ROA figure or the ROA of a comparable company (Allayannis et al., 2016).

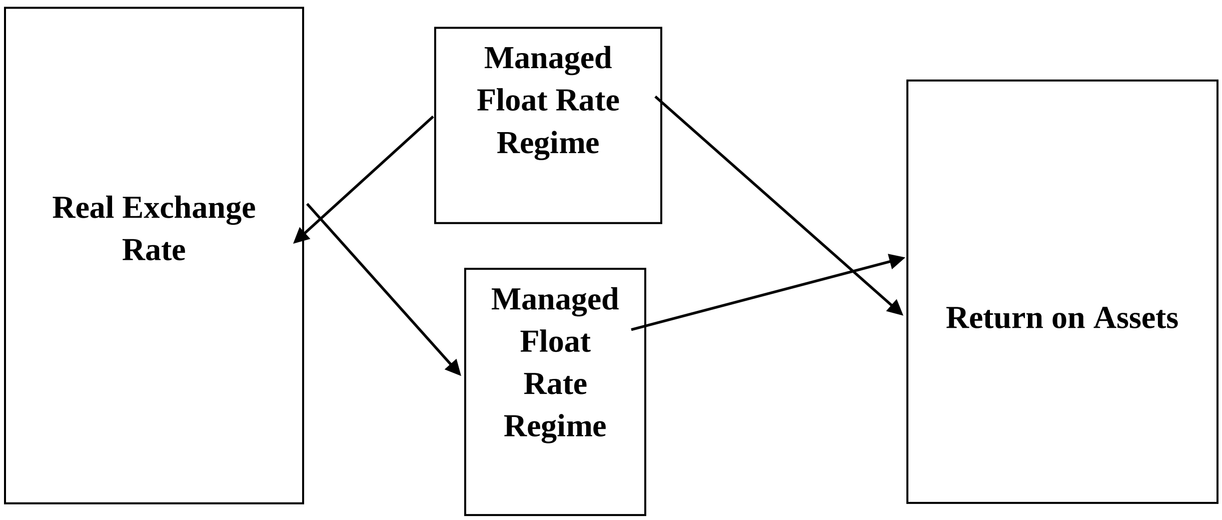
Conceptual Framework

The specific variable of foreign currency exchange rate is the real exchange rate (RER) which behaves erratically over the period of study through different exchange rate regime in the face of other exogeneous economic variables – interest rate and inflation rate. These variables and their influence are demonstrated in the designed conceptual framework below

Figure 1: Conceptual Framework

Independent Variables **Dependent Variable**

(Foreign Currency Exchange Rate) **(Financial performance Variable)**



Source: *Author's Design, 2023*

The Interest Rate Parity Theory

The theory of interest rate parity was propounded by John M. Keynes in 1923 and it governs the correlation between interest rates and currency exchange rates. According to the interest rate parity (IRP) theory, the discrepancy between the forward and spot exchange rates is equal to the difference in interest rates between two nations (Mwange et al., 2022). The fundamental principle underlying this theory is that hedged returns from assets in different currencies should remain constant, regardless of the interest rates linked to those investments. Interest rate parity represents the concept of no-arbitrage in the foreign exchange markets, whereby investors are unable to purchase one currency at a rate below the prevailing exchange rate and then purchase another currency from a country with a higher exchange rate (Britton, 2020).

METHODOLOGY

Model Specification

The process of creating a logically sound abstraction of cosmic reality is known as model specification. In order to specify a model, the regression coefficient(s) for a sample must be determined, and conclusions about the population must be drawn. The following is how the regression equation is written:

$$Performance = f(ROA, INT, INF) \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots (1)$$

The econometric model is expressed below:

$$ROA_{it} = \beta_0 + \beta_1 MFERR_1 + \beta_2 ITR_{it} + \beta_5 INF_{it} + \varepsilon_{it} \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots (2)$$

Model for Dual exchange rate regime

$$ROA_{it} = \beta_0 + \beta_1 DERR_0 + \beta_2 ITR_{it} + \beta_5 INF_{it} + \varepsilon_{it} \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots (3)$$

Variables Description

The following explanations clarifies the variables in the above models.

ROA_{it} =Return on asset of i company in t period.

RER_{it} = Real exchange rate of i company in t period

$MFERR_1$ = Managed float exchange rate regime

$DERR_0$ = Dual exchange rate regime

IT_{it} = Interest rate of i company in t period

INF_{it} = Inflation of i company in t period

i = Individual company in the sample size

t = Period the study covers; basically 2013 – 2022.

ε =Error term acting as a surrogate in the model

β_0 = Intercept.

$\sum Controal\ variables_{it}$= consists of firm size of i company in t period.

4.1 Data Analysis and Results

The data used in this study are shown below:

Table 2: RER, ROA, IR, I R of Selected Manufacturing Firms from 2022 – 2023

Source: Author's Computation, 2023

The independent variables which is foreign exchange rate for a period of ten years (2013 – 2022) were shown alongside with the value of ROA and other intervening variables IR and FR. Thus, data on the four variables were presented in the table. The validity of the data can therefore be meaningfully relied upon because they were obtained from secondary sources. The study's data streams for the sampled listed manufacturing companies in Nigeria covers the years 2013 to 2022.

Descriptive Statistics

This sub-section discusses the descriptive statistics of the data generated on the dependent and explanatory variables of the study. It provides the summary statistics relating to the measure of central tendencies, such as the mean, the measures of dispersion, such as the standard deviation, the minimum and the maximum values of the study variables.

Table 4.1: Descriptive Statistics

Variables	Observations	Mean	Standard Dev.	Minimum	Maximum
ROA	100	0.8359	0.53874	0.0002	2.20629
REALEFFECTIVE	100	61.0757	3.7239	54.1082	66.4010
INFLATION	100	13.1	1.5859	11.0	16.5
INTEREST RATE	100	12.367	3.11287	8.06	16.95

Source*:* Stata 14 output based on data extracted from listed manufacturing firms.

Table 4.1 displays the calculated values for the mean, the standard deviation, the minimum and the maximum for each of the research variables for the 10 manufacturing firms during the period of the study from 2012 to 2021. The Table also shows that the study uses 100 firm-year observations for return on equity, return on asset, real effective rate, inflation rate and interest rate.

Granger Causality Analysis

Causality between ROA and FER of Manufacturing Firms in Nigeria.

The objective of this study is to determine causality between financial performance (ROA) and foreign exchange rate of manufacturing firms in Nigeria**.** This section examines the causal relationships between the

variables ROA, REER, IR and IR. The Granger causality Wald tests were employed to infer the causal direction between these variables.

Table 3: Results of the Granger Causality Wald Tests Model Two

Dependent Variable	Excluded Variable	F-statistic	p-value	Conclusion
ROA	Real Effective	0.74199	0.4791	No Causality
ROA	Inflation Rate	0.11151	0.8946	No Causality
ROA	Interest Rate	0.64511	0.5270	No Causality
Real Effective	ROA	0.28259	0.7545	No Causality
Real Effective	Inflation Rate	483.15	<0.001	Causality
Real Effective	Interest Rate	192.72	<0.001	Causality
Inflation Rate	ROA	0.26748	0.7659	No Causality
Inflation Rate	Real Effective	0.88036	0.4182	No Causality
Inflation Rate	Interest Rate	3.8155	0.0257	Causality
Interest Rate	ROA	0.3495	0.7060	No Causality
Interest Rate	Real Effective	139.83	<0.001	Causality
Interest Rate	Inflation Rate	20.864	<0.001	Causality

Source: Authors' Computation ,2023.

The table revealed the causality between return on asset (ROA) and foreign exchange rate of manufacturing firms in Nigeria. Using the Granger Causality Wald tests, when examining the relationships between ROA (Return on Assets), Real Effective, Inflation Rate, and Interest Rate, the results indicate the following: For ROA as the dependent variable, the data suggests that neither Real Effective (with an F-statistic of 0.74199 and a p-value of 0.4791), Inflation Rate (with an F-statistic of 0.11151 and a p-value of 0.8946), nor Interest Rate (with an F-statistic of 0.64511 and a p-value of 0.5270) Granger-cause ROA. On the other hand, when considering Real Effective as the dependent variable, ROA does not Granger-cause Real Effective, as evidenced by an F-statistic of 0.28259 and a p-value of 0.7545. However, both Inflation Rate and Interest Rate show strong Granger-causality towards Real Effective. Specifically, the Inflation Rate has an F-statistic of 483.15 and a p-value of less than 0.001, while the Interest Rate has an F-statistic of 192.72 with a p-value of less than 0.001.

For the Inflation Rate as the dependent variable, neither ROA (with an F-statistic of 0.26748 and a p-value of 0.7659) nor Real Effective (with an F-statistic of 0.88036 and a p-value of 0.4182) Granger-cause Inflation Rate. However, the Interest Rate does appear to Granger-cause Inflation Rate with an F-statistic of 3.8155 and a p-value of 0.0257. while the interest rate as the dependent variable, ROA does not seem to Granger-cause interest rate as reflected by an F-statistic of 0.3495 and a p-value of 0.7060

CONCLUSION AND RECOMMENDATIONS

The nexus between foreign currency exchange rates and the financial performance of businesses proxied by the ROA has always been a thing of neglect in financial research which in a globalized economy is paramount for proper understanding of currency fluctuation rates as a guide to manufacturing entities taken prudent decision which often culminated to viable economy development. The study explore critical variables that is prima facie to financial performance of the sector over a period of ten years and the following conclusion were reached: that real effective exchange rate has a positive relationship with ROA and this relationship is statistically insignificant as inflation rate and interest rate obtained during the study period presents a negative effect on the performance of the sector in developing economy .The study also affirms that there is no causal relationship between the Real Effective Exchange Rate and ROA. The Real Effective Exchange Rate's relationship with ROA was found to be statistically insignificant under both the Dual Exchange Rate and Managed Float regimes. Inflation consistently showed a significant relationship with both ROA across the two regimes. Interest rate also demonstrated a significant relationship under the Managed Float regime. The study underscores the multifaceted nature of the relationship between exchange rates and financial performance metrics in the

manufacturing sector.Based on the findings, the following recommendations were proposed: Given the significant relationship between inflation, interest rates, and the financial performance of manufacturing firms, policymakers should prioritize macroeconomic stability in order to control inflation and maintain stable interest rates which invariably will lead to a sustainable financial performance of the manufacturing sector of Nigeria economy and that

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APPENDIX 1

Yr./Coy.	MEV	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
	RER	56.8	60.6	64.8	63.5	59.7	54.1	58.5	66.4	64.6	61.8
	ROA	1.06	1.00	1.16	0.99	1.06	1.09	1.20	0.28	1.19	1.45
	IR	12.2	8.48	8.06	9.01	15.7	16.5	12.1	11.40	13.25	16.9
1	**IR**	12	13	11	14	14	14	13.5	11.5	11.5	16.5
	RER	56.7	60.6	64.8	63.4	59.6	54.1	58.4	66.4	64.5	61.7
	ROA	0.03	0.04	0.03	0.02	0.030	0.02	0.013	0.01	0.01	0.02
	IR	12.2	8.48	8.06	9.01	15.7	16.5	12.1	11.40	13.25	16.95
2	**IR**	12	13	11	14	14	14	13.5	11.5	11.5	16.5
	RER	56.7	60.6	64.8	63.4	59.65	54.1	58.48	66.40	64.59	61.75
	ROA	0.47	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	IR	12.22	8.48	8.06	9.01	15.7	16.5	12.1	11.40	13.25	16.95
3	**IR**	12	13	11	14	14	14	13.5	11.5	11.5	16.5
	RER	56.8	60.6	64.2	63.4	59..6	54.1	58.48	66.40	64.59	61.75
	ROA	1.52	0.04	0.03	0.02	0.03	0.02	0.70	0.58	0.67	0.65
	IR	12.22	8.48	8.06	9.01	15.7	16.5	12.1	11.40	13.25	16.95
4	**IR**	12	13	11	14	14	14	13.5	11.5	11.5	16.5
	RER	56.78	60.61	64.87	63.48	59.65	54.10	58.48	66.40	64.59	61.75
	ROA	0.84	0.82	1.05	0.97	1.05	1.16	1.30	1.36	1.06	0.96
	IR	12.22	8.48	8.06	9.01	15.7	16.5	12.1	11.40	13.25	16.95
5	**IR**	12	13	11	14	14	14	13.5	11.5	11.5	16.5
	RER	56.78	60.61	64.87	63.48	59.65	54.10	58.48	66.40	64.59	61.75
	ROA	1.19	1.01	0.82	0.96	0.74	0.86	0.93	0.81	0.72	0.94
	IR	12.22	8.48	8.06	9.01	15.7	16.5	12.1	11.40	13.25	16.95
6	**IR**	12	13	11	14	14	14	13.5	11.5	11.5	16.5
	RER	56.78	60.61	64.87	63.48	**59.3**	54.10	58.48	**54.31**	**57.21**	**56.11**
	ROA	1.31	1.22	1.35	1.26	**1.32**	1.66	1.64	**1.52**	**1.61**	**1.70**
	IR	12.22	8.48	8.06	9.01	**11.24**	16.5	12.1	**10.1**	**10.4**	**11.2**
7	**IR**	12	13	11	14		14	13.5			
	RER	56.78	60.61	64.87	63.48	59.65	54.10	58.48	66.40	64.59	61.75
	ROA	1.17	2.20	1.63	1.58	1.79	1.78	1.61	1.32	1.22	0.90
	IR	12.22	8.48	8.06	9.01	15.7	16.5	12.1	11.40	13.25	16.95
8	**IR**	12	13	11	14	14	14	13.5	11.5	11.5	16.5
	RER	56.78	60.61	64.87	63.48	59.65	54.10	58.48	66.40	64.59	61.75
	ROA	0.01	1.41	1.41	1.52	1.23	1.09	0.78	0.73	0.65	0.68
	IR	12.22	8.48	8.06	9.01	15.7	16.5	12.1	11.40	13.25	16.95
9	**IR**	12	13	11	14	14	14	13.5	11.5	11.5	16.5
	RER	56.78	60.61	64.87	63.48	59.65	54.10	58.48	66.40	64.59	61.75
	ROA	0.58	0.13	0.59	0.70	0.40	0.48	0.13	0.42	0.45	0.54
	IR	12.22	8.48	8.06	9.01	15.7	16.5	12.1	11.40	13.25	16.95
10	**IR**	12	13	11	14	14	14	13.5	11.5	11.5	16.5

Source: Author's Computation, 2023.