
THE EFFECTS OF CHANGES IN CURRENCIES EXCHANGE RATE ON THE COST OF SELECTED CONSTRUCTION PLANTS IN NIGERIA

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ABSTRACT

This research work was carried out to find out the relationship between exchange rate and cost of selected construction plants in some selected construction firms. It has been observed that the rate of currency exchange rate has had an effect on construction plants in Nigeria. The aim of the study is to examine how changes in currencies exchange rate can affect the price of construction plants in Nigeria. The objectives of the research work are to examine the effect of exchange rate on the cost of selected construction plants, to suggest means of overcoming these effects of exchange rate on the cost of selected construction plants. The research was carried out using structured questionnaires in data collection and analysis of the collected data was done based on tables and percentage. Findings from the study reveal that a relationship exists between exchange rate and the cost of construction plants. This implies that the increase in exchange rate from 2010 to 2012 was also accompanied by a corresponding increase in the cost of construction plants selected for this study. As exchange rate increases, the cost of plants increases generally. The changes in the cost of construction plants explain changes in exchange rate, the study reveals a good connection in the direction of increase between the exchange rate and the cost of construction plants selected. It was concluded that a nation's currency and its exchange rate largely depends on the exchange in the level of domestic money supply and rate of inflation. The researcher also recommends that our indigenous and local construction industry should be encouraged and supported by the government. The government should make a meaningful improvement on our technology sector. Manufacturing and assembling plants should be set up.

Keywords: Currencies, Exchange Rate, Construction Plants.

INTRODUCTION

Nigeria as a whole is now faced with higher demand for more complex construction plant to meet up those challenges of exchange rate (Daniel, 2010). The construction industry has continued to play a very important role in the structure of the Nigerian economy. It is a well-known fact that the construction industry is a major key player in the realization of the infrastructural development programme of both the public, and the private sector of the economy, no matter the types of socio economics model being operated in any country. The word "structure" generally refers to either the way an object is constructed or organized. It can also mean the supporting framework or the essential part of the object: Looking back at the pre-colonial days, Nigeria was faced with a lot of struggle until independence. Our past leaders fought tooth and nails to ensure Nigeria achieved a stronger, social, political and economic stability. Nigeria with its abundant material resources and manpower cannot boast of a single manufacturing or assembly plants for building/civil construction plants, but relies wholly on other nations without considering the import charges associated with such purchases. These import charges increase year in year out, and they affect other variables of the economy such as inflationary rate, unemployment, interest rate and the like.

The construction industry encompasses building, civil and also heavy/industrial engineering works, which shows the high requirement for plant which can be considered for the following reasons:

- Increase in production
- Carrying out activities which cannot be carried out by the traditional manual method in the context of the economy
- Reduction in overall construction cost
- Maintain the high standard required particularly in the context of structural engineering works
- Replacing labour where there is shortage of personnel with necessary skills.
- With these factors one can clearly sector an average of the exchange rate required for economic growth.

Nigeria has continued to witness rapid changes of exchange rate which occurs almost monthly, and because we import most of our plants from abroad, it affects the price of construction plants which invariably affect the final cost of construction works.

LITERATURE REVIEW

Even before independence, Nigeria had proved to be a fast-developing nation among other developing countries, due to its enormous natural and human resources. The government had to intensify its approach on more development plans so as to answer a more rapid economy growth. In virtually all section of the economy through direct participation in basic goods and services as well as the promotion of auxiliary and social infrastructural facilities while the private sector was either underdeveloped or neglected and marginalized. The emphasis was that, significant government intervention in the economy was needed for direct production of goods and services at a minimal or subsidized cost in other to induce economy growth, development and enhance welfare of the populace. Furthermore, policy strategies, cheap credit access to foreign exchange at the subsidized exchange rates, free inflow of cheap import to ensure adequate supply and the protection of infant's industries established mainly to produced import substitutes. The commending height of the economy was later neglected and marginalized through bad policy which adversely affected the sector in terms of trade. Even up to early 1970's the overall economic performance was impressive, the rate of the growth domestic product (GDP) was for instances average at about 8.8%. The oil boom

brought in massive inflow in foreign exchange earning mainly from improved petroleum price as well as high rate of domestic and foreign investment in industrial, constructions and services helped sustained the GDP growth at reasonable high levels. the agricultural sector dwindled gradually it shares of total domestic production dropped from nearly 60% in the 1960`s to only about 35% by 1975, various agricultural product disappeared from the country`s export list during this period. However, the external sector recorded general robust payment within the period in view of the significant boost from crude oil export, even though non-oil export became virtually extinct with abundant inflow of revenue from crude oil export government reserves gradually became buoyant thus, this increased fortune encouraged the government to engage on ambiguous project (Ogwumma 2000). 1985 became the glaring year in which the economy down turn adversely hit projects regarded as land mark by the government in which were handled by expatriates construction firms came almost to a half. The abandonment of many construction/building projects soon became the reigning phenomenon. Due to stiff competition that existed from the few available jobs, a number of firms had to close down. Unemployment and retrenchment resulting scaling down of operation and closing down soared. (CBN Bi-annual publication).

Foreign Exchange Rate and Policy

Ojo (2001) confirms the exchange rate to be the price of currency in terms of other currencies. While the oxford dictionary of current English language defines, exchange rate as the value of one currency in terms of another. Exchange rate policy in the sum total of the institutional framework and measures put in place to gravitate relative prices toward desired level in order to stimulate the productive sectors curtails inflation, ensures internal balance improved the level of export and attracting foreign investment and other capital flows. Obaseki (2003) stated that exchange rate is a relative price that measures the worth of a domestic currency in terms of another. It relates the purchasing power of a domestic currency in terms of goods and services it can purchase, vis-à-vis foreign or trading partners currency over a given periods of times thus, the exchange rate reduces the relative`s strength of relating economics to measurable aggregates through a number of conceptual frameworks. The exchange rate is useful for micro economic management since it reflect the performance of domestic and external of the economy. It is therefore noteworthy that in an economy that is dependent on international trade, the exchange rate will be important in that it will determine virtually all other prices, movement in the exchange rate are non to have ample effect on the other economy variable such as interest rate, inflation rate, unemployment, money supply etc. this fact glaringly portray the importance of exchange rate to the economic wellbeing of any country that embraces international trade.

Exchange Rate Determination

In most economies of the world, exchange rates are market determined, that is they are allowed to attain free market equilibrium level without government intervention. In some other economic the exchange rate may be administratively determining, in which case the rate is fixed by fiat to one or more convertible currency without due regard to the appropriate market value. Between the two extreme cases of exchange rate determination, there is the dual exchange rate system.

Ojo (2008) stated that, the main objective of a national exchange rate policy is to have a stable realistic exchange rate that is in consonance with other micro economic fundamental. This is because exchange rate is one that reflects the strength of foreign exchange inflow, the stock of reserves as well as ensuring equilibrium in this balance of payment that is consistent with cost and price level of trading partners. To achieve this objective a country may feel compelled to

shift the policy stance of its exchange rate determination as the condition of the economy dictates.

Exchange Rate Policy and Management

In the past, different exchange rate policies have been used depending on the condition of the economy in any given period and sometimes in response to the changing exchange rate policies in the rest of the world. The different policy stance of the country exchange rate regimes and mismanagement dates back to 1950s and have undergone various changes to date. Ojo (2000) stated that, the use of exchange rate policy has been a significant instrument for economic management in Nigeria, as it has been frequently applied in the past to preserve the value of naira, maintain a comfortable external reserve position and ensure price stability. Economic objective has been a major concern in determining the exchange rate. Although in the period of exchange rate control in Nigeria (1962-1986) ad hoc administrative measures were applied from 1962-1973, the Nigerian currency was pegged to the pound sterling on 1:1 ratio before the latter was devalued by 10% thereafter, the currency was allowed to move independently of the sterling. Furthermore, the naira was appreciated progressively to sources import cheaply to implement development project (Atolaye, 2005). By 1978 the central bank of Nigeria (CBN) applied the basket of currency approach as a guide in determining the exchange rate movement, the exchange rate during this period was determined by the relative strength of the currencies of the countries trading partners and the value of the trade with such countries. Weights were assigned to countries' currencies with dollar and sterling dominating in the exchange rate calculation. Before 1986, as a result of the weight practices in vogue then, which informed the fixed regime adopted in the determination of the exchange rate of the naira, the currency was perceived to have been overvalued. This was the main contributory factor to the problem of Nigeria's external sectors in those years: a factor that has also made the country to be more import dependent and less non-oil driven in the last quarter of the century. In September 1986, the second-tier foreign exchange market (SFEM) decree was promulgated, introducing a flexible or floating exchange rate regime. The main objective of the exchange rate policy contained in the decree was to have a realistic exchange which remove the existing distortion and disequilibrium in the external sector of the economy as well as ease the country's persistent balance of payment problems. From 1986 to date, the flexible exchange rate mechanism which started with dual exchange rate has undergone several modifications which include the unified exchange rate system, the fixed exchange rate system and back again to the current dual exchange rate system (Ojo, 2008).

The Dual Exchange Rate System

This was introduced at the inception of the second-tier exchange market (SFEM). The difference rate operated side by side in the market and these were the first and second tier exchange rates. While pre SFEM transaction, debt service payment expenses of Nigerian embassies abroad and contribution to international organizations were settled at the first or official rate, the second-tier rate was determined by auction at the SFEM which was operated by central bank. Various methods were applied to fine tune the system while regime lasted, these include the average pricing method, marginal rate and Dutch auction system, however, created the problem of multiplicity of the rate which further depreciated the naira (Ojo, 2000)

The Unified Exchange Rate System

Owing to the subsidy element in the two rates adopted under the dual exchange rate system, the regime was open and subjected to a lot of abuses. Therefore, the first and second tier rate were merged in July 1987 into unified exchange rate and the market was called foreign exchange market (FEM) thereby subjecting all transaction to market prices.

To further eliminate the abuses inherent in the system and reduce exchange rate instability, the naira exchange rate under this regime was determined using several methods namely marginal, average rate pricings, highest and lower bids, weighted average.

The Dutch auction system (DAS) was introduced in 2000 while the weighted average method was adopted in 2001, in order to reduce wide fluctuation in the exchange rate (Victor, 2000).

Full Deregulation Exchange Rate System

Due to the persistent instability in the exchange rate, the system was deregulated in 2002. The naira exchange was depreciated at the interbank foreign market (IFEM) so as to equate it with parallel rate which was considered the more appropriate indicator of the market perception of the naira vis-à-vis other currencies. Therefore, the official rate was adjusted from N15.00 to CNY 1.00. However, as a result of renewed demand pressures and speculative activities the premium widened again the higher margin that resulted to the deregulation policy of 2004 (Rudager, 2005).

Fixed Exchange Rate System

According to Obaseki (2008), the fixed exchange rate system was reintroduced in 2004 to stabilize and shore up the value of the naira by pegging the naira exchange rate at N17.00 to CNY 1.00 and by centralizing foreign receipt in the central bank. The policy stance was aimed at instilling sanity in the foreign exchange market and encouraging increase activities in the production sector of the economy.

Bulldozer

A dozer is a tractor unit that has a blade attached to the machine's front. It is designed to provide tractive power for drawbar work. A dozer has no set volumetric capacity. The amount of material the dozer moves is dependent on the quality that will remain in front of the blade during the push. Crawler dozers equipped with special clearing blades are excellent machines for clearing. Heavy ripping of rock is accomplished with rear mounted rippers because of the power and attractive force that they can develop.

Mobile Crane

These are lifting devices designed to raise material by means of rope operation and move the load horizontally within the limitation of any particular machine. The range of cranes available is very wide and therefore choice must be based on the load to be lifted, height and horizontal distance to be covered, time period(s) of lifting operations, utilization factors and degree of mobility required. Mobile crane can be mounted on a wheeled chassis or mounted on a specially adapted truck or lorry for easy movement to the place of construction work.

RESEARCH METHOD

The population of the study comprises of some professionals in building/civil engineering companies and government establishments. A total of twenty (20) questionnaires were distributed to Golden Phoenix Resources Ltd Abuja, Makblo Integrated Services Abuja and two government establishments, they are Federal Ministry of Works, and Federal Capital Development Authority (FCDA) Abuja. The breakdown of the distribution is as follows, six (6) questionnaires were administered to Federal Ministry of Works, six (6) questionnaires also administered to Federal Capital Development Authority (FCDA), and three (3) questionnaires to Golden Phoenix Resources limited. Also, three (3) questionnaires to Makblo Interpreted Services, this gives the total of twenty (20) questionnaires, while Fifteen (15) questionnaires were returned.

Research Instrument

The research instrument used for collecting data for this research is closed ended questionnaire. The questionnaires isdivided into two sections, section A for personal data, and section B for questions pertaining to the research topic: ‘The effects of changes in currencies exchange rate on the cost of selected construction plants in Nigeria from 2010 to 2012’

Procedure for Data Collection

The researcher collected information from various professionals in construction firms and government establishments, through the distribution of questionnaires. A random sampling technique was used in order to obtain an unbiased sample of respondents from the total population of the study. The data collected were analyzed using simple statistical means from which interferences were made.

Procedure for Data Analysis

The method used for the analysis of the data was solely based on percentage allocation in ratio to the number of responses received from respondents. Each question has its own table to determine the direction of the respondent’s opinion.

DATA PRESENTATION AND ANALYSIS

Introduction

This chapter is aimed at presenting and analysing the data collected basedon the respondent’s views. Twenty (20) questionnaires were distributed and fifteen (15) were returned representing 75% of the administered questionnaires, which were found suitable for the generalization of the findings. Therefore, the analysis is based on the fifteen (15) questionnaires returned.

Table1: RespondentsProfession

| RESPONSE | FREQUENCY OF RESPONDENT | PERCENTAGE |
|-----------------------------|--------------------------------|-------------------|
| Purchase and supply manager | 2 | 14% |
| Director finance | 1 | 6% |
| Director planning | 1 | 6% |
| None of the above | 11 | 74% |
| TOTAL | 15 | 100% |

Sources: Author`s field survey (2013)

From the table 1 above 14% of the respondents are purchase and supply managers, 6% of the respondents are directorfinance, another 6% of the respondents are director planning while 74% of the respondents are neither of the above.

Table 2: Educational Qualification

| RESPONSE | FREQUENCY OF RESPONDENT | PERCENTAGE |
|-----------------|--------------------------------|-------------------|
| HND | 0 | 0% |
| PGD | 2 | 14% |
| B. Sc/B. Tech | 8 | 54% |
| M. Sc/M. Tech | 5 | 32% |
| TOTAL | 15 | 100% |

Sources: Author`s field survey (2013)

From the table 2 above, 54% of the respondents are B. Sc/B. Tech holders, 33% of the respondents are M. Sc/M. Tech, and 13% of the respondents are PGD holders, while none of the respondent are HND holders.

Table 3: Professional Qualification

| RESPONSE | FREQUENCY OF RESPONDENT | PERCENTAGE |
|-------------------|-------------------------|-------------|
| Graduates members | 9 | 60% |
| Cooperate members | 6 | 40% |
| Fellow members | 0 | 0% |
| TOTAL | 15 | 100% |

Sources: Author`s field survey (2013)

From the table 3 above 60% of the respondents are graduate members, and 40% of the respondent are cooperate members while none of the respondent are fellows.

Table 4: Working Experience

| RESPONSE | FREQUENCY OF RESPONDENT | PERCENTAGE |
|----------------|-------------------------|-------------|
| 1-5 years | 1 | 6% |
| 6-10 years | 5 | 34% |
| 11-15 years | 9 | 60% |
| 16 years above | 0 | 0% |
| TOTAL | 15 | 100% |

Sources: Author`s field survey (2013)

From the table 4 above 60% of the respondent have 11-15 years of working experience and 34% of the respondents have 6-10 years working experience and 6% of the respondents are 1-5 years working experience while none of the respondents have 16 above years working experience.

Table 5: Types of Organization/Establishment

| RESPONSE | FREQUENCY OF RESPONDENT | PERCENTAGE |
|------------------|-------------------------|-------------|
| Consulting firm | 0 | 0% |
| Contracting firm | 6 | 40% |
| Banking | 0 | 0% |
| Government | 9 | 60% |
| TOTAL | 15 | 100% |

Sources: Author`s field survey (2013)

From the table 5 above, 60% of the respondents are from government organization and 40% of the respondents are from contracting firm while none is from banking or consulting firm.

Table 6: Understanding of Currency Exchange Rate

| RESPONSE | FREQUENCY OF RESPONDENT | PERCENTAGE |
|--|-------------------------|-------------|
| Exchange rate is the value of one currency in terms of another country currency. | 9 | 60% |
| Currency exchange rate is a price of a currency in terms of another country currency | 6 | 40% |
| TOTAL | 15 | 100% |

Sources: Author`s field survey (2013)

From the table 6 above 60% of the respondents said currency exchange rate is the value of one currency in terms of another country currency and 40% of the respondent said that currency exchange rate is the price of one currency in terms of another country currency.

Table 7: Effect of Currency Exchange Rate

| RESPONSE | FREQUENCY OF RESPONDENT | PERCENTAGE |
|--|--------------------------------|-------------------|
| General increase in the cost of Construction | 9 | 60% |
| Rate of inflation | 6 | 40% |
| TOTAL | 15 | 100% |

Sources: Author`s field survey (2013)

From the table7 above 60% of the respondents suggest that general increase in the cost of construction is the effect of currency exchange rate while 40% of the respondents suggest that rate of inflation is the effect of currency exchange rate.

Table 8: Overcoming the Effects of Currency Exchange Rate

| RESPONSE | FREQUENCY OF RESPONDENT | PERCENTAGE |
|--|--------------------------------|-------------------|
| Significant government intervention in the economy was needed. | 3 | 20% |
| Government had to intensify its approaches on more developments plans. | 9 | 60% |
| Free inflow of cheap import to ensure adequate supply and protection of infant`s industries. | 3 | 20% |
| TOTAL | 15 | 100% |

Source: Author field survey (2013)

From the table 8 above, 60% of the respondentsbelieve that government has to intensify its approach on more developments plans so as to havea more rapid economic growth, 20% of the respondents believe that free inflow of cheap import to ensure adequate supply and protection of infant`s industries, while also 20% says significant government intervention in the economy was needed for direct production of goods and services.

Table 9: The Benefits of Exchange Rate to a Nation

| RESPONSE | FREQUENCY OF RESPONDENT | PERCENTAGE |
|--|--------------------------------|-------------------|
| To have stable and realistic exchange rate that is inconsonance with other macroeconomic fundamentals. | 2 | 14% |
| Reflecting the strength of foreign exchange rate inflow. | 4 | 26% |
| To have the knowledge of the cost and price level of trading partners. | 9 | 60% |
| TOTAL | 15 | 100% |

Source: Author`s field survey (2013)

From the table 9 above, 60% of the respondents said to have the knowledge of cost and price level of foreign trading partners, and 26% of the respondents said reflecting the strength of foreign exchange rate inflow, while 14% of the respondents said to have a stable and realistic exchange rate that is in consonance with other macroeconomic fundamentals.

Table 10: Effects of Exchange Rate Movement

| RESPONSE | FREQUENCY OF RESPONDENT | PERCENTAGE |
|-----------------|--------------------------------|-------------------|
| Inflation | 11 | 74% |
| Interest rate | 1 | 6% |
| Money supply | 3 | 20% |
| TOTAL | 15 | 100% |

Sources: Author`s field survey (2013)

From the table 10 above, 74% of the respondents said inflation rate is the effect of exchange rate movement to a nation and 20% of the respondents said money supply is the effect of exchange rate movement while 6% of the respondents said interest rate.

Table 11: Changes in Currency Exchange Rate on the Cost of Construction Plants

| RESPONSE | FREQUENCY OF RESPONDENT | PERCENTAGE |
|-----------------|--------------------------------|-------------------|
| Yes | 15 | 100% |
| No | 0 | 0% |
| TOTAL | 15 | 100% |

Sources: Author field survey (2013)

From the table 11, 100% of the respondents said that there is an effect of currency exchange rate on the cost of construction plants.

Table 12: Benefit of Manufacturing Construction Plants To A Nation

| RESPONSE | FREQUENCY OF RESPONDENT | PERCENTAGE |
|---|--------------------------------|-------------------|
| Reduction in overall construction cost. | 12 | 80% |
| Replacing labour where there is shortage of personal with necessary skills. | 2 | 14% |
| Increase in production | 1 | 6% |
| TOTAL | 15 | 100% |

Sources: Author`s field survey (2013)

From the table 12 above, 80% of the respondents believe that reduction in overall construction cost is the main benefit of manufacturing construction plants to a nation and 14% of the respondent says replacing labour where there is shortage of personal with necessary skills, while 6% says increase in production.

Table 13: Cost of These Selected Plants in 2010, 2011 and 2012 as of January to December of Each Year

| YEAR | PLANTS | (CNY) | (NGN) |
|-------------|-------------------------|--------------|---------------|
| 2010 | Bulldozer (SD 22) | 314,427 | 6,889,095.57 |
| 2011 | Bulldozer (SD 22) | 458,715 | 10,587,142.02 |
| 2012 | Bulldozer (SD 22) | 495,920 | 12,769,940.00 |
| 2010 | Mobile crane (GT 650-E) | 342,591 | 7,506,168.81 |
| 2011 | Mobile crane (GT 650-E) | 413,063 | 9,533,494.04 |
| 2012 | Mobile crane (GT 650-E) | 516,512 | 13,300,184.00 |

Sources: Author`s field survey (2013)

From the table 13 above, the data shows that there is difference in cost of purchasing these construction plants from Chinese Yuan to Nigerian naira between 2010 to 2012, and these differences could be attributed to difference in exchange rate in those years.

Table14: Way of Minimizing the Effect of Currency Exchange Rate on the Cost of Construction Plants in Nigeria

| RESPONSE | FREQUENCY OF RESPONDENT | PERCENTAGE |
|---|-------------------------|-------------|
| Government should make improvement in our technology sector. | 12 | 80% |
| Attention should be given to other sector of the economy other than oil. | 0 | 0% |
| Our indigenous and local construction industries Should be encouraged and supported | 3 | 20% |
| TOTAL | 15 | 100% |

Sources: Author`s field survey (2013)

From the table 14 above, 80% of the respondents suggested that the government should make improvement in our technology sector while 20% of the respondents suggested that our indigenous and local construction industries should be encouraged and supported, while none of the respondents suggest on attention should be given to other sector other than oil.

CONCLUSION

Based on the analysis carried out in this research work, it has shown that there is an existence of a significant relationship between exchange rate and the cost of the selected construction plants, this simply means that the movement in exchange rate influence the changes in the cost of construction plants in general. Our government`s policy has contributed to this problem compared to other foreign countries. The higher cost of importing these plants has also made the cost of construction high. Therefore, this fluctuation in exchange rate on construction plant is significant.

REFERENCE

- Atolaye, AS (2005). The foreign exchange policy guidelines: *objectives, policies and strategies for implementation*. Central bank of Nigeria Bulletin vol. 19. No. 2 April 2005, Pp. 8
- Central Bank of Nigeria (2001). *Statistical bulletin: CBN Bi-annual publication* vol. 6, No 1 Jan. 2001 Pp.148-169
- Daniel D.T (2010). *The effect of exchange rate on the cost of hiring construction plants in Nigeria*, an unpublished research project submitted to department of building and Quantity surveying, Abdu Gusau polytechnic Talata Mafara
- Labour force (2001). *The Builders view* journal of the Nigerian institutes of builders. Sept. 2001, Pp. 45-47
- Obaseki P.J (2003). *Foreign exchange management in Nigeria: past, present and future*, CBN economic review, vol. 29. No 1. July 2003 Pp. 23-27
- Ogwuma P.A (2000). *Monetary and banking policies for the economic development of Nigeria*: Jos university press, Jos Nigeria Pp. 30-35
- Ojo O.M (2000). *The management of foreign exchange resources under Nigerian structural adjustment programme*: central bank of Nigeria economic and financial review, vol. 2 July 2000, Pp. 45-46
- Ojo O.M (2008). *The economics of controls and deregulation*: central bank of Nigeria research department occasional vol. 2 paper No. 10. July 2008 Pp. 15-17

- Ojo O.M (2001). *A quarterly economic model of the Nigeria economy: some preliminary Estimates* IFE social science review 2. Vol. 1 No 2 June 2001Pp. 22-26
- Olaoku F.A (2000). *The second-tier foreign exchange market and the construction industry in Nigeria option and challenges of construction: vol. 5, June 2000 Pp. 45*
- Radager M.C (2005). *Full deregulation exchange rate system: (2nd edition)* Canada, London Pp. 18-20