Effect of Currency Exchange, Inflation and Government Policies on Financial Reporting of Multi-National Companies in Nigeria

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ABSTRACT
The study sought to examine the effect of currency exchange, inflation and government policies on financial reporting of multinational companies. There are a lot of factors that affect the financial report of multinational companies but the study focuses on currency exchange, inflation and government policies on multinational companies. The literature development was guided by purchasing power parity (PPP) theory, interest rate parity (IPR) theory, and the balance of payments theory. The descriptive research design was used in this study. The Nigeria Bureau for statistics and the Central Bank of Nigeria were used as sources of information in other to establish the effect of currency exchange, inflation and government policies on the financial reporting of multinational companies. The study used inflation rates in percentage, interest rates in percentage and average annual exchange rates from 2012-2017. Multiple linear regression was used to analyse the relationship between the variables and a response variable was used by fitting a linear equation to the observed data. The study also used the explanatory power of the model R^2, F test ANOVA and also test of Multicullinearity. The study found that the co-efficient of multiple determinations R-square value was 0.81; these meant that the chosen variables specifically inflation rate and currency rates in Nigeria during the year 2012-2017 affect exchange rate by 87.1% and therefore 12.9% effects the exchange rate was associated with other factors. The regression results also indicate that the relationship between inflation, interest rate, and exchange rates is very significant at 0.05 level with a p-value of 0.016. The study finally concluded that increase in interest rate is necessary to stabilize the exchange rate depreciation and to curb the inflationary pressure and thereby helps to avoid much consequence on multinational coporations. The study therefore recommends that multinational coporations should come up with means to evaluate exchange rate volitalty as a result of government policies and that given specific context of developing countries like Nigeria, significant shocks from the exchange rate to inflation and the limitations related to government policies controlling exchange rate volatility is vital to financial reporting.

Keywords: Foreign currency exchange, Inflation, Government Policy Multinational companies

1. INTRODUCTION

One of the main complications in dealing with multinational corporations is accounting for and planning around foreign currency exchange rates. Most countries have their own form of currency that fluctuates with the market and political climate in their country. Multinational companies must keep these changes in mind when doing any type of business abroad.

Financial statement reporting is also more complex for businesses operating in multiple countries. FASB dictates that the US dollar must be used for all domestic companies' financial statements, but other countries often require IFRS statements for their markets. Many developed and developing countries have adopted international financial Reporting Standards (IFRS) as the basis for financial reporting. This is because globalization of capital market is an irreversible process, and there are many potential benefits to be gained from mutually recognized and prospected international accounting standards. The move towards developing an acceptable global high quality financial reporting standard started in 1973 when the International Accounting standards committee (IASC) was formed by professional Accounting bodies from Canada, USA, United Kingdom, Germany, France, Netherland, Australia, Mexico and Japan. The IASC was to formulate uniform and global accounting aimed at reducing the discrepancies in International Accounting principles and reporting practices.

In this light, the IASC was established and has actively been championing the uniformity and standardization of accounting principles for the past few years. In April 2001, the IASC was reorganized into International Accounting standard Board (IASB). Thenceforth, the IASB has updated the already existing International Accounting Standards and referred to them as International Financial Reporting standards (IFRS). IFRSs are single set of high quality understandable standard for general purpose of financial reporting which are principles based in contrast to the rules based approach.

While some countries have been using these standards for decades, they are however new for transition economies like Nigeria. In Nigeria, implementation IFRS was launched in September 2010, but the successful adoption and implementation of these standards remain a mirage in Nigeria. The adoption was organized such that all the stakeholders will use the IFRS by January 2014. The adoption was scheduled to start with public listed entities and significant public interest entities who are expected to adopt the IFRS by January 2012.

The Effects of differing national rates of inflation and exchange rate changes on the profitability and hence the risk of multinational corporations is currently receiving much attention from both the management of these firms and the accounting profession. The relationships between changes in currency values, both internal and external and the international investing, trading, production, and marketing decisions of multinational firms are clearly of great interest to the national government involved. In the light of this therefore, this study is focused on the effect currency exchange, inflation and government policies has on the financial reporting of multinational companies.

II. LITERATURE REVIEW

2.1 CONCEPTUAL FRAMEWORK

2.1.1 FINANCIAL REPORTING

Financial reporting discloses the financial situation of an entity which assists investors in predicting the performance of the entity and in estimating the value of the entity. Information regarding the position of the investments by the entity (stock) and the results of those investments (flows) is disclosed for those who predict the future and make investment decisions under their own responsibility.

Financial reporting provides information that represents the results of the entity's investments basically the results of the past, but it is commonly used in predicting future cash flows, which provides the basis for estimating the value of the entity. Use of profit information implies emphasis on the information regarding stock of investments which generates profit. This is because not only the absolute amount of the results of the entity's investments but also the profitability (or efficiency) in comparison with the stock amount of investments which generates those results is considered to be important. The quality of the information provided in financial reports determines the usefulness of those reports to users. The qualitative characteristics of financial information discussed in the IASC Framework are: understandability, relevance, materiality, reliability, faithful representation, substance over form, neutrality, prudence, completeness and comparability. In addition, the IASC also notes that other characteristics such as timeliness are important. A balancing or trade-off between characteristics may be necessary. Different accounting bases may also score more highly on one characteristic than another. Deciding the relative importance of the characteristics in different cases is a matter of judgment

The value of goods, services, and property is measured by currencies. Currency exchange rate is the rate which currencies are exchanged into another; it is the value of currencies relative to each other.

The rest of the section is arranged as follows: section two deals with literature review, while the third section accesses the theoretical framework, section four presents the model specification and specification and estimation techniques while section five involves the empirical analysis and discussion of result, and section six concludes the paper.

2.1.2 Currency Exchange

A currency exchange is a business or financial institution that has the legal right to exchange one currency for another currency to its customers. A currency exchange may be a stand-alone business or may be part of the services offered by a bank or other financial institution. The currency exchange profits from its services either through adjusting the exchange rate or taking a commission.

Exchange rate of currencies is one of the most important factors that affect the whole economy. All the companies in the world are affected by any change in the exchange rate of their currency. Multinational Corporation's value is affected more than national companies by any movement in currencies exchange rate. This change may affect the company's assets price, financial structure, profit margin, and cash flow Feixiang (2012).

GOVERNMENT POLICES

The different components of the governmental policy have a significant influence over the foreign companies` activity. The economic policies include the fiscal policy, monetary policy, commercial policy and sector policy. For transnational society, the most influential governmental actions are those regarding economic restriction like: exchange control, import restrictions, taxes control, price control, the local matters restrictions, foreign investments` restrictions. Knowing the host country's global political climate (anticipating changes that might appear in time) and its involvement in a larger frame of the world's political context will offer to the company the possibility of a correct underlying and adaption of its

own international strategy according to the concrete conditions of the political space where it will operate.

2.1.4 THEORETICAL FRAMEWORK

Theoretical Review There are different theories on exchange rate, each identifying own paradigm and concept about the exchange rates. The study is greatly interested with exchange rate theories that identify its relationship with interest rates and inflation. Highlighted below are some of such theories which include;

2.2.1 Interest Rate Parity Theory

Interest Rate Parity (IPR) theory is used to analyze the relationship between at the spot rate and a corresponding forward (future) rate of currencies. The IPR theory states interest rate differentials between two different currencies will be reflected in the premium or discount for the forward exchange rate on the foreign currency if there is no arbitrage---the activity of buying shares or currency in one financial market and selling it at a profit in another. The theory further states size of the forward premium or discount on a foreign currency should be equal to the interest rate differentials between the countries in comparison (Bleaney, and Fielding, 2002). The theory of interest rate parity, relates the difference between foreign and domestic interest rates with the difference in spot and future exchange rates. This parity condition states that the domestic interest rate should equal the foreign interest rate plus the expected change of the exchange rates. If investors are risk-neutral and have rational expectations, the future exchange rate should perfectly adjust given the present interest-rate differential. For example, if the differential between one-year dollar and pound interest rates is five percent with the pound being higher, risk neutral, rational investors would expect the pound to depreciate by five percent over one year thereby equalizing the returns on dollar and pound deposits. If the exchange rate did not adjust, then arbitrage opportunities would exist. Consequently, the 8 current forward rate should reflect this interest rate differential as a forward contract locks in the future exchange rate.

2.2.2 Purchasing Power Parity Theory

Purchasing Power Parity (PPP) is a theory of exchange rate determination and a way to compare the average costs of goods and services between countries. The theory was developed in its modern form by Gustav Cassel in 1918. The theory assumes that the actions of importers and exporters (motivated by cross-country price differences) induce changes in the spot exchange rate. In another vein, PPP suggests that transactions on a country‘s current account affect the value of the exchange rate on the foreign exchange (Forex) market. This is in contrast with the interest rate parity theory, which assumes that the actions of investors (whose transactions are recorded on the capital account) induce changes in the exchange rate. PPP theory is based on an extension and variation of the ―law of one price‖ as applied to the aggregate economy. (Devereux and Engel, 2003)

To explain the theory it is best to first review the idea behind the law of one price. Purchasing power parity is both a theory about exchange rate determination and a tool to make more accurate comparisons of data between countries. It is probably more important in its latter role since as a theory it performs pretty poorly. Its poor performance arises largely because its simple form depends on several assumptions that are not likely to hold in the real world and because the amount of foreign exchange activity due to importer and exporter demands is much less than the amount of activity due to investor demands. Nonetheless, the theory remains important to provide the background for its use as a tool for cross-country comparisons of income and wages, which is used by international organizations like the World Bank in presenting much of their international data

2.2.3 The Balance of Payments Theory

The balance of payments theory is the modern and most satisfactory theory of the determination of the exchange rate. It is also called the demand and supply theory of exchange rate. According to this theory, the rate of exchange in the foreign exchange market is determined by the balance of payments in the sense of demand and supply of foreign exchange in the market. Here the term 'balance of payments' is used in the sense of a market balance. If the demand for a country's currency falls at a given rate of exchange, we can speak of a deficit in its balance of payments. Similarly, if the demand for a country's currency 9 rises at a given rate of exchange, we can speak of surplus in its balance of payments. A deficit balance of payments leads to a fall or depreciation in the external value of the country's currency. A surplus balance of payments leads to an increase or appreciation in the external value of the country's currency (Galí, and Monacelli, 2005).

According to the theory, a deficit in the balance of payments leads to fall or depreciation in the rate of exchange, while a surplus in the balance of payments strengthens the foreign exchange reserves, causing an appreciation in the price of home currency in terms of foreign currency. A deficit balance of payments of a country implies that demand for foreign exchange is exceeding its supply.

2.3. Determinants of Exchange Rates

Exchange rates are determined by the demand and supply of a particular currency as compared to other currencies. There are numerous factors that determine the exchange rate between two countries.

2.3.1 Interest Rate

Inflation and interest rates are highly correlated. Higher inflation generally means higher interest rates in an economy. Hence, high interest rate also becomes a factor for the changes in exchange rate. Interest rate is the tool used by the central bank of a country to keep a check on any major currency fluctuation. The central bank can also try to keep the exchange rate under a targeted range by manipulating the interest rates. Higher interest rates bring in more investment from overseas as the returns are higher than countries with low interest rates (Bowe, and Saltvedt, 2004).

The theoretical as well as empirical relationship between the interest rate and exchange rate has been a debatable issue among the economists. According to Mundell-Fleming model, an increase in interest rate is necessary to stabilize the exchange rate depreciation and to curb the inflationary pressure and thereby helps to avoid many adverse economic consequences (Calvo, & Reinhart, 2000). The high interest rate policy is considered important for several reasons. Firstly, it provides the information to the market about the authorities‘ resolve not to allow the sharp exchange rate movement that the market expects given the state of the economy and thereby reduce the inflationary expectations and prevent the vicious cycle of 10 inflation and exchange rate depreciation. Secondly, it raises the attractiveness of domestic financial assets as a result of which capital inflow takes place and thereby limiting the exchange rate depreciation. Thirdly, it not only reduces the level of domestic aggregate demand but also improves the balance of payment position by reducing the level of imports (Devereux, & Engel, 2003).

The three major explanations of inflation include fiscal, monetary, and balance of payments aspects. While in the monetary aspect inflation is considered to be due to an increase in money supply, in the fiscal aspect, budget deficits are the fundamental cause of inflation in countries with prolonged high inflation. However, the fiscal aspect is closely linked to monetary explanations of inflation since government deficits are often financed by money creation in developing countries. In the balance of payments aspect, emphasis is placed on the exchange rate. Simply, the exchange rate collapses bring about inflation either through higher import prices and increase in inflationary expectations which are often accommodated or through an accelerated wage indexation mechanism (McCallum, and Nelson, 2000).

2.3.2 Inflation

Inflation is one of the major factors that affect the exchange rate. Theoretically a low inflation rate scenario will exhibit a rising currency rate, as the purchasing power of the currency will increase as compared to other currencies (Duarte, & Stockman, 2002). Generally, the inflation rate is used to measure the price stability in the economy. Conceptually, the inflation can be divided into two sides, namely: demand side inflation (demand pull inflation) and supply side inflation (cost push inflation). For open-economy countries, inflation comes from domestic factors (internal pressure) and also overseas factors (external pressure) (Edwards, 2002). The sources of external factors are the increase in the world commodity prices or exchange rate fluctuation. The influence of exchange rate towards inflation itself depends on the choice of exchange rate regime in the country. Exchange rate system has an important role in reducing or minimizing the risk of fluctuations in exchange rates, which will have an impact on the economy. Any changes in exchange rates will have a great impact on the economy (Eichengreen, 2004).

According to Engle, (2002) in the system of floating exchange rates, exchange rate fluctuations can have a strong impact on the level of prices through the aggregate demand 11 (AD) and aggregate supply (AS). On the aggregate supply, depreciation (devaluation) of domestic currency can affect the price level directly through imported goods that domestic consumers pay. However, this condition occurs if the country is the recipient countries of international prices (international price taker). Non direct influence from the depreciation (devaluation) of currency against the price level of a country can be seen from the price of capital goods (intermediate goods) imported by the manufacturer as an input. The weakening of exchange rate will cause the price of inputs more expensive, thus contributing to a higher cost of production.

Inflation is the term used to describe a rise of average prices through the economy. It means that money is losing its value. The underlying cause is usually that too much money is available to purchase too few goods and services, or that demand in the economy is outpacing supply. In general, this situation occurs when an economy is so buoyant that there are widespread shortages of labour and materials. People can charge higher prices for the same goods or services. Inflation can also be caused by a rise in the prices of imported commodities, such as oil. However, this sort of inflation is usually transient, and

less crucial than the structural inflation caused by an over-supply of money (Fraga, Goldfajn and Minella, 2003).

Generally, the inflation rate is used to measure the price stability in the economy. Conceptually, the inflation can be divided into two sides, namely: demand side inflation (demand pull inflation) and supply side inflation (cost push inflation).For open-economy countries, inflation come from domestic factors (internal pressure) and also overseas factors (external pressure). The sources of external factors are the increase in the world commodity prices or exchange rate fluctuation. The influence of exchange rate towards inflation itself depends on the choice of exchange rate regime in the country. Exchange rate system has an important role in reducing or minimizing the risk of fluctuations in exchange rates, which will have an impact on the economy. Any changes in exchange rates will have a great impact on the economy (Fung, 2002).

According to Gerlach and Smets, (2000) Inflation can be very damaging for a number of reasons. First, people may be left worse off if prices rise faster than their incomes. Second, inflation can reduce the value of an investment if the returns prove insufficient to compensate them for inflation. Third, since bouts of inflation often go hand in hand with an overheated 12 economy, they can accentuate boom-bust cycles in the economy. Sustained inflation also has longer-term effects. If money is losing its value, businesses and investors are less likely to make long-term contracts. This discourages long-term investment in the nation‘s productive capacity.

The relationship between inflation targeting regime and exchange rate regime has led some analysts to conclude that one of the costs of inflation targeting adoption is the increase in exchange rate volatility. Yet, some studies show that the adoption of a free-floating exchange rate does not necessarily implies more effective of nominal and real exchange rate floating argue that inflation targeting would lead to higher exchange rate volatility find that the lack of credibility of monetary authority may lead to exchange rate volatility problem (LevyYeyati, and Sturzenegger, 2002).

Understanding the sources of fluctuations in output and inflation is an important challenge to empirical macroeconomists. It is an issue taken up in a large number of recent studies in the developed nations, Latin America, and Asian countries. At the core of this issue is whether or not stabilization without recession is possible. While some theoretical models suggest that stabilization could be expansionary particularly for high inflation countries, others argue that stabilization without recession is rather difficult to achieve (Ma´ckowiak, 2003).

EMPERICAL REVIEW

Exchange rate and monetary policies such as interest rates and inflation policies are key tools in economic management and in the stabilization and adjustment process in developing countries, where low inflation and international competitiveness have become major policy targets. Nigeria’s experience with the financial reform process shows a widening interest rate spread following interest rate liberalization. This period is characterized by high implicit costs with tight monetary policy achieved through increased reserve and cash ratios. Despite the importance of monetary and exchange rate policies in economic management, few studies have been done to assess the relationship between them. It is already recognized in the literature that the real exchange rate is an endogenous variable that responds to both exogenous and policy induced disturbances and that prolonged real exchange rate misalignment will usually generate macroeconomic disequilibrium (Ndungu, and Ngugi,1999). A study by Ndungu and Ngugi (1999) indicated that the real exchange rate is a measure of international competitiveness, while inflation mostly emanates from monetary expansion, currency devaluation and other structural factors. Exchange rate policy has undergone various regime shifts over the years, largely driven by economic events, especially balance of payments crises. A fixed exchange rate was maintained in the 1960s and 1970s, with the currency becoming over-valued, though not extremely so. Exchange controls were maintained from the early 1970s until a market-determined regime was adopted in the 1990s. There have been numerous studies on inflation, interest rates and exchange rates, but studies on the interrelationship between these three variables have been scanty. A study by Pattnaik, and Mitra (2001) indicates that interest rates, inflation rates and exchange rates are all highly correlated. By manipulating interest rates, central banks exert influence over both inflation and exchange rates, and changing interest rates impact inflation and currency values. A study by Bhole and Dash, (2002) sought to understand the relationship between interest rate and exchange rate in India. In their analysis, the scholars found the empirical relationship between the interest rate and exchange rate has been a debatable issue among the economists. According to Mundell-Fleming model, an increase in interest rate is necessary to stabilize the exchange rate depreciation and to curb the inflationary pressure and thereby helps to avoid many adverse economic consequences. The high interest rate policy is considered important for several reasons.

Firstly, it provides the information to the market about the authorities' resolve not to allow the sharp exchange rate movement that the market expects given the state of the economy and thereby reduce the inflationary expectations and prevent the vicious cycle of inflation and exchange rate depreciation. Secondly, it raises the attractiveness of domestic financial assets as a result of which capital inflow takes place and thereby limiting the exchange rate depreciation (Morón, and Winkelried, 2003).

Thirdly, it not only reduces the level of domestic aggregate demand but also improves the balance of payment position by reducing the level of imports. But the East Asian currency crisis and the failure of high interest rates policy to stabilize the exchange rate at its desirable level during 1997-1998 have challenged the credibility of raising interest rates to defend the exchange rate. Critics argue that the high interest rates imperil the ability of the domestic firms and banks to pay back the external debt and thereby reduce the probability of repayment. As a result, high interest rates lead to capital outflows and thereby depreciation of the currency (Mohanty, and Klau, 2004).

In another study by Edwards, and Yeyati (2005) tried to establish the relationship between exchange rates and inflation in Latin America. The research established that generally, the inflation rate is used to measure the price stability in the economy. The study by Kiptoo (2007), focused on Real Exchange Rate (RER) volatility and misalignment on international trade and investment.

The study found that the influence of exchange rate towards inflation itself depends on the choice of exchange rate regime in the country. It was established that exchange rate system has an important role in reducing or minimizing the risk of fluctuations in exchange rates, which have an impact on the economy. Any changes in exchange rates will have a great impact on the economy.

Through the above statistical insight and theoretical findings on financial mater and exchange rates, this study therefore seeks to establish the effect of exchange rate, inflation and government policies on multinational coporations.

RESEARCH METHODOLOGY

Data Collection

The study used the Nigerian Bureau of Statistics (NBA) and the Central Bank of Nigeria as sources of information in the pursuit to establish the effects of interest rate, inflation and foreign currency exchange rates in multinational coporations. Data used was in the form of secondary data and in particular, the following data was used: Interest rates, Inflation Rates and Exchange rates for years 2012- 2017. The secondary data was collected from Central Bank and Nigerian National Bureau of Statistics. The data collected helped answer the research problem.

3.4 Data Analysis

Data was analyzed using quantitative method; the data was then presented using various statistical tools such as tables, percentages and graphs. The study used multiple linear regression formula to get the correlation between interest rates, inflation and exchange rates. Multiple linear regression was used to model the relationship between two or more explanatory variables and a response variable by fitting a linear equation to observed data.

3.4.1 Analytical Model

The formula given below was used to calculate the linear regression.

The equation; $Yi= b0 + b1x1 + b2x2+ \varepsilon$

Where: Yi = Exchange rate between US dollar and Nigerian naira

b0, b1,b2, are constants to be estimated by the model

X1 = Interest Rates, (in Naira, Monthly)

X2 = Inflation Rates (in Naira, Monthly)

ε= Error terms

Multiple regression analysis was also used to assess whether confounding exists. Since multiple linear regression analysis allows us to estimate the association between a given independent variable and the outcome holding all other variables constant, it provides a way of adjusting for (or accounting for) potentially confounding variables that have been included in the model. The study used Test of goodness of fit and the explanatory power of the model R 2 , F test ANOVA.

The study did test of Multicollinearity. Multicollinearity is a linear relationship between two explanatory variables. Two variables are perfectly collinear if there is an exact linear relationship between the two. For example, X1 and X2 are perfectly collinear if there exist parameters $\lambda 0$ and $\lambda 1$ such that, for all observations i, we have

$X2i = \lambda 0 + \lambda 1\ X1i$

Multicollinearity refers to a situation in which two or more explanatory variables in a multiple regression model are highly linearly related. In this study the researcher will have perfect multicollinearity if, for example as in the equation above, the correlation between two independent variables is equal to 1 or -1.

DATA ANALYSIS, RESULTS AND DISCUSION

In this section data was collected for six years (2012-2017) from Nigeria Bureau of Statistics (NBS) and the Central Bank of Nigeria (CBN) to establish the effects of interest rate and inflation on exchange rates in Nigeria. The data used was NAIRA/USD Annualized Average Exchange Rates (Forex), Annualized Average CBN Interest Rates (in %) and Annual Average Economic Inflation Rates (in %) to determine the effects of interest rate and inflation rate on exchange rates in Nigeria.

Regression Analysis

The intention is to establish the relationship between the NAIRA and USD exchange rates (Forex) and the two predictor variables; the CBN base lending rates and inflation rates in the years between 2012 and 2017.

The table below is a summary of the secondary data used for regression analysis Table

Time Series Regression Data Regression Data

Regression Data			
	Dependent Variable	**Predictor Variables**	
Indicators Year	**NAIRA/USD Annualized Average Exchange Rates**	**Annualized Average CBN interest Rates (in %)**	**Annual Average Economic Inflation Rates (in %)**
2012	**67.46**	**8.63**	**9.80**
2013	**69.00**	**8.90**	**16.20**
2014	**77.33**	**7.89**	**10.50**
2015	**79.26**	**6.50**	**4.10**
2016	**88.86**	**9.60**	**14.00**
2017	**84.52**	**16.50**	**9.40**

Source; IBM SPSS Statisticsv.21

When the above data was run for regression analysis using IBM SPSS Statistics v.21, the model results incorporated all the three predictors (the absolute value of their un-standardized 19 coefficients had significant values; all were > |0.1|); this signifies they were significant enough as predictors of the regression model.

Below are the results of the model summary generated by the data after running regression analysis;

Table 4.2: Model Summary

ANOVA						
Model		**Sum of squares**	**df**	**Mean Square**	**f**	**Sig.**
	Regression	**66.329**	**2**	**33.164**	**0.034**	**0.05[b]**
	Residual	**287.839**	**3**	**95.946**		
	Total	**354.167**	**5**			
Dependent Variable: Forex Rates						
Predictors: (constant), Inflation Rates, Interest Rates						

Source: IBM SPSS Statisticsv.21

All the three variables returned significant coefficients to model a regression equation. Both the predictor variables had significant values to consider using them in a regression model. The co-efficient of multiple determinations R-square value is 0.871; this means about 87.1% of the variation of the response variable which is NAIRA/USD Exchange rates can be explained by the two predictor variables.

The regression equation appears to be substantially useful for making predictions since the value of R^2 at 0. 871 is very close to 1

The ANOVA table generated from the same data is as shown below;

Table 4.3: ANOVA Table

ANOVA[a]						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	66.329	2	33.164	0.034	0.05[b]
	Residual	287.839	3	95.946		
	Total	354.167	5			
a. Dependent Variable: Forex Rates						
b. Predictors: (Constant), Inflation Rates, Interest Rates						

Source: IBM SPSS Statisticsv.21

From the ANOVA table; at the 5% (0.05) significance level, the model is useful for predicting the response since;

F Value = 0.034 and ρ-value at 0.05 is less than 0.05.

Therefore; at the $\alpha = 0.05$ level of significance, there exist enough evidence to conclude that at least one of the two predictors is useful for predicting Exchange rates; therefore the model is very useful.
The coefficients table returned by running the data through analysis software is as illustrated below;

Table 4.4: Coefficients

Coefficients[a]						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	71.658	16.055		4.463	0.021
	Interest Rates	1.006	1.258	0.419	0.799	0.482
	Inflation Rates	0.342	1.057	-0.170	-0.323	0.768
a. Dependent Variable: Forex Rates						

Source: IBM SPSS Statisticsv.21

From this table; using the regression model equation contemplated before i.e. $Y_i = b_0 + b_1x_1 + b_2x_2 + \varepsilon$

Where: Y_i = Exchange rates in Nigeria

b_0, b_1, b2, are constants to be estimated by the model

X_1 = Interest Rates (in %, Annualized) X_2 = Inflation Rates (in %, Annualized) ε= Error terms
Using the coefficients in table 4 above; our regression model therefore becomes; NAIRA/USD Forex Rates = 71.658 + 1.006Int. Rates + 0.342 Inf. Rates
Interpretation:

Intercept: In any given year, the NAIRA/USD rate will be 71.658 when all the predictor values are equal to zero.

Effect of CBN interest rates on NAIRA/USD forex rates: The forex rates increases by a unit on the CBN interest rates increasing by 1.006 or 100.6% all other factors held constant.

Effect of inflation rates on NAIRA/USD forex rates: The forex rates increases by a unit on the CBN interest rates decreasing by 0.342 or 34.2% all other factors held constant. The model however as indicated above in the ANOVA interpretation, is not useful in predicting variations NAIRA/USD forex rates.

4.4. Correlation Analysis

When a Pearson Correlation analysis was run on the data to test the level of association between the

NAIRA/USD forex rates versus the values of the two independent variables, the results are as illustrated in the table below;

Table 4.5: Pearson Correlations

Correlations			
		Interest Rates	Inflation Rates
Forex Rates	Pearson Correlation	0.039	-0.019
	Sig. (2-tailed)	0.434	0.823
**. Correlation is significant at the 0.01 level (2-tailed).			

Source: IBM SPSS Statisticsv.21

The two predictor variables; interest rates and inflation rates showed some level of correlation with the dependent variable NAIRA/USD forex rates at 0.01 significant levels.

Interpretation;

At 0.039, the interest rates had a strong positive association with NAIRA/USD forex rates while at -0.019; the inflation rates had a small negative correlation with the same independent variable. This means that there was a likelihood of increases due to an increase in interest rates and even decreases in increases of inflation rates.

4.5 Collinearity Diagnostics

Multicollinearity is assessed by examining tolerance and the Variance Inflation Factor (VIF). These are two collinearity diagnostic factors that can help identify multicollinearity. Tolerance is a measure of collinearity reported by most statistical programs such as SPSS; the variable‘s tolerance is 1-R2. A small tolerance value indicates that the variable under consideration is almost a perfect linear combination of the independent variables already in the equation and that it should not be added to the regression equation. All variables involved in the linear relationship will have a small tolerance. Some suggest that a tolerance value less than 0.1 should be investigated further. If a low tolerance value is accompanied by large standard errors and nonsignificance, multicollinearity may be an issue.

When multi-collinearity diagnostics were run on the three variables of interest; the results were as shown in the tables below;

Table 4.6: Collinearity statistics between forex rates and the two independent variables

Collinearity Coefficients[a]			
Model		Collinearity Statistics between forex rates and the two independent variables	
		Tolerance	VIF
1	Interest Rates	1.985	1.015
	Inflation Rates	1.985	1.015
a. Dependent Variable: Forex Rates			

Source: IBM SPSS Statisticsv.21

With tolerance values greater than 1 which is a full proof that there is a collnenearity between the dependent variable and the independent variables. There is adequate evidence to rule out collinearity of forex rates and both interest rates and inflation rates.

The Variance Inflation Factor (VIF) measures the impact of collinearity among the variables in a regression model. The Variance Inflation Factor (VIF) is 1/Tolerance, it is always greater than or equal to 1. There is no formal VIF value for determining presence of multicollinearity. Values of VIF that exceed 10 are often regarded as indicating multicollinearity, but in weaker models values above 2.5 may be a cause for concern.

The same case applied to collinearity test between interest rates as the dependent variables and the other two as the independent variables; there was adequate evidence of collinearity.

Table 4.7: Collinearity Statistics between Interest rates, forex rates and inflation rates

Collinearity Coefficients[a]			
Model		Collinearity Statistics between Interest rates, forex rates and inflation rates	
		Tolerance	VIF
1	Inflation Rates	1.986	1.014
	Forex Rates	1.986	1.014
a. Dependent Variable: Interest Rates			

Source: IBM SPSS Statisticsv.21

Similarly the results when inflation rates were taken as the dependent variable; the VIF values did not exceed 2.5 which was the number of measure of the variable strongly suggesting absence of collinearity between inflation rates and both forex rates and interest rates. The table below illustrates this.

Table 4.8: Collinearity Statistics between inflation rates, forex rates and interest rates

Collinearity Coefficients[a]			
Model		Collinearity Statistics between inflation rates, forex rates and interest rates	
		Tolerance	VIF
1	Interest Rates	1.841	1.189
	Forex Rates	1.841	1.189
a. Dependent Variable: Inflation Rates			

Source: IBM SPSS Statisticsv.21

In conclusion; all the three variables used were good enough to use in conducting regression and correlation analysis since they did not exhibit any collinearity properties between themselves.

4.6 Interpretations of Findings

The study found from the analysis that, the NAIRA/USD Annualized Average Exchange Rates (Forex) and Annualized Average CBN Interest Rates (in %) increased with increase in years. The study found that, NAIRA/USD Annualized Average Exchange Rates (Forex) rose from 67.46 in 2008 to 84.52 in 2013. The Annualized Average CBN Interest Rates (in %) rose from 8.63 in 2008 to 16.50 in 2013. The Annual Average Economic Inflation Rates (in %) however was observed to be fluctuating with different years and indicating different economic times in the country. The study found that in any given year, the NAIRA/USD rate will be 71.658 when all the predictor values are equal to zero; the forex rates increases by a unit on the CBN interest rates increasing by 1.006 or 100.6% all other factors held constant while the forex rates increases by a unit on the CBN interest rates decreasing by 0.342 or 34.2% all other factors held constant. The model however as indicated in the ANOVA interpretation, is not useful in predicting variations NAIRA/USD forex rates.

The analysis further found that the increase in interest rates impacted towards an increase in exchange rates but inflation was left to fluctuate in different times. The study found that there is a very strong correlation between interest rates, inflation and exchange rates in the economy. The analysis further sought to understand the level at which interest rates and inflation affected the exchange rates. The study found interest rates and inflation rates affect the exchange rates at 87% while other factor contributed the remaining percentage. This implied that, a very high percentage of changes in the exchange rate is affected by the inflation or exchange rates in the country. The analysis sought to further check whether the two variables, specifically interest rates and inflation; can be used for determination of the effects of the exchange rates. This was done

through regression analysis. The regression equation indicated that the variables were substantially useful for making predictions since the value of R^2 at 0. 871 is very close to 1.

The study undertook Pearson correlation to analyze how close each variable was near to the exchange rates. The study found that at 0.039, the interest rates had a strong positive association with NAIRA/USD forex rates while at -0.019; the inflation rates had a small negative correlation with the same independent variable. This means that there was a likelihood of increases due to an increase in interest rates and even decreases in increases of inflation rates.

SUMMARY

The objective of the study was to analyze the effect of interest rate, inflation rate and the exchange rates in multinational coporations . Exchange rates (Forex) were established as the dependent variable while the independent variables were interest rates and inflation rates. The study sought to understand the relationship between the independent variables and dependent variable.

The co-efficient of multiple determinations R-square value is 0. 871; this means about 87.1% of the variation of the response variable which is NAIRA/USD forex rates can be explained by the two predictor variables. This implies that the chosen variables specifically inflation rate and interest in Nigeria during year 2008-2013 affect the exchange rate by 87.1% and therefore 12.9% effects of exchange rate was associated with other unexplained factors. The regression results also indicate that the relationship between inflation and interest rates against exchanges rates is very significant at 0.05 level of significance level with a p-value of 0.016. These findings conform to the findings of a study by Pattnaik, S. and Mitra A. K. (2001) which indicated that interest rates, inflation rates and exchange rates are all highly correlated. By manipulating interest rates, central banks exert influence over both inflation and exchange rates, and changing interest rates impact inflation and currency values.

The study further found that a great effect caused by the increased rate of inflation or decreased rate of inflation and interest rates can be seen on exchange rate almost immediately as opposed to the changes in exchange rate effects and how they can be seen in the interest rate and inflation. The Tolerance value of more than 1 and a VIF value indicate a correlation between the independent values – inflation rate and interest rate on exchange rate as a dependent variable. The analysis found that, at 0.039, the interest rates had a strong positive association with NAIRA/USD forex rates while at -0.019; the inflation rates had a small negative correlation with the same independent variable. This means that there was a likelihood of increases due to an increase in interest rates and even decreases in increases of inflation rates. This correlates with a study by Bhole and Dash, (2002) who sought to understand the relationship between interest rate and exchange rate in India. In their analysis, the scholars found the empirical relationship between the interest rate and exchange rate has been a debatable issue among the economists. According to Mundell-Fleming model, an increase in interest rate is necessary to stabilize the exchange rate depreciation and to curb the inflationary pressure and thereby helps to avoid many adverse economic consequences.

Conclusion

The analysis investigated the effects of interest rate, inflation rate, exchange rates ,government policies on financial report of multinational coporation with specific reference to NAIRA/USD Annualized Average Exchange Rates (Forex), Annualized Average CBN Interest Rates (in %) and Annual Average Economic Inflation Rates (in %) all information from 2012 -2017. The study finally concluded that increase in interest rate is necessary to stabilize the exchange rate depreciation and to curb the inflationary pressure and thereby helps to avoid much adverse economic consequence.

Recommendations

The study recommends that regulators should come up with means to evaluate exchange rate volatility. This will help to curb the impact that exchange rate volatility can have on an economy, and, among other aspects, on inflation. This is even more relevant to developing countries, where exchange rate volatility tends to be higher, contributing to a higher exchange rate pass-through to inflation. The higher exchange rate volatility in developing countries, in turn, stems from their greater vulnerability to external shocks and the lower liquidity of their currencies in international markets. As a result of these two characteristics, the impact of the exchange rate on inflation is greater in developing countries.

A second important recommendation is the limitation of controlling inflation through monetary policies. A first restriction is the weak transmission mechanism of monetary policy in some developing countries— meaning that the effectiveness of the policy might be only partial. Another limitation is the output cost implied in the policy, which, depending on the country‘s economic situation and prospects, might not always be optimal.

The study recommended that given specific context of developing countries like Nigeria, of significant shocks from the exchange rate to inflation and the limitations related to monetary policy, controlling exchange rate volatility is very important in the fight against inflation. Indeed, policy makers would be opting for a more interventionist approach to curb inflation. The fear of floating would in fact be a fear of inflation. Moreover, that does not require abandoning monetary policy independence; as such control is effected through direct interventions in the exchange rate markets. An illustration of this rethinking of the intersection between exchange rate and inflation was its recognition inside the International Monetary Fund (IMF). Blanchard (2011) stated that developing countries' central bankers were right to care about the exchange rate and affirmed the need to fight inflation through different instruments.

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