Foreign Exchange Rates Dynamics and Stock Market Performance in an Emerging Economy: Evidence from Nigeria

Duruechi, Anthony H. Ph.D
Department of Banking and Finance
Faculty of Management Sciences
Imo State University, Owerri,
Imo State, Nigeria.

Ojiegbe, Josephine N. Ph.D
Department of Banking and Finance
Faculty of Management Sciences
Imo State University, Owerri,
Imo State, Nigeria.

Ekweozor, Izunna C.
Department of Accountancy
School of Management Studies
Federal Polytechnic, Kaltungo
Gombe State, Nigeria.

DOI: 10.56201/jafm.v8.no7.2022.pg127.150

Abstract
This study focused on the connection between foreign exchange rates dynamics and stock market performance in Nigeria (1995 to 2021). The paper set out to examine the effects of foreign exchange rates movements on the stock market performance in Nigeria. The data for the study were obtained solely from the Central Bank of Nigeria statistical bulletin. The Naira-U.S Dollar, Naira-British Pounds, Naira-Euro, and Naira-Swiss Franc exchange rates were proxies for the foreign exchange rate dynamics, while stock market performance was represented by stock market capitalization. The vector error correction mechanism (VECM) and the Pairwise Granger Causality tests were employed to analyze the secondary data. Results revealed the existence of long run relationship between foreign exchange rate dynamics and stock market performances in Nigeria though with an insignificant impact. In addition, a uni-directional causality was observed running from market capitalization to naira US-dollar exchange rate among others. It was therefore concluded that foreign exchange rates dynamics have an insignificant impact on stock market performances in Nigeria. Thus, there is need to align Nigeria's economic stabilization policies in order to effectively achieve currency stability (of the naira). Policies such as outright ban on importation of items that can be produced locally should be pursued vigorously. This will no

doubt boost aggregate domestic demand for such products and also go a long way in enhancing the value of the naira and by extension stock market outlook in Nigeria.

Keywords: *foreign exchange rates, dynamics, stock market performance, emerging economy*

1.0 Introduction

The need for financial markets is dictated by the exigencies of economic development and growth. This is because as an economy grows, its production processes get more complex and increasingly specialized. Savers of funds get distanced from users of funds and the need for financial markets clearly emerges. In essence, financial markets are mechanisms for the transmission of investible funds from surplus economic units to deficit economic units of an economy. In other terms, it is a meeting point for users and savers of funds to actualize their desires. Financial markets are markets that consist of institutions, agents, brokers and intermediaries that engage in the purchase and sell of securities. The persons and institutions operating in financial markets are linked by laws, friendship, contracts and communications network which form an external visible financial structure (Nwude, 2017). The market involves a complex arrangement of institutions, mechanisms and structures through which financial resources are transferred from ultimate lenders to ultimate borrowers; who may be individual or corporate bodies or governments, for investigation in economic activities (Nwezeaku, 2008).

The stock market in other words known as the equity market is a segment of the financial market in which shares of companies are traded, either through exchange or over the counter. This segment of the financial sector is one of the most vital areas of a market economy, that gives companies access to capital to grow their operations and investors a piece or right of ownership in a company with the potential to realize gains in their investments based on the company's future performance. As such, this market is seen as an aggregation of buyers and seller of shares (Ekeocha and Kamalu, 2018). According to Popoola, Ejemeyovwi, Alege, Adu, and Onabote (2017), the stock market is a medium through which funds can be mobilized and channeled efficiently. It enables the government and industries to finance new and existing projects, expanding and modernizing industrial commercial concern. Okereke (2006) identified the capital market as the most credible source of long-term funds to any economy and a leading economic indicator in developed economies. The stock market makes the interaction of both savers and investors possible in a country (in an open market) and all the aggregate savings are channeled into most desirable investment for the purpose of economic growth and development.

In Nigeria, the stock market in absolute terms has grown leaps and bounds. CBN (2020) observed that this growth has manifested in number of listed securities, number of deals, value of deal, market capitalization amongst others. Notably, number of listed securities on the Nigeria Stock Exchange has grown to 163 in 2020 from 3 in 1961. Number and value of deals rose from 39,103 in 1990 to 1,155,019 in 2020. Market capitalization on its part has increased to ₦21,063 billion in 2020 (CBN, 2020). Thus, Egwuatu and Nnorom (2022) opined that against the backdrop of marginal economic recovery in 2021, Nigeria's stock market recorded a slowdown in growth but the performance indices remained in positive

territories. Though the sustained positive trajectory in the market was slower compared to that of 2020, but it surpassed the growth recorded so far in the nation's economy by 2.04% points. They noted that the All Share Index (ASI) which represents major performance benchmark, rose by 6.07% to close the year at 42,716.44 points from 40, 270.72 points at the close of trading in 2020, thus surpassing the nation's Gross Domestic Product (GDP) by 2.04% points. The nation's GDP had recorded a sustained rebound in the first three quarters of year to close at 4.03% growth Year-on-Year (YoY) in real terms at the end of third quarter 2021, largely due to base effect of the 2020 COVID-19 subdued GDP figures. Furthermore, the market capitalization which is another performance indicator, showed value of the investments on the stock market, gained over N1.24 trillion to close the year 2021 at N22.3 trillion from N21.1 trillion at the close of trading in the year 2020. However, Financial analysis of the market showed that the Return-on-Investment (RoI) in 2020 was higher when compared to the year 2021. However, there are worries that the equities market may suffer from the usual penultimate election year syndrome in 2022. Downside factors that may stifle equities include reduction in capital inflows.

However, it is not out of place to state the obvious that the presence of foreign investors in the market enhances its performance to a greater extent. At any given time they decide to divest, it affects the market performances. This was amongst the major reasons behind the crash the market experienced in 2007 and 2008 (Jack, Tamunoemi and Jaja, 2015).

Nevertheless, when it comes to investing in the stock market of a host country foreign investors put a whole lot of factors into consideration. One of these factors is the prevailing exchange rates in the host country. This is because exchange rate is a major macroeconomic signpost that tells how viable or vulnerable an economy is at a given time. Exchange rate instability, fluctuations or movements as such has real economic implications because they have negatively or positively affected price level, project level of firms and even the entire activity in an economy (Bala-Sani and Hassan, 2018). This accounts for one of the reasons why foreign exchange rate stability is a vital macroeconomic objective pursued by countries today amongst other objectives. The attraction of foreign investment is seen as an important element in the strategies adopted by countries for economic growth and development.

In Nigeria, the value of the domestic currency in terms of recognized currencies like the United States Dollar, British Pounds, European Euros and Swiss Franc (used by Switzerland and Liechtenstein) has never been stable. For instance, a British Pound which exchanged for ₦1.2495 in 1981 was exchanged for ₦460.67 in 2020 (CBN, 2020). Therefore, it is imperative to state that exchange rate and stock market prices are interconnected either directly or indirectly or both which in turn affects stock market performances. Studies on foreign exchange rate movements and stock market performances in abounds. However, these studies have produced contrasting results like long-run and short-run relationships, positive, negative, significant or not significant effects; such as Bala-Sani and Hassan, (2018); Zubair and Aladejare, (2017); and Meheen and Naeem, (2013) observed. Hence, there is a debate coupled with dearth of empirical on the area of this paper in Nigeria. Therefore, the need to ascertain the true state of the effect of these exchange rates movements on stock market performance gave rise to this study.

2.0 Related Literature on Exchange Rate and Exchange Rate Dynamics in Nigeria.

Exchange rate refers to the rate at which the currency of one country is bought and sold in terms of the currency of another country. In other terms, it is the price of a currency for another currency (Dwivedi, 2008). Exchange rate is determined by the interaction of demand and supply of foreign exchange/currencies. As such, if demand for a currency rises with the supply being constant, the exchange rate of the currency will appreciate. Accordingly, exchange rate is a price relationship between a country's currency and another; and it is one of the most important prices in an open economy that controls the flow of goods, services and capital in a country and which exerts strong pressure on its balance of payments, inflation and other macro - economic variables like interest rates (Ezenwakwehi, 2017).

The need for buying and selling of foreign currency arises for payments to the country from which imports are made. In foreign trade, goods and services are traded across national boundaries but the currency of one country is not acceptable in other countries. This creates problem of payments, for instance, Nigeria naira is not accepted as a medium of exchange in other countries, nor is the currency of any other country acceptable as a general medium of exchange in Nigeria. Therefore, the payment for imports has to be made in the currency of the exporting country. For foreign payments, therefore, importing countries have to buy the currency of the exporting country in the foreign exchange market (Dwivedi, 2008). To put it into perspective, if Nigeria imports fighter jets from the United States of America (U.S.A), Nigeria will have to buy U.S Dollar in the foreign exchange market (assuming Nigeria does not have adequate dollar reserves) to make payment to the United States. On the other hand, if United States importers import cocoa from Nigeria, they will have to buy naira in the foreign exchange market (assuming they do not possess naira reserves) to make payments to the Nigerian exporters. That is happens to be the mechanism of international trade between countries. Hence, the price of one currency in terms of another is called the exchange rate.

Exchange rate movement also referred to as exchange rate fluctuations or exchange rate volatility on the other hand implies the up and down movements in prevailing exchange rates typically owing to differences in demand and supply processes of currencies at a given time. Aliyu (2011) opined that exchange rates change whenever the value of any one of the two currencies involved in a foreign transaction change. A currency at any one point in time appreciates whenever demand for it is greater than the supply and vice versa. Aliyu (2011) added that fluctuations in exchange rates are caused by monetary flow regarding changes in trade balances (deficit or surplus), budgets, interest rate and inflation. Exchange rate also relates to balance of payments whereby debit entries in both capital and current accounts possible raise the demand for foreign exchange. Similarly, credit entries in the capital and current accounts of the balance of payments increases the supply of foreign exchange. Thus, domestic currency appreciates whenever credit transactions exceeds debit transactions. Also, domestic currency depreciates whenever debit balance exceeds credit balance. Increases in interest rates provide higher rates to lenders which attract more foreign exchange, thereby, causing a rise in exchange rate and appreciation of the domestic currency (Ezenwakwelu, Okolie, Attah, Lawal and Akoh, 2019).

Appreciation of a domestic currency stresses export of goods and services and makes import cheaper; while fall in interest rate reduces the supply of foreign currencies and the domestic

currency depreciates in value and exchange rate falls. Subsequently, domestic goods and services become expensive than imported goods and services during inflation, causing the country's import to rise and depletes its external reserves and also causes the domestic currency to depreciate. Conversely, low inflation makes domestic good and services cheaper, increases export and reduces imports as well as causes the domestic currency to appreciate. However, Odusola and Akinlo (2013), stated that exchange rate depreciation in the medium and long terms exercises an expansionary impact on output, while in the short run, it does not expand output. Therefore, foreign exchange rate movements/fluctuation/volatility simply means periods of domestic currency appreciation or depreciation.

Calro and Reinhart (2011), observed that developing countries seem to be more tolerant of foreign reserve fluctuations than exchange rate volatility. Nigeria as a country, falls in this bracket. This means that as a country experiences exchange rate movement, the authorities use their reserve stock to intervene in the foreign exchange market with the purpose of dampening the exchange rate volatility.

In Nigeria, popular foreign exchange rates are the value of the naira in relation to the United States Dollar, British Pound Sterling, Euros and Swiss France. Accordingly, the Nigerian economy has witnessed various foreign exchange reforms following the establishment of the Central Bank of Nigeria (CBN) in 1958 with various outcomes on the nation's economy and financial institutions. Meanwhile the trade liberalization policy of the Nigeria economy which took effect in the year 1986 created undue pressure on the domestic demand for foreign currencies, thereby causing the naira to lose its value of arresting persistent depreciation and fluctuation of exchange rate against the naira (Takon, Nsofor and Ugwuegbu, 2016). Thus, in an attempt to stabilize and ensure single rate for the naira, exchange rates moved from officially pegged exchange rate system between 1970 and 1985 to a market determined system in 1986.

In a bid to enhance access to foreign exchange by small users and to enlarge the foreign exchange market in Nigeria, the monetary authorities licensed the Bureau de change in 1986 (Ezenwakwulu, Okolie, Attah Lawal and Akoh, 2019). The foreign exchange reform of 1994 cumulated to pegged exchange rate between naira and other currencies. In the same reform, Bureau de change was also restricted from buying foreign exchange as agents of the CBN (Asher, 2016). In 1995, the Foreign Exchange Market (FFM) was liberalized with the consequent introduction of an Autonomous Foreign Exchange Market (AFEM) for the sale of foreign exchange to end-users by the monetary authority through selected authorized dealers at market determined exchange rate. Again, BDC (Bureau de change) institutions were once more accorded the status of authorized buyers and sellers of foreign exchange.

In 1999, the Inter-bank Foreign Exchange Market (IFEM) was introduced. The retail Dutch Applied System was also introduced, which allowed end-users to bid through authorized dealers who acted as intermediaries in the bidding process. The Dutch Auction System (DAS) was reintroduced in 2002 as a result of the intensification of the demand pressure in the foreign exchange market and the persistent increase deflation of the country's external reserves. In 2006, the wholesale DAS was also introduced, which saw dealers as principle and not as agents, as they used to be and were then expected to sell to their customers at a

permitted margin (CBN, 2013). This system lasted until October 2013.

The interbank foreign exchange system was however introduced by February 2015. This system allowed inter-bank foreign exchange transactions to take place in a competitive manner such that participants were able to respond to price signals freely. In February 2017, the CBN commenced a weekly forex intervention in the foreign exchange rates within tolerable limits and between then and July 2018, it intervened in transactions worth $23.2 billion (Lambe, 2018). However, from the Central Bank of Nigeria MPC (Monetary Policy Committee) meeting of July, 2021; it was announced that the CBN will no longer sell foreign exchange to Bureau de change operators in the country; they as such will also not issue fresh license to BDCs; and foreign exchange will be made available to commercial banks to meet genuine demand for foreign exchange (The Guardian, July 27, 2021).

Accordingly, the naira exchange rates have been fluctuating in relation to major international currencies over time. For instance, the naira depreciated from ₦0.61 in 1981 to ₦2.02 in 1986 and further to ₦8.03 in 1990 to a U.S. Dollar. Although the exchange rate became relatively stable in the mid-nineties, it depreciated further to ₦120.97 in 2002, ₦129.36 in 2003, and ₦133.50 in 2004. The exchange rate appreciated to ₦132.15, ₦128.65, ₦125.83 and ₦118.57 in 2005, 2006, 2007 and 2008 respectively. The naira in terms of the U.S. Dollar further depreciated from 2009, that it fell as low as ₦306.92 in 2019 and ₦358.81 in 2020 (CBN, 2020).

In 2021, The Nigerian naira dropped to a new record low o ₦419.8 per USD on the official market on 14 May, following a currency devaluation. On 20 May, the naira traded at ₦412.8 per USD, weakening 7.7% month-on-month, while the currency was down 12.7% year-on-year and 7.7% year-to-date. Meanwhile, the rate used by investors and exporters traded at ₦410.7 per USD, weakening 0.3% month-on-month, 5.8% year-on-year and 4.7% year-to-date. The devaluation of the official exchange rate was likely a move to unify the currency's multiple exchange rates. The Central Bank devalued the currency twice in 2020, and it has traded within a band of ₦380.0 and ₦381.0 per USD as at July of same year. The naira has been under pressure from rising demand for U.S. dollars as foreign investors pulled out of the country in the wake of the global health crisis, which sent oil prices tumbling. Looking ahead, prospects for the currency remain grim and analysts expect it to continue losing value against the greenback amid structurally high inflation, capital outflows and the Central Bank prioritizing credit growth to stimulate economic activity. Analysts forecasts exchange rate ending 2021 at ₦428 per USD, while the official interbank naira is seen ending 2021 at ₦413 per USD.

In a nut-shell, Okoro and Charles (2019), submitted that the Nigerian government has formulated various exchange rate policies ranging from fixed parity between the Nigerian Pounds and the British Pound (1960-1967), to fixed parity between the Nigerian Pounds and the American dollar (1967-1974), independent exchange rate policy (1974-1976), pegged the naira to an import-weighted basket of currencies (1976-1985), and market determined exchange rate policy (1986-date).

Equities/Stock Market Narratives in Nigeria

A stock in this regard is security that represents the ownership of a fraction of a corporation. Thus, equities represent ownership claims in a company. Such ownership makes one an ordinary shareholder in a corporate entity (Akpan, 2016). An ordinary shareholder is a part owner of a company, who receives residual profits after the claims of debtors have been met. Holders of equity are the main risk bearers of a business and as such, enjoy the major benefits attached to ownership when business is good. Nevertheless, Chan and Scott (2020) stated that a stock market (equity market) is a market in which shares of companies are traded, either through exchanges or over-the-counter markets. The stock market is one of the most vital areas of a market economy, that gives companies access to capital to grow their business, and investors a piece of ownership in a company, with the potential to realize gains in their investment based on the company's future performance.

The stock market can thus, be referred to as the aggregation of buyers and sellers of shares. More technically, it entails an arrangement of mechanism that allows sellers and buyers to deal in equities or shares in the same platform. One important feature of this market is that subscription must be fully paid before allotments are given to individual investors. Another feature is part ownership by subscribers immediately after allotment of shares. Thus, holders of the instrument (equity) are entitled to attend AGMs (Annual General Meetings) and can vote to elect management of their companies. Unlike debt instruments, repayment of principal occurs only if the instrument (shares) is traded through the secondary market (Egwim, 2018). For the stock market, a return comes by way of price appreciation and divided payments.

The stock (equities) market has a long history in Nigeria. For instance, by October 1990, there were 128 equities listed on the Nigeria Stock Exchange (NSE). This and other transactions in the Nigeria Stock Market are contained in the table below;

Table 2.1: Stock Market Corporations in NSE (1961 – 2020)

Years	Listed Securities	Number of Deals	Value of Deals (N'B)	Market Capitalization (N'B)
1961	3	Na	Na	Na
1970	8	Na	Na	Na
1980	91	Na	0.01	1.70
1990	131	39,103	0.07	12.10
2000	195	256,515	28.15	466.10
2010	217	1,924,125	799.19	7,913.75
2015	190	948,393	977.44	9.850.61
2016	175	835,292	575.70	9,246.92
2017	172	878,223	1,077.27	13,609.47
2018	165	1,047,250	1,202.22	11,720.72
2019	166	874,343	925.28	12,968.59
2020	163	1,155.019	1.028.17	21,063.17

Sources: CBN and SEC Statistical Bulletins (2020).

The above table shows that the stock market in Nigeria has grown in terms of listed securities, transactions (number and value of deals), and market capitalization. Accordingly, securities listed on the stock market has grown from 3 in 1961 to 163 in 2020. Number of deals in the market also grow from 29,103 in 1990 to 1,155,019 in 2020. Similarly, the value of these deals in the market rose from ₦0.01 billion in 1980 the ₦1,028.17 billion in 2020. Market capitalization of the stock market, which is a major performance of the market, also rose from ₦1.70 billion in 1980 to ₦21,063 billion in 2020.

According to Egwuatu and Nnorom (2022), Specifically, the ASI had gained 50.03 percent in 2020. The stock market continued its active momentum in January 2021 with the ASI appreciating by 5.32 percent. Thereafter, equities started to decelerate due to the rising yield on fixed income securities. At the end of first half 2021, ASI had declined to 37,907.28 with return of -5.9 percent while equities market capitalization declined to N19.76 trillion. The ASI ended third quarter 2021, at -11 percent. Resurgence of equities in the secondary market started early in October 2021 when the ASI became positive on the back of rising crude oil price, improving fundamentals of the economy, high expectations from Q3 2021 results and heavy transactions on FBN Holdings, and Lafarge Africa. After the expansionary monetary policy of second quarter 2020 which drove yield on debt to low single digit, yield started to rise from February 2021, causing financial assets to retreat back to fixed income securities. As at end of third quarter 2021, yield on 364-day treasury bill was around 5.34 percent and 10-year bond hovered around 12.5 percent.

Analysts observed that Despite the relatively positive performance of the capital market in 2021, ratio of equities market capitalization to GDP was around 12.2 per cent, indicating that the capital market is not strongly integrated with the economy. Full reopening of the borders and economy in 2021, together with increase in activities boosted the country's macroeconomic conditions. The capital market benefited from them. The market was shaped

by rising crude oil price, inflationary pressures, exchange rate disequilibrium, interest rate movement and improved fundamentals of listed companies.

Theoretical Review

The Flow-Oriented Model, Stock-Oriented Theory, Arbitrage Pricing Model, the Goods Market Channel Approach and Asset Market Channel formed the basis for the theoretical framework in this study.

According to Zubair and Aladejare (2017), *flow-oriented model* was developed on the premise that a causal association flows from exchange rate to the prices of stocks in the stock market. In other terms, exchange rate movements affect stock prices. Exchange rate changes affect the competitiveness of firms through their impact on input and output prices. When exchange rate appreciates, exporters will be negatively affected. This is because currency appreciation gives rise to higher or more increased price of exports in the inter-national market. Furthermore, demand for exports will decline as they will be seen as expensive by buyers in the international market; resulting into a competitive loss for exporting nations internationally. Consequently, returns on export are expected to shrink, and when these occur, exporting firms will also lose their competitiveness on the domestic stock market. Their attractiveness on the domestic stock market is also expected to decline, leading to decreasing value in their stock prices. As such, the empirical outcome is an inverse association between domestic currency and stock prices (Joseph, 2012).

Stock Oriented model puts much emphasis on the role of financial (capital) account in exchange rates determination. Pilbeam (1992) pointed out an obvious problem with the flow-oriented model as being that it has nothing to say about international capital movements, although it is known that international capital movements are very large and dominate the foreign currency market. Adjasi and Biekpe (2017) held that "in the stock-oriented model, exchange rate equates demand and supply for assets (bonds and stock)". Therefore, prospects of exchange rate volatility can significantly affect price fluctuation of financially held assets. In other words, currency fluctuations may influence stock price movements.

Arbitrage Pricing Theory is also considered relevant in this study. Iqbal and Haider (2005), argued that risk factors in the APT arise from changes in some fundamental economic and financial variables such as interest rate, inflation, real business activity, exchange rate among other variables. Rashid and Karachi (2017), further added that in line with the Arbitrage theory, an appreciation in real interest rate diminishes the present value of a firm's future cash flows and making stock prices to drop. But at the same time, higher interest rate stimulates the cash inflow, and therefore exchange rate falls. Accordingly, the disturbance from real interest rate may be a function of a positive association between the mean level of stock prices and exchange rates. The APT model thus, assumes that exchange rate can be impactful on the stock market (Zubair and Aldejare, 2017).

The Goods Market Channel Approach also constituted one of the bases for the theoretical framework in this study. Dornbusch and Fisher (1980) argued that change in exchange rates affects the competitiveness of multinational firms and consequently their earnings and stock prices. Depreciation of the local currency makes exporting goods cheaper and may lead to an

increase in foreign demand and sales. Conversely, when the local currency appreciates, foreign demand of an exporting firm's product shrinks so does its stock price. The opposite case holds for importers. In addition, exchange rate movements affect the values of a firm's outstanding payables and receivables denominated in foreign currencies. The impact of exchange rate fluctuations on stock prices depends on both the weight or a country's international trade and degree of the trade imbalance (Pan, Fok and Liv, 2007). According to this argument, we expect a causal effect from exchange rates to stock prices (Cakan and Ejara, 2013).

Asset Market Channel, also known as Portfolio Balance Approach says that stock price variations can influence exchange rate movements (Cakan and Ejara, 2013). Thus, exchange rates are determined by market mechanism. An expected increase in stock prices due to economic growth prospects would attract capital from foreign investors and hence causes an increase and vice versa. Consequently, rising (demand) stock prices are linked to an appreciation (depreciation) in the local currency. On the other hand, movements in stock prices may pressure exchange rates since investors' wealth and money demand may depend on the performance of the stock market (Gavin, 1989). According to this argument, stock price movement causes exchange rate movements.

The relations between exchange rate and stock prices have been subjected to extensive research. A number of hypotheses support the existence of a causal relation between stock prices and exchange rate. The extent literature establishes two major channels of linkages between exchange rate and stock price. However, the flow-oriented theory/model was considered most suitable for this study because exchange rate movements lead to stock price movements and as such forms the theoretical framework of this study. In essence, exchange rate fluctuations affect both multinational and domestic firms' operations. In the case of multinational firms, a change in the rate of exchange influences the value of firms' foreign operations via balance sheet as either profits or losses. As long as profits or losses are declared, the firm's stock prices will change. On the other hand, exchange rate affect the stock price of domestic firms because fluctuations in exchange rate affects their input-output prices and demand for their products. In other terms, movement in exchange rate will either increase or decrease a firm's stock price depending on whether the firm is exporting or importing.

Empirical Review

On the empirical front, studies on exchange rate movement and performance of the stock market are not lacking in the literature. Caken and Ejara (2013), examined the dynamic linkages between exchange rates and stock prices for twelve emerging market countries for the period from May 1994 to April 2010 by using linear and non-linear granger causality tests. Results revealed that stock prices and exchange rates have linear and non-linear bi-directional causality in most cases. The exceptional countries were Brazil, Poland and Taiwan, that there is no evidence for non-linear granger causality from stock prices to exchange rates.

Tabank (2016) also studied the dynamic relationship between stock prices and exchange rates in the Brazilian economy. The researcher used recently developed unit root and co-integration tests, which allowed endogenous breaks, to test for a long run relationship between these

variables. Linearity and nonlinearity causality tests were performed after considering both volatility and linear dependence. It was found that there is no long-run relationship, but there is linear granger causality from stock prices to exchange rates, in line with the portfolio approach, which means stock prices lead exchange rates with a negative correlation. The study further found evidence of nonlinear granger causality from exchange rates to stock prices, in line with the traditional approach: exchange rates lead stock prices.

Zubair (2013) used Johansen's co-integration techniques to test for the possibility of co-integration and granger causality to estimate the causal relationship between stock market index and monetary indicators (exchange rate and money supply) before and during the global financial crisis for Nigeria, using monthly data for the period 2001-2011. Results suggested absence of long-run relationship before and during the crisis. The granger causality tests showed a uni-directional causality running from money supply to all-share index before the crisis while during the period of the crisis; there was absence of causality between the variables. This suggested that all-share index (ASI) show responsiveness to money supply (M_2). Thus, absence of the direct linkage between ASI and exchange rate showed that the market is inefficient and perhaps not derived or guided by the fundamentals.

Altin (2014) examined that long-term relationship between exchange rates and Istanbul Stock Exchange. In the study, Borsa Istanbul (B1ST 100) index was used as it is used in international comparisons. The currencies considered to have possible effects on this index were: Euro (EUR), United States Dollar (USD), Pound Sterling (GBP), Japanese Yen (JPY), Australian Dollar (AUD), Canadian Dollar (CAD) and Swedish Krona (SEK). The study used daily values of these variables and the period covered was from 2001/01/01 – 2013/12/31 (1st January, 2001 to 31st December, 2013). The Engle-Granger Two-Step method and Johansen's Co-integration method were used for data analysis. Results revealed that there is a significant relationship between exchange rates and B1ST 100. This result was consistent with Turkey's foreign currency composition. However, the direction of the effect of foreign currencies on B1ST 100 gave mixed results. In other words, the effect of each foreign currency on the stock index may be different. As a result, the existence of both short term and long-term significant relationships between foreign currency markets and securities exchanges can be stated.

Mechri, Ben-Hamad, Pereth and Chargi (2018) examined the impact of exchange rate volatility on the fluctuations of stock markets prices in Tunisia and Turkey from 2002-2017. Nominal effective exchange rate, inflation rate (CPI), risk free interest rate, price of gold and oil price index were considered as determinates of stock market indices. They also adopted a multiple repression model for the study and the generated data were exposed to unit root and arch heteroscedasticity tests. Unit root test results showed that all the variables were stationary for Tunisia while only stock markets' return index was not stationary. Results obtained from the GARCH model for the Tunisian data showed that large changes tend to be followed by large changes, of either sign, and small changes. This indicates that information on the volatility of the previous period has an impact on the current volatility. The same interpretation sufficed for Turkey's data except that the results for Turkey showed the absence of volatility clustering. Generally, the results showed that exchange rate volatility has a significant effect on stock market fluctuations.

Bala-Sani and Hassan (2018) examined the linkage between exchange rate and stock market in Nigeria using annual data from 1985 to 2015. They utilized Auto-Regressive Distributed Lag (ARDL) model and granger causality test. Exchange rate, economic growth, money supply and stock market all-share index were variables captured in the model used. Results showed that exchange rate and economic growth have positive and statistically significant impact on stock market in Nigeria; while money supply has negative and statistically significant influence on stock market over the study period. Granger causality test results indicated that there is unidirectional causality running from exchange rate to stock market. Similarly, there is unidirectional causality running from stock market to money supply. It also indicated no evidence of causality between economic growth and the stock market all share index in Nigeria.

Zubair and Aladejare (2017) investigated the impact of naira volatility on the performance of the Nigerian stock market from 1986 to 2015. The General auto-regressive conditional heteroscedatic technique was adopted in the study. Results revealed that there is a very weak relationship between exchange rate volatility and the stock market. Additionally, the stock market was seen to be affected by other macroeconomic variables like inflation and GDP (Gross Domestic Production). However, interest rate was found not to have a statistically significant impact on the performance of the stock market.

Mehean and Naeem (2013) used co-integration technique to analyze the impact of United States Dollar (USD) to PKR exchange rate on stock market return in Pakistan. The stock market return was studied by KSE-100 index and the study covered the period 1998 to 2009. Data generated for the study were exposed to stationarity, co-integration and vector error correction tests (modeling) prior to regression analysis. Results indicated that problem of non-stationarity did not exist as revealed by the Philip person (PP) stationarity/unit root test. The co-integration test result clearly indicated that long-term relationship exists between exchange rate and market returns. The result also showed that a relationship between the two variables exists in the short-run in Pakistan.

Suriani, Kumar, Jamil and Muneer (2015) investigation on the relationship between stock market and exchange rate market of Pakistan. KSE-100 index was used as a substitute of stock prices while currency rate of Pakistan against U.S Dollar was taken for exchange rate exposure. The data used was on monthly basis and the time period was from January 2004 to December 2009. Granger causality test was applied to check whether these financial variables (stock and exchange rate market) affect each other or not while regression analysis test was performed to confirm the result of the causality test. Results showed that both financial variables do not granger cause each other and there is a negative insignificant relationship between stock market and exchange rate market in Pakistan.

Abimbola and Olusegun (2017), appraised the relationship between exchange rate volatility, stock market performance and aggregate output in Nigeria; while using quarterly time series data alongside the application of the ARCH and GARCH model, Bayesian VAR, VAR causality and granger causality model. The study found that exchange rate and stock prices are volatile in nature. Furthermore, it was observed that the dwindling nature of the exchange rate grossly affect aggregate output. The study also revealed that there is a high degree of

positive relationship between exchange rate, stock price movements and aggregate output. Moreso, exchange rate volatility granger causes stock price movements and aggregate output, and vice versa. The study further revealed a significant positive response of aggregate output to stock market performance and volatility in the exchange rate. The joint causality revealed that volatility of exchange rate impacts on stock price and aggregate output in Nigeria.

From the foregoing, it is evidently clear that studies on foreign exchange rate movements (volatility or fluctuations) and stock market performance are not lacking in the literature but there is dearth of empirical studies in the case of Nigeria with a major focus on the market performance. However, a careful look at some studies revealed that emphasis has mainly been on exchange rate of a local currency to the United States' Dollar. As much this study considers rate of exchange between the naira and other recognized currencies like the Euros, British pounds and Swiss-France. Secondly, none of the reviewed studies was conducted in 2022. Finally, none of the reviewed studies used market capitalization as a measure of stock market performances.

3.0 Methodology

The quasi-experimental research design was considered appropriate in this regard. Time series secondary data on exchange rates of the Naira to the United States Dollar, British Pounds, European Euro and Swiss France; and stock market capitalization in Nigeria obtained solely sourced from the statistical Bulletin of the Central Bank of Nigeria (CBN. The secondary data used in this study were analyzed using the vector error correction mechanism (VECM) and the Pairwise granger causality test aided by the e-views software.

Model Specification

The model of the study was functionally specified as:

mcap = f (nusd, nbps, neur, nswf) ……..……..1

In least square form, the above functional model was stated as:

$mcap = a_o + a_{1t}nusd_t + a_2nbps_t + a_3neur_t + a_4nswf_t + \mu_t$ ……..2

Where;

mcap = stock market capitalization
nusd = naira – U.S. Dollar exchange rate
nbps = naira – British Pounds exchange rate
neur = naira – European Euros exchange rate
nswf = naira – Swiss France exchange rate
f = Functional notation
a_0 = Intercept term of the model
a_1 - a_4 = Regression coefficients
μ = Residual (error term) of the model

4.0 Data Estimation and Results

Table 4.1 Descriptive Analysis

Estimators	MCAP	NBPS	NEUR	NSWF	NUSD
Mean	11043.78	256.2811	185.2326	161.6622	170.1244
Median	9562.970	238.7700	173.0000	113.6100	133.5000

Maximum	42054.50	556.4500	471.7700	447.1800	412.4400
Minimum	180.4000	126.4200	0.000000	56.31000	81.02000
Std. Dev.	11670.50	111.5408	131.5703	111.3124	93.43571
Skewness	1.117927	1.133269	0.455172	1.229344	1.315414
Kurtosis	3.670485	3.722815	2.836267	3.527450	3.587576
Observations	27	27	27	27	27

Source: e-views Output, 2022

The above table contains the description of the descriptive statistics of variables used in the study. The mean values of the market capitalization, naira-british pounds, naira-european euros, naira-swiss franc and naira-us dollar were ₦11043.78b, ₦256.2811, ₦185.2326, ₦161.6622 and ₦170.1244 with maximum values of ₦42054.50b, ₦556.4500, ₦471.7700, ₦447.1800 and ₦412.4400 respectively. Accordingly, the minimum values were ₦180.4000b, ₦126.4200, ₦0.000000, ₦56.31000 and ₦81.02000. In the same order, the standard deviation for market capitalization was 11670.50 while those of naira-british pounds, naira-european euros, naira-swiss franc and naira-us dollar stood at 111.5408, 131.5703, 111.3124 and 93.43571 respectively. Thus, showing that the naira-us dollar (nusd) is the most valued foreign currency in Nigeria. The results indicated on the table further revealed that all variables of the study were positively skewed. As regards the kurtosis, except for naira-european euros which has a platykurtic distribution, all other variables have leptokurtic distribution with values above 3 points. The study covered a total period of twenty-seven (27) years.

Tables 4.2 Unit Root Test Results

ADF Unit Root Result on MCAP

Null Hypothesis: D(MCAP) has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic - based on SIC, maxlag=6)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-4.300703	0.0026
Test critical values:	1% level	-3.724070	
	5% level	-2.986225	
	10% level	-2.632604	

*MacKinnon (1996) one-sided p-values.

Source: e-views output, 2022

ADF Unit Root Result on NBPS

Null Hypothesis: D(NBPS) has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic - based on SIC, maxlag=6)

	t-Statistic	Prob.*

Augmented Dickey-Fuller test statistic		-4.417215	0.0020
Test critical values:	1% level	-3.724070	
	5% level	-2.986225	
	10% level	-2.632604	

*MacKinnon (1996) one-sided p-values.
Source: e-views output, 2022

ADF Unit Root Result on NEUR
Null Hypothesis: D(NEUR) has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic - based on SIC, maxlag=6)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-5.085857	0.0004
Test critical values:	1% level	-3.724070	
	5% level	-2.986225	
	10% level	-2.632604	

*MacKinnon (1996) one-sided p-values.
Source: e-views output, 2022

ADF Unit Root Result on NSWF
Null Hypothesis: D(NSWF) has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic - based on SIC, maxlag=6)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-4.103331	0.0041
Test critical values:	1% level	-3.724070	
	5% level	-2.986225	
	10% level	-2.632604	

*MacKinnon (1996) one-sided p-values.
Source: e-views output, 2022

ADF Unit Root Result on NUSD
Null Hypothesis: D(NUSD) has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic - based on SIC, maxlag=6)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-3.661971	0.0115
Test critical values:	1% level	-3.724070	

5% level	-2.986225
10% level	-2.632604

*MacKinnon (1996) one-sided p-values.
Source: e-views output, 2022

Table 4.3 Summary of ADF Unit Root Test Results

Variables	ADF t-statistic	ADF critical value @5%	Prob.	Order of Integration
MCAP	-4.300703	-2.986225	0.0026	1(1)
NBPS	-4.417215	-2.986225	0.0020	1(1)
NEUR	-5.085857	-2.986225	0.0004	1(1)
NSWF	-4.103331	-2.986225	0.0041	1(1)
NUSD	-3.661971	-2.986225	0.0115	1(1)

Source: extract from e-views output, 2022

The above extract represents the summary of the Augmented Dickey Fuller (ADF) unit root test results for each parameter contained in the model of our study. The results showed that at first differencing 1(1), the ADF t-statistic (in absolute value) was greater than the ADF critical values at 5% level of significance. In addition to the results were the ADF probability values which were all less than the 5% level of significance leading to the acceptance of the null hypothesis (H_0) that there is a unit root and rejection of the alternative hypothesis (H_1) of no unit root. Hence, the variables were concluded to be stationary at order 1(1), which qualifies it for the use of the Johansen cointegration test for long run relationship analysis and the Pairwise granger causality test.

Table 4.4 Johansen Co-integration test Results

Date: 09/19/22 Time: 05:42
Sample (adjusted): 3 27
Included observations: 25 after adjustments
Trend assumption: Linear deterministic trend
Series: NUSD NSWF NEUR MCAP
NBPS
Lags interval (in first differences): 1 to 1

Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.743100	83.21435	69.81889	0.0029
At most 1 *	0.628146	49.23765	47.85613	0.0369
At most 2	0.492320	24.50630	29.79707	0.1799
At most 3	0.230424	7.558703	15.49471	0.5137
At most 4	0.039626	1.010802	3.841466	0.3147

Trace test indicates 2 cointegrating eqn(s) at the 0.05 level
* denotes rejection of the hypothesis at the 0.05 level
**MacKinnon-Haug-Michelis (1999) p-values

Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.05 Critical Value	Prob.**
None *	0.743100	33.97670	33.87687	0.0487
At most 1	0.628146	24.73134	27.58434	0.1112
At most 2	0.492320	16.94760	21.13162	0.1745
At most 3	0.230424	6.547900	14.26460	0.5439
At most 4	0.039626	1.010802	3.841466	0.3147

Max-eigenvalue test indicates 1 cointegrating eqn(s) at the 0.05 level
* denotes rejection of the hypothesis at the 0.05 level
**MacKinnon-Haug-Michelis (1999) p-values

Source: e-views output, 2022.

The Johansen co-integration test output revealed that the trace test indicates two (2) cointegrating equation 0.05 level of significance while the max-eigenvalue indicates one (1) cointegrating equation at 0.05 level of significance. These results led to the conclusion of the existence of long-run relationship between foreign exchange rate dynamics and stock market performance in Nigeria.

Table 4.5 Vector Error Correction Mechanism

Vector Error Correction Estimates
Date: 09/19/22 Time: 05:58
Sample (adjusted): 4 27
Included observations: 24 after adjustments
Standard errors in ( ) & t-statistics in [ ]

Error Correction:	D(MCAP)
CointEq1	-0.119415
	(0.42116)
	[-1.28202]

Source: e-views output, 2022

The error correction term from the VECM result has the appropriate sign with a negative coefficient of -0.119415 but insignificant t-statistic of -1.28202. This result reveals that foreign exchange dynamics is capable of adjusting any short-run disequilibrium in stock

market performance at the speed of about 11.94% annually in the long run. This suffices that foreign exchange rate dynamics has an insignificant impact on stock market performances in Nigeria. This is in consonance with the insignificant t-statistic which was unable to infer impact or causality.

Table 4.6 Granger Causality Tests

Pairwise Granger Causality Tests
Date: 09/19/22 Time: 05:59
Sample: 1 27
Lags: 2

Null Hypothesis:	Obs	F-Statistic	Prob.
NSWF does not Granger Cause NUSD	25	0.18179	0.8351
NUSD does not Granger Cause NSWF		0.70691	0.5051
NEUR does not Granger Cause NUSD	25	0.12372	0.8843
NUSD does not Granger Cause NEUR		0.55616	0.5820
MCAP does not Granger Cause NUSD	25	3.90665	0.0370
NUSD does not Granger Cause MCAP		0.94690	0.4047
NBPS does not Granger Cause NUSD	25	1.23900	0.3110
NUSD does not Granger Cause NBPS		4.10419	0.0321
NEUR does not Granger Cause NSWF	25	1.34904	0.2821
NSWF does not Granger Cause NEUR		0.12257	0.8853
MCAP does not Granger Cause NSWF	25	1.16790	0.3313
NSWF does not Granger Cause MCAP		0.47404	0.6293
NBPS does not Granger Cause NSWF	25	0.54000	0.5910
NSWF does not Granger Cause NBPS		1.56764	0.2331
MCAP does not Granger Cause NEUR	25	0.04919	0.9521
NEUR does not Granger Cause MCAP		2.34758	0.1214
NBPS does not Granger Cause NEUR	25	0.47401	0.6293
NEUR does not Granger Cause NBPS		0.09259	0.9120
NBPS does not Granger Cause MCAP	25	1.97434	0.1650
MCAP does not Granger Cause NBPS		1.06602	0.3631

Source: e-views output, 2022.

The Pairwise granger causality test as shown above revealed that market capitalization granger causes the naira-US dollar exchange rate. In other words, causality runs uni-directionally from market capitalization to the naira-US dollar exchange rate. Similarly, there

was also a uni-directional relationship between the naira-US dollar and the naira-British pounds sterling. There was neither bi-drectional relationship nor uni-drectional relationship between foreign exchange dynamics variables and stock market performance in Nigeria under the period of study. Thus, the result further confirms that of the vector error correction mechanism (VECM).

Normality Test

Jarque – Bera = 1.308127
Probability = 0.519929
Given that the P-value of Jarque – Bera statistic is greater than 0.05, it follows that the variables of the model are normally distributed.

Heteroscedasticity Test

The Breusch-Pagan-Godfrey P-value (chi - square) = 0.1010; since the probability value of chi – square is greater than 0.05, it implies that there is no presence of heteroscedasticity in the analysis. In other words, the errors of the model are homoscedastic.

Discussion of Results and Policy Implications.

The preliminary analysis of the data used in this study started with descriptive analysis comprising some vital estimators such as mean, standard deviation, skewness and kurtosis of the parameters among others. In the context of the analysis, it was revealed that the naira-US dollar is the predominant exchange rate in use which is line with our a priori expectations. The descriptive analysis was preceded by the standardization of the variables included in the study bearing in mind that their units of measurements were not the same. In addition, was the Augmented Dickey Fuller unit root test for the establishment of stationarity or order of integration. This is in recognition of the fact that analysis carried out with non-stationary data would be spurious and lead to faulty results. The result of the ADF unit root test showed that the parameters of the study were stationary at first differencing 1(1) and non-spurious.

Furthermore, the trace test and max-eigenvalue test from the Johansen cointegration estimation results revealed two (2) cointegrating equations and one (1) cointegrating equations at 5% level of significance respectively. Thus, leading to the conclusion of the existence of long-run relationship between foreign exchange rate dynamics (proxied by naira-british pounds sterling (nbps), naira-european euros neur), naira-swiss franc (nswf) and naira-us dollar (nusd)) and stock market performances in Nigeria. Similarly, the vector error correction mechanism (VECM), showed that the error correction term displayed the right negative sign. Its coefficient of -0.119415 showed that disequilibrium in stock market performances in the short-run would be corrected or adjusted in the long run by foreign exchange rate dynamics in the long run at the speed of 11.94% yearly. The VECM t-statistic of -1.28202 showed that the speed of adjustment or error correction term was insignificant. To this end, it was inferred that foreign exchange rate dynamics has insignificant positive impact on stock market performances in Nigeria. In addition to the findings, the pairwise granger causality tests confirmed that there was neither causality flowing from any of the foreign exchange variables to stock market performance variable nor bi-directional causality between them. This is in consideration of the fact that all the null hypotheses probability values were greater than the 5% level of significance. Remarkably, the result showed a uni-directionally

causality or relationship flowing from stock market performances (market capitalization) to naira-US dollar only considering the probability value of 0.0370 which is less than the 5% benchmark. In other words, stock market performances granger causes the naira-US dollar which does not meet the a priori expectations of this study. The insignificant positive effect result can be attributed to wide or high fluctuations in the naira exchange rates. The unpredictability and unstable nature of the naira exchange rate vis-à-vis other foreign currencies deepens the depreciation of the naira which by extension discourages foreign participation or investments in the country's stock market. High exchange rate fluctuations impact adversely on earnings per share/dividend value of firms negatively which by implication deters every rational investor ((especially foreigners) from investment in the stock of such firms quoted/listed on the floor of the country's stock market. These, further diminishes the positive effect of exchange rate dynamics in particular and the performance of the stock market at large. Similarly, the insignificant impact may not be connected to the unvibrant nature of the Nigerian stock market as well as the poor state of the economy. It is on literature that the Nigerian stock market is not vibrant to attract foreign participants who sees it to be difficult to raise funds through the market platform(s).

Conclusion and Recommendations

The paper was an empirical examination of foreign exchange rates dynamics and stock market performance in an emerging economy: evidence from Nigeria spanning the periods 1995-2021. Results from the secondary data estimations collected from the Central Bank of Nigeria (CBN) statistical bulletin using the vector error correction mechanism (VECM) and the Pairwise granger causality tests revealed that foreign exchange dynamics have insignificant positive impact on stock market performance in Nigeria. The results of the study to an extent aligns with the findings of Suriani, Kumar, Jamil and Muneer (2015), Zubair and Aladejare (2017) and Tabank (2016). Based on the results of the study, the followings were recommended:

- There is need to align Nigeria's economic stabilization policies in order to effectively achieve currency stability (of the naira). Policies such as outright ban on importation of items that can be produced locally (which aggravates exchange rate fluctuations), should be pursued vigorously. This will no doubt boost aggregate domestic demand for such products and also go a long way in enhancing the value of the naira and by extension stock market outlook in Nigeria.

-. In addition to the above points, there is also need to boost the operation of the stock market in order to attract more foreign investors. This can be done by increasing the number of listed securities, making the market more liquid and improving on the institutional framework within the market.

-. There is need to reduce the general level of insecurity in the country. This is because no matter how good the economic policies of the government might be, if the country is not secured, investors will not come in and local manufacturers will not operate at an optimal or maximum level.

References

Abimbola, A.B. and Olusegun, A.J. (2017), Appraising the Exchange Rate Volatility, Stock Market Performance and Aggregate Output Nexus in Nigeria. *Business and Econometrics Journal, 8 (1), 216-315*

Adjasi, C. and Biekpo, B.N. (2017), Stock Market Returns and Exchange Rate Dynamics in Selected African Countries: A Bivariate Analysis. *http://www.ajbms.org/articlepdf/zajboms2012*.

Aliyu, S.U. (2011), Impact of Oil Price Stock and Exchange Rate Volatility on Economic Growth in Nigeria: An Empirical Investigation. *Munich Personal RZPER Archive, 16319, http://mpra.ub.uni-mmenchen.de/16319/.*

Altin, H. (2014), Stock Price and Exchange Rate: The Case of B1ST 100. *European Scientific Journal, 10(16), 65-77.*

Apkan, I.T. (2016), The extent of Relationship between Stock Market Capitalization and Performance of the Nigerian Economy *Research Journal of Financial and Accounting 6(4), 333-345.*

Bala-Sani, A. R. and Hassan, A. (2018). Exchange Rate and Stock Market Interactions: Evidence from Nigeria. *Arabian Journal of Business and Management Review, 8 (1), 198-210.*

Cakan, E. and Ejara, D.D. (2013), on the Relationship between Exchange Rates and Stock Prices: Evidence from Emerging Markets. *International Research Journal of Financial and Economics, 111, 115-124*

Calvo, G.A. and Reinhart, C.M. (2011), Fear of Floating. *The Quarterly Journal of Economics, 117(2), 361-373*

CBN (2013), The foreign Exchange Market in Nigeria. *http://www.cenbank.org/inteps/fxmarket.asp*

CBN (2021), Central Bank of Nigeria Statistical Bulletin, Vol, 32.

Chen, J. and Scott, G. (2020), What is an Equity A market? *https://www..investopedia.com/terms/e/equitymarket.asp*

Dornbuch, R. and Fischer, S. (1980), Exchange rates and the Current Account. *American Economic Review, 70(5), 960-971*

Dwivendi, D.N. (2008), *Managerial Economics (7th ed.).* New Delhi: Vikas Publishing House PVT Limited.

Egwim, A.O. (2018). *The Nigerian Equities Market: Matters Arising.* Lagos: Agboola Publishing Company.

Ekeocha, P.A. and Kamalu, D.A. (2018). The Nigerian Financial System: Operators Regulators and Intitutions (2nd ed.) Umuahia: Zenox Publishers Limited.

Ezenwakwelu, C.A. (2017). *International Business Management.* Enugu: Immaculate Publications Limited

Ezenwakwelu, C.A. Okolie, P.I. Attali, E.U, Lawal, K.O. and Akoh, O. (2019), Exchange Rate Management and Performance of Nigeria Manufacturing Firms. *Academy of Entrepreneurship Journal, 25(4), 111-124.*

Gavin, M. (1989). The Stock market and Exchange rate Dynamics. *Journal of International Money and Finance, 8, 181-200.*

Iqbal, J. and Haider, A. (2005). Arbitrage Pricing Theory: Evidence from an Emerging Stock Market. *The Lahore Journal of Economics, 10, 167-178.*

Jack, A.A; Tamunoemi, I.B. and Jaja, K.P. (2015). Exchange Rate Volatility and Capital

Market Performance in Nigeria (1980-2013). *Arabian Journal of Finance and Economics, 2(1), 111-123.*

Joseph, N. (2012). Modeling the Impacts of Interest Rate and Exchange Rate Changes on UK Stock Returns. *Derivatives Use, Trading and Regulation, 7, 216-228.*

Lambe, I. (2018). Assessing the Impact of Exchange Rate Risk on Bank Performance in Nigeria. *Journal of Economics and Sustainable Development, 6(6),* 138-149.

Maheen, J. and Naeem, U. (2013). Impact of foreign Exchange Rate on Stock Prices. *IOSR Journal of Business and Management, 7(3), 208-221.*

Mechri, N; Ben-Hamad, A., Charfi, S. and Peretti, C. (2018). The Impact of Exchange Rate Volatilities on Stock Markets Dynamics: Evidence from Tunisia and Turkey. *http://www.hal.archive>-ouvertes.fr/hal-01766742v2.*

Nwezeaku, N.C. (2008). *Theories and Practice of Financial management.* Owerri: Ever Standard Publishers Limited.

Nwude, C. (2017). The Impact of capital Market on the Nigerian Economy. *Zenith Economic Quarterly, 2(1), 211-225.*

Odusola, A.F. and Akinlo, A.E. (2013). Assessing the Impact of Nigeria's Naira Depreciation on Output and Inflation: Public Implication. *Applied Economics, 35(6), 186-198.*

Okoro, C.U. and Charles, F. B. (2019). Naira Exchange Rate Variation and Nigeria Economic Growth: A Time Series Study. *American Economic and Social Review, 5(2), 111-122.*

Pan, M. Fok, R. and Liv, Y. (2007). Dynamic Linkages between Exchange rates and Stock Prices: Evidence from East Asian Markets. *International Review of Economics and Finance, 16, 503-520.*

Pilbeam, K. (1992). International Financial (2nd ed.). United Kingdom: Basingstoke.

Popoola O. R., Ejemeyovwi O. J., Alege O. P, Adu O., and Onabote A. A. (2017) Stock Market and Economic Growth in Nigeria. International Journal of English Literature and Social Sciences (IJELS). Vol. 2. No. 6.

Rashid, A. and Karadu, I. (2017). Exchange Rates or Stock Prices, What causes What: A firm Level Empirical Investigation? *http://www.mpra.ulsuri-muenchen.de...*

SEC (2019). Statistical Bulletin of Nigeria Securities and Exchange Commission, Vol. 3.2.

Suriani, S., Kumar, M.D., Jamil, F. and Muneer, S. (2015). Impact of Exchange Rate on Stock Market. *International Journal of Economics and Financial Issues, 5 (Special Issue), 189-199.*

Tabak, B.M. (2016). The Dynamic Relationship between Stock Prices and Exchange Rates Evidence for Brazil. *Working Paper Series, 124, 3-37.*

Takon, S.M., Nsofor, E.S. and Ugwuegbe, S.U. (2016). The Effect of Foreign Exchange Transaction on the Performance of Nigerian Banks. *IJRDO-Journal of Business Management, 2(11), 66-79.*

Zubair, A. (2013). Causal relationship between Stock Market Index and Exchange Rate: Evidence from Nigeria. *CBN Journal of Applied Statistics, 4(2), 384-398.*

Zubair, Z.A. and Aladejare, S.A. (2017). Exchange Rate Volatility and Stock Market Performance in Nigeria. *Asian Journal of Multidisciplinary Studies 5(11), 318-328*

Appendix 1

Data on market capitalization (mcap), Naira-U.S. Dollar (nusd), naira-British Pounds (nbps), naira-European Euros (neur) and naira-Swiss Franc (nswf) (1995-2021)

year(s)	mcap	Nusd	nbps	Neur	nswf
	#'b	#	#	#	#
1995	180.40	81.02	128.16	0	69.61
1996	285.80	81.25	126.42	0	65.64
1997	281.90	81.65	133.74	0	56.31
1998	262.60	83.81	142.61	0	62.66
1999	300.00	92.34	156.43	0	62.36
2000	472.30	100.8	149.54	94.82	59.36
2001	662.50	112.03	161.1	100.24	66.42
2002	764.90	120.98	182.06	114.61	78.18
2003	1,359.30	129.43	211.2	146.44	96.29
2004	2,112.50	133.5	244.52	165.85	107.52
2005	2,900.06	131.64	238.77	163.34	105.84
2006	5,120.90	127.38	234.74	160.02	101.91
2007	13,181.69	124.61	249.42	170.65	103.9
2008	9,562.97	117.69	218.25	173	113.61
2009	7,030.84	147.4	230.65	205.41	135.89
2010	9,918.21	148.81	230.09	197.59	142.99
2011	10,275.34	152.33	244.26	212.1	172.17
2012	14,800.94	155.94	247.06	200.43	166.36
2013	19,077.42	155.75	243.67	206.92	168.06
2014	16,875.10	156.98	258.58	208.59	171.66
2015	17,003.39	192.3	294.12	213.39	199.93
2016	16,185.73	253.49	339.58	280.12	257.11
2017	21,128.90	305.79	394.11	345.17	310.5
2018	21,904.04	306.08	408.78	361.62	313.01
2019	25,890.22	306.92	391.99	343.71	308.84
2020	38,589.58	381	503.29	465.49	421.57
2021	42,054.50	412.44	556.45	471.77	447.18

Source: CBN Statistical Bulletin, 2021.

Appendix 2

Table of Standardized variables for market capitalization (mcap), Naira-U.S. Dollar (nusd), naira-British Pounds (nbps), naira-European Euros (neur) and naira-Swiss Franc (nswf).

mcap	nusd	nbps	neur	Nswf
2.256237	1.908592	2.107752	0	1.842672
2.456062	1.909823	2.101816	0	1.817169
2.450095	1.911956	2.126261	0	1.750586
2.419295	1.923296	2.15415	0	1.79699
2.477121	1.96539	2.19432	0	1.794906
2.674218	2.003461	2.174757	1.9769	1.773494
2.821186	2.049334	2.207096	2.001041	1.822299
2.883605	2.082714	2.260215	2.059223	1.893096
3.133315	2.112035	2.324694	2.16566	1.983581
3.324797	2.125481	2.388314	2.219715	2.031489
3.462407	2.119388	2.37798	2.213093	2.02465
3.709346	2.105101	2.370587	2.204174	2.008217
4.119971	2.095553	2.396931	2.232106	2.016616
3.980593	2.07074	2.338954	2.238046	2.055417
3.847007	2.168497	2.362953	2.312622	2.133187
3.996433	2.172632	2.361898	2.295765	2.155306
4.011796	2.182785	2.387852	2.326541	2.235957
4.170289	2.192958	2.392802	2.301963	2.221049
4.28052	2.192428	2.386802	2.315802	2.225464
4.227246	2.195844	2.412595	2.319293	2.234669
4.230536	2.283979	2.468525	2.329174	2.300878
4.209132	2.403961	2.530942	2.447344	2.410119
4.324877	2.485423	2.595617	2.538033	2.492062
4.340524	2.485835	2.61149	2.558252	2.495558
4.413136	2.487025	2.593275	2.536192	2.489734
4.58647	2.580925	2.701818	2.66791	2.62487
4.623813	2.615361	2.745426	2.67373	2.650482

Source: Author's computation.