IMPACT OF CENTRAL BANK COMMUNICATIONS ON EXCHANGE RATE DYNAMICS IN NIGERIA (2007-2011)

BY

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DECLARATION

I declare the work in the project thesis entitled "*Impact of central bank communication on exchange rate dynamics in Nigeria (2007-2011)*" has been carried out by me in the Department of Economics, under the supervision of Dr. Aliyu Rafindadi Sanusi and Dr. Peter. P. Njiforti. The information derived from the literature has been dully acknowledged in the text and a list of references provided. No part of this dissertation was previously presented for another degree or diploma at any institution.

_____ _____

NA'ALLAH NICODEMUS DATE

MSC/SOC-SCI/5379/2009-2010

CERTIFICATION

This project Thesis titled "IMPACT OF CENTRAL BANK COMMUNICATION ON EXCHANGERATE DYNAMICS IN NIGERIA (2007-2011)" by NICODEMUS NA'ALLAH **(M.Sc/Soc-Sci/5379/2009-2010)** meets the regulations governing the award of the degree of Master of Science (Economics) of Ahmadu Bello University, and is approved for its contribution to knowledge and literary presentation.

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PROF. A. A. JOSHUA (Dean, Postgraduate Studies)	DATE

DEDICATION

This thesis is dedicated to God the Almighty, the giver of all knowledge and wisdom. The Holy Spirit, my senior partner and the entire members of my family.

ACKNOWLEDGEMENT

It is not possible to undertake a project of this magnitude without a great deal of help from various sources. First, I will start by registering my thanks to God Almighty who has made it possible for me to complete this work.

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ABSTRACT

Central Bank Communication has come to play an increasingly important role as a policy tool for monetary authorities over the past decade. This is in recognition of the powerful influence the central bank communication has on economic agents' expectations, hence their economic decision-making. This thesis analyzes the impact of central bank communication signals on daily (five days in a week) changes in the Naira per US dollar exchange rate for the period 2007-2011. Theoretically, participants (especially speculators) in the foreign exchange market actively look up to the Central Bank for information to help them form expectations on the future directions of the exchange rate changes. Communications from the Central Bank therefore convey signals that may raise daily demand/supply of foreign exchange, hence affect the daily exchange rate. To empirically determine whether communication signals affect exchange rate, an EGARCH model was estimated using daily data from 2007 to 2011.The empirical results indicate that communication (oral interventions) has exhibited a significant and contemporaneous effect on daily exchange rates in Nigeria. Moreover, communication is found to reduce exchange rate volatility and uncertainty whereas actual interventions which are costly tend to raise volatility. We can recommend this by suggesting that communication (oral intervention) potentially constitute an effective and largely autonomous policy tool for Nigeria policy makers.

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CHAPTER ONE

1.0 INTRODUCTION

1.1 BACKGROUND OF THE STUDY

Prior to 1990s targets for the overnight rate were rarely disclosed, but now most central banks announce target for the overnight rate typically right after policy decisions have been made. This development came as a result of the revolutionary thinking in the aspect of communication as an effective monetary policy tool. It is argued that communications helps eliminate speculation on the part of market participants about whether a policy change has actually occurred. Policy decisions are explained in press conferences and speeches, and recently in minutes, and communiqués, of the meetings of the Monetary Policy Committee (MPC), and reports published by central banks on their websites and more generally, the views of the central banks are elaborated upon in monthly or quarterly periodicals (Amato *et al.,* 2003).

The Central Bank of Nigeria (CBN) has adopted various monetary policy regimes since its inception in 1959. The different monetary policy regimes that were adopted include: the Exchange rate targeting regime; (1959-1973), Monetary Targeting Regime 1974 to present; Direct Monetary Control 1974-1992 and Indirect Monetary Control 1993 to present. Prior to 2001 these policy regimes had a monetary policy framework with short term perspective usually one year (annual). However, in 2002, monetary policy framework with medium term perspective was introduced mainly to address the lag with which monetary policy affects the ultimate objective in the short-term. This framework is aimed at freeing monetary policy from the problem of time inconsistency and minimizing overreaction due to temporary shocks. This new monetary policy framework, which is still in operation, is based

on the evidence that monetary policy actions affect the ultimate objective with a substantial lag (Egbuna, 2008).

Under the framework, monetary policy guidelines are open to half-yearly review in the light of developments in monetary and financial market conditions in order to achieve medium and long term goals. The main objectives of monetary policy since then have been to achieve a low and stable inflation as well as maintain a stable exchange rate of the naira. In order to achieve these objectives the CBN has the responsibility of formulating and implementing monetary policy, as well as of deciding on matters pertaining to the conduct of monetary policy by its Monetary Policy Committee (MPC). Under the new framework of conducting monetary policy, it is believe that an independent and credible central bank can achieve low inflation. In inflation targeting, we are going to adopt based on several theoretical assumption. Inflation targeting by an independent central bank is desirable because it helps achieve lower inflation through a number of channels. One of such channels is transparency. A transparent central bank communicates its policy decisions and intentions to affect expectations formation by participants in many financial markets. In the forex market, the theory suggests that an independent and credible central bank can reduce the cost of foreign exchange market intervention by engaging in the so-called oral intervention. Oral intervention or effective communication can reduce speculative demand for foreign exchange and affect exchange rate.

This regime shift coincided with the switch from the fixed exchange rate regime, to market determined flexible exchange rate system. In Nigeria, the foreign exchange market, though still dominated by the central bank in supply, generally determines the (official)

exchange rate at auctions, which in turn determines other rates including both interbank and parallel market rates. Communications by the central bank about it exchange rate policy as well as other monetary measures plays a significant role in determining the exchange rate by affecting both demand as well as the supply side. For instance, communication by the central bank can send signals to the market about the future direction of the exchange rate movement, hence affect current demand and change hedging contracts. Communication, therefore, can potentially act in the same way as actual intervention to affect the exchange rate.

Elsewhere exchange rate policies in the advanced economies have undergone a fundamental regime change since the mid-1990s. For instance, monetary authorities in the United States and the Euro area have shifted towards the use of oral interventions. They issue public statements to communicate their stance on exchange rates to the markets, have basically abandoned actual interventions, selling or purchasing foreign exchange only during two episodes since 1995 (Fratzscher, 2004). Only Japan has continued and even increased both oral and actual intervention policies in recent years. Given this policy shift, it is striking that much of the literature from the advanced economies on exchange rate policies has continued to focus on actual interventions. Communication policy has been acknowledged to play a significant role in improving the effectiveness of policy and the economy's overall performance (e.g. Blinder 1998, Bernanke 2004). Nevertheless, there has yet been no systematic attempt to assess the role of communication policies for exchange rates in emerging economies, while still only few studies have focused on communication and monetary policy.

Communication is therefore an integral part and a vital tool for the implementation of the modern monetary policy. Central banks have placed growing emphasis in the past few decades towards greater transparency by expanding modes of communication and the amount of information revealed to the public. This development came as a result of the following reasons. First, greater independence granted too many central banks have been accompanied by the need for increase accountability. In general, greater accountability has meant an increase in communication with the public regarding the beliefs of policy makers and the operations of monetary policy. In turn, fair evaluation of central bank performance can only be achieved through greater transparency (Egbuna, 2008).

In terms of recent communication revolution, the Central Bank of Nigeria (CBN) is trying. This is because of the current reforms and financial liberation has added impetus for increased communication between the bank and all its stakeholders. In fact, effective communication has become a vital tool in the implementation of monetary policy for two main reasons. First, researches have shown that communication improves the effectiveness of monetary policy or, put it differently, monetary policy is most effective when it is effectively communicated; and secondly, communication helps central banks to be more transparent and accountable. On this note this study is focused on assessing the impact of the signals sent by the Central Bank of Nigeria (CBN) through communication to the financial market on exchange rate in Nigeria, whether this communication is successful in moving exchange rate in the desired direction.

1.2 PROBLEM STATEMENT

The empirical literature on central bank communication is still at its infancy, but has been growing rapidly. However, there is a general consensus that communication is a potentially powerful tool to further strengthen and move financial markets in developed economies to the desired direction. Blinder (1998) and Bernanke (2004) emphasized the importance of communication as a means for central banks to influence assets prices, especially those assets that are prone to speculative attacks, in the financial markets provided that central bank has acquired a credible reputation. In Nigeria, Exchange rate management strategy has been subjected to a number of changes and reviews with the aim of achieving a market determined exchange rate for Naira. With the structure of the Nigeria foreign exchange market, where the central bank dominates the supply side, attainment of stable rates at the auctions in the face of shocks and speculation has been both difficult and costly to the central bank. For instance, the exchange rate stand between □128/□130 to a dollar before the CBN improve in their communication strategy of the monetary policy objectives but with the improvement in communication via the MPC communiqués in early 2007 the exchange rate stand between □124/□127 to a dollar. With the frequency of the meetings of the MPC and the signals they send to the public from early 2007 to late 2008 before the Global Financial Crisis (GFC) the exchange rate stand between □114/□116 to a dollar and this might be as a result of the frequency of the MPC meetings and signals they release after every meeting. Also in the face of the 2008 Global Financial Crisis (GFC), the surge in the demand for foreign currency in the market had led to both depreciation of the Naira and depletion of the foreign exchange reserves when the central bank attempted to intervene to support the naira. For example, at the wake of the crisis, the Foreign Exchange Reserves was

about $60 billion USD. However by Dec. 2008 it has fallen to about $52.9 billion dollar and about $32.3 billion dollar as at September 2, 2011. These are clear evidences of an alarming foreign exchange crisis that faced and is still rocking the Nigerian economy (Soludo, 2009 and CBN Report in Punch Newspaper 21st September, 2011).

Actual intervention has therefore been costly, having to both adverse economic and political consequences. Given the theoretical argument, and empirical evidence from developed countries, that effective communication can be used to augment or even replace actual intervention, this study attempts to examine this possibility in Nigeria. In other words, can the central banks announcements help calm the market in the face of rising speculative demand for foreign exchange? More specifically, the study seeks to find out how the signals sent through oral and written policy statements by the central bank (controlling for macroeconomic news and other factors) influence the dynamics of daily exchange rate formation in Nigeria.

The research study intends to answer the following research questions;

(i) Has the shift towards communication regime improved the effectiveness of monetary policy in achieving exchange rate stability in Nigeria?

(ii) Has the central bank communication had impact on the evolution and dynamics of daily exchange rate in Nigeria?

(iii) Can central bank communication be used as an alternative to actual intervention in the foreign exchange market in Nigeria?

1.3 OBJECTIVES OF THE STUDY

The main objective of this research is to examine the impact of central bank communication on daily exchange rate dynamics in Nigeria between 2007 and 2011. The specific objectives of the study are:

(i) To examine the effect of central bank communication on the dynamics of the daily exchange rate in Nigeria.

(ii) To test whether the shift in communication regime has improved the effectiveness of monetary policy as a tool of achieving exchange rate stability in Nigeria.

(iii) To test whether the Central Bank in Nigeria are credible.

(iv) To come up with concrete recommendations that can assist future policy making by the CBN.

1.4 HYPOTHESIS

H_0: $\beta=0$ Central bank communication does not have impact on daily exchange rate dynamics in Nigeria.

H_1: $\beta\neq0$ Central bank communication has impact on daily exchange rate dynamics in Nigeria.

1.5 JUSTIFICATION FOR THE STUDY

A considerable effort has been devoted in the last one decade to improve monetary policy transparency and to provide a clear communication of monetary policy actions in order to manage inflation expectations effectively. Authoritative survey on central bank communication by Blinder *et al.,* (2008) documents that the effects of central bank

communication on financial markets in many developed countries, but the evidence on emerging market economies like Nigeria is rather scanty.

An empirical analysis of the impact of central bank communication on exchange rate in Nigeria is important to the central bank in several ways. First, given the theoretical argument that the way and manner a given policy is communicated to the market can have a significant effect on the effectiveness of such policy. Secondly, the empirical knowledge of the nature of the relationship between policy signals and exchange rate formation will help guide the central bank in reformulating a foreign exchange market management strategy. For instance, an empirical support of the idea that oral intervention via communication can replace actual intervention in the forex market will help save the cost of intervention because only few works have been carried out in the area in Nigeria.

1.6 SCOPE AND LIMITATION OF THE STUDY

The scope of this study covers a period of five years that is from 2007-2011. We use daily data for the period mentioned which is large enough to investigate the effectiveness of central bank communication on exchange rate in Nigeria. In addition the period marks the beginning of the new communication regime when the MPC/MPR was introduced.

CHAPTER TWO

2.0 LITERATURE REVIEW AND THEORETICAL FRAMEWORK

2.1 CONCEPTUAL LITERATURE

Communication is an integral part of modern monetary policy. Central banks have placed growing emphasis during the past decade towards greater transparency by expanding the mode of communication and the amount of information revealed to the public. Three factors have been particularly responsible for this development. First, greater independence granted too many central banks has been accompanied by a need for accountability. Secondly, greater accountability has meant an increase in communication with the public regarding the beliefs of policy makers and the operations of monetary policy. Thirdly, fair evaluation of central bank performance can only be achieved through greater transparency. As a result the discourse between independent central banks, the government and the public has become of primary importance (Amato *et al.,* 2003).

Blinder *et al.,* (2008) said "central bank communication can be defined as the provision of information by the central bank to the public regarding such matters as the objectives of monetary policy, the monetary policy strategy, the economic outlook, and the outlook for future policy decision". In other words, the central bank in its, own capacity through the Monetary Policy Committee (MPC), provides information or communicates to the public through communiqués, official statements, reports/releases, minutes, speeches, testimonies, etc., of their meetings about the monetary policy objectives, strategies, economic outlook and the outlook for future policy decisions in the economy.

Central bank communication occurs through two principal channels: statements by the committee as a whole, and statements by an individual committee member. There may be

various motivations for central banks to choose their communication strategies and to balance their communication between statements of the committee and by an individual member. Many central bank committees, including those of the Federal Reserve, the Bank of England and the European Central Bank, in general make statements at preannounced dates, usually using a standard format in terms of language and structure. Since May, 1999, the Federal Open Market Committee (FOMC) of Federal Reserve issues a statement explaining its policy decision on its meeting days, also offering a balance-of-risks assessment about its views of underlying risks to inflation and to the economic outlook. The Governing Council of the European Central Bank (ECB) provides an introductory statement followed by a press conference, where the President and Vice-President answer additional questions from the media. The MPC of the Bank of England often does not provide any explanatory statements when it announces decisions that monetary policy rates remain unchanged. Each of the three committees provides some additional information during the inter-meeting period: The FOMC and the MPC publish the Minutes of the ECB its Monthly Bulletin. Additional important publications by central bank are the quarterly Inflation Report by the Bank of England, the Beige Book by the Federal Reserve and the Annual Report by the ECB (see Ehrmann and Fratzscher, 2005).

By contrast, the communication by the individual committee members – such as testimonies, speeches and interviews – occur much more frequently and tend to be more flexible in their timing and content. Although some of these statements, in particular testimonies to the legislatures tend to be at pre-determined dates and have a fixed content in terms of topics. Great majority of statements by committee members are discretionary in nature and thus give the central banks a substantial degree of flexibility and the ability to

communicate virtually at any time and on any topic it chooses. For the measurement of communication, we want to obtain all pieces of communication of each central bank, by the committee as well as by its individual members, which are relevant for monetary policy. We will classify the statements by the committee members into those that indicate an inclination towards monetary policy tightening, those that suggest an easing, and those that are neutral. In classifying the communication by the CBN we will allocate a dummy of plus one (+1) to those that suggest tightening, minus one (-1) to those that suggest easing and zero (0) to those that are neutral in the decision reached. Decisions also reached on the corridor basis points around the MPR and at what basis points the MPR should be raise (see Ehrmann and Fratzscher, 2005).

2.1.1 TYPES AND CONTENT OF CBN COMMUNICATION

The Central Bank of Nigeria (CBN) in its effort to clarify all aspects of its monetary policy has over time, established various communication channels with the public and market participants. Immediately after the MPC meeting, the Governor holds a press conference in which he gives an introductory speech on the decision reached and the rationale behind it. This press conference includes a question and answer session, which is attended by various media representatives, and provides a platform for a timely explanation of the decisions. At the press briefing, the media also has the opportunity to ask questions about broader economic issues that are of importance to the public. Following the press conference a policy decision announcement is then posted on the CBN website. As soon as this is done, transcripts of the press conference become available on the website. The detailed minutes of the MPC are not published before but in recent time policy, decisions by MPC are explained in press conference and speeches as well as through minutes, communiqués, release and

reports are published by central bank on their website and more generally, the views of the central banks are elaborated upon in monthly or quarterly periodicals (Egbuna, 2008).

The types of the Central Bank of Nigeria (CBN) communication are: Speeches, Communiqués, Press Release, Monthly Reports, Quarterly Reports, Annual Reports and Statement of Account, CBN Briefs, CBN Bullion, Global Recession Watch, Occasional Papers, Economic and Financial Review, and Half of year Economic Reports etc. The content in the types of communication are: Banking in Nigeria and National Economic Development, Global Financial Meltdown and the Reform in the Nigeria Banking Sector, Growth Prospect for the Nigeria Economy, Consolidating the Gains of the Banking Sector Reforms, The Nigerian Banking Industry: What went wrong and the way forward, Economic Reports for every Quarter on exchange rate, interest rate and the inflation rate etc.

2.2 THEORETICAL LITERATURE

The adoption of the Rational Expectation Hypothesis (REH) in economic modeling brought a new role of monetary policy. Based on the insight of Lucas (1972) that the general public cannot be systematically fooled by the policymakers, rational economist found that business cycles and movements in unemployment are compatible with dynamic stochastic general equilibrium models where agents' decisions are the result of optimizing behavior. According to the rational expectation hypothesis, the Central bank (CB) and economic agent act on the same model. In other words, economic agents form their expectation on the basis of the central bank model.

According to Sheila *et al.,* (2005), the rational expectation hypothesis in effect, removes uncertainty from the monetary policy process in that it assumes a close alignment

between the monetary authority and the economic public, with both forming their expectations according to a single transparent model under this setting, the central bank does not have to communicate it policies; and agents will deduce from the model perfectly. However, in the real world characterized by policy ineffectiveness, irrationality, information asymmetry and uncertainty that involves expectation speculation by the public; central bank communication is an important toolkit to reduce the uncertainty in the economy about exchange rate. Blinder (1996) argues that more communication would enhance the effectiveness of monetary policy. In addition, Woodford (2001) claims that the essence of modern monetary policy is the art of managing expectations.

The theoretical link between central bank communication and exchange rate is provided by the expectations theory of the exchange rate formation. The expectation theory argues that the forward rates quoted in the market for foreign exchange are useful in forecasting future exchange rate. In particular, the Expectation theory argues that forward rates are exactly equal to the spot exchange rate that is expected on the delivery date specified in the forward contract. Thus, the Expectation theory implies that the forward exchange rates quoted in the foreign exchange market are unbiased forecast of the exchange rate that is expected in the future. While the exact economic circumstances under which the Expectation theory holds are complex to describe, empirical evidence suggests that the Expectation theory is a fairly good description of the true relation between forward exchange rates and expected future exchange rates. It is base on the above background that the expectations theory is used to show the link between communication and exchange rate. To the extent that central bank communication influences the expectation of future spot rates, it can be used to influence forward rates. This is so because market expectations are embedded

by shocks and uncertainties which can be reduced by central bank communication to the market. Therefore, central bank communication is potentially a very important tool in monetary policy and exchange rate management.

According to Walsh (2006), if forward-looking expectations are important for the monetary transmission process, transparency about future policy is crucial in ensuring consistency between the central bank's intentions and private sector expectations. Yet despite this, few central banks are completely transparent about future policy. In recent years, the Federal Reserve provides signals to the market about the future direction of rate changes, and the inflation reports of the Norges Bank now provide future rate projections along with inflation and output gap projections. But most central banks do not provide explicit rates projections and, until recently, several based output and inflation projections on constant interest rate paths that were clearly not meant as forecasts of future rates.

Issing (2005) also notes that, "Transparency is not an end in itself: a central bank is not established with the primary objective of communicating with the public". However, transparency can improve the ability of monetary policy to achieve its goals by ensuring that private market expectations are consistent with the aims of central bank policy. In the forward-looking new Keynesian model that has seen wide-spread use for monetary policy analysis; the effectiveness of monetary policy depends on the ability of policy to affect expectations about the future path of rates (Woodford 2003). A transparent policy, one that reduces uncertainty about future policy actions, can improve the trade-off between output and inflation objectives and increase the effectiveness of policy.

In the past two decades modern macroeconomics has taken a different perspective on the monetary policy context. For a simple assumption of a close alignment by the rational expectation hypothesis, attention has now focused on how such alignment could be brought about in practice through central bank efforts. In other words, the focus has been shifted to the provision of information by the central bank about the market prices through communication, by central bank communication we means central bank report/release, communiqués, speeches, official statement and minutes of the Monetary Policy Committee (MPC) about the monetary policy objectives, strategies, economic outlook and the outlook for future policy decisions of the economy. But because of the duration from the long-run equilibrium located in market imperfection, particularly price stickiness and information asymmetries, reducing such imperfections will facilitate long-run equilibrium. Therefore central bank communication or signals about monetary policy are an important element in eliminating information asymmetry on exchange rate, interest rate and stock prices in the economy which is as a result of reaction and speculation by the public.

2.2.1 MONETARY POLICY, CENTRAL BANK COMMUNICATION AND THE EXCHANGE RATE

It is generally recognized that that the expectations of market participants about the future direction of supply/demand for foreign exchange is one of the determinants of exchange rate. Because of the uncertainties embedded in expectations formation by the market agents, central bank communication becomes an important tool in reducing these uncertainties and hence the shocks in the foreign exchange market. As Rezessy (2005) argues the theory does not provide an unambiguous answer on how monetary policy affects the

exchange rate. The traditional view maintains that an increase in the domestic interest rate makes domestic debt more attractive to foreign investors and generates demands for the domestic currency. In a standard uncovered interest rate parity framework, an increase in the domestic interest rate implies a strengthening of the domestic currency assuming that exchange rate expectations and the risk premium are unchanged. Policy-induced changes in interest rates can also affect the exchange rate. The exchange rate is the relative price of domestic and foreign money, so it depends on both domestic and foreign monetary conditions. The precise impact on exchange rate of an official rate change is uncertain, as it will depend on expectations about domestic and foreign interest rates and inflation, which may themselves be affected by a policy change as well as central bank communications. In other words, uncovered interest rate parity is said to be a situation where no-arbitrage condition is satisfied without the use of a forward contract to hedge against exposure to exchange rate risk. Investors are indifferent among the available interest rates in two countries because exchange rate between those countries is expected to adjust such that the naira return on naira deposits is equal to the naira return on foreign deposits, thereby eliminating the potential for uncovered interest arbitrage profit. Uncovered interest rate parity helps explain the determination of the spot exchange rate (Chinn, 2007). The equation below represents uncovered interest rate parity.

$$(1 + i_{₦}) = \frac{E(S_{t+k})}{S_t}(1 + i_c) \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots (1)$$

Where:

$E(S_{t+k})$ = is the expected future spot exchange rate at time t.

K = is the number of periods into the future from time t.

S_t = is the current spot exchange rate at time t.

$i_{\square}$ =is the interest rate in Nigeria.

i_c = is the interest rate in a foreign country.

2.2.2 THEORETICAL FRAMEWORK

Following the argument of Rezessy, (2005) and Chinn, (2007) the study will adopt the Uncovered Interest Rate Parity (UIP) framework as the theoretical framework of this study. As explained in the theoretical literature review, the uncovered interest rate parity shows that central bank communication can affect exchange rate formation by influencing peoples' expectations on future exchange rate, or its rate of depreciation. It is therefore seen as the appropriate framework of this study. This is so because of the uncertainties in forming expectations, and the asymmetries of information in the market, central bank communication is very important tool in reducing the uncertainties in terms of the market expectations.

However, other things being equal, an unexpected rise in the official rate will probably lead to an immediate appreciation of the domestic currency in foreign exchange markets, and vice versa for a similar rate fall. The exchange rate appreciation follows from the fact of those higher domestic interest rates, relative to interest rate on equivalent foreign-currency assets, makes domestic assets more attractive to international investors. This leads to higher demand for domestic currency relative to foreign in the forex market. From the

above transmission mechanism of exchange rate, we can see that an increase in interest has an effect on the exchange rate, and the effects of expectations on exchange rate. Therefore because of the uncertainties in forming expectations, and the asymmetries of information available in the market, central bank communication is very important tool in reducing the uncertainties in terms of the market expectations (see Rezessy, 2005).

More recently, increased focus has been on the role of communication for monetary policy. Blinder (1998) and Bernanke (2004) argued that successful communication is crucial for ensuring the effectiveness of monetary policy itself. A monetary authority usually controls only a single interest rate, the overnight rate, while it has only has indirect influence over those asset price that really matter for the economy, which are long-term interest rates, stock prices and exchange rates. These assets prices are highly dependent on market expectations and the credibility of the authority. Communication is so crucial for the success of monetary policy precisely because it has important influence on expectations and credibility. From the argument above we can see the link that communication has impact on expectations and the assets price (exchange rate) is highly dependent on market expectation as well. Therefore, we can see how the expectation theory has a link to communication and exchange rate.

Blinder (1998) notes that most central bank generally control only the overnight interest rate, an interest rate that is relevant to virtually no economically interesting transaction. Monetary policy has important macroeconomic effects only to the extent that it moves financial market prices that really matter-like long-term interest rate, stock market values and exchange rates. The links from the direct lever of monetary policy (the overnight

rate) to the prices that matter depend almost entirely upon market expectations. For instance, one-year rate are, in the first instance, affected by the market's expectations of overnight rate over the year as a whole. To this extent, market expectations of the intentions of the central bank are pivotal in determining prices and communication between the central bank and the market is critical. Blinder goes on to argue that this expectation mechanism works best in an environment of central bank transparency. Since market expectations are shaped in part by the future course of action of the central bank, monetary policy is more effective if it is more effective in coordinating market expectations.

2.2.3 ROLE OF CENTRAL BANK COMMUNICATION ON EXCHANGE RATES DETERMINATION

An exchange rate is a price - exactly the same as any other price, the amount you have to give up to acquire something else - in this case another currency. So an exchange rate is the price of one currency in terms of another. The price can be set in various ways. It may be fixed by the government or it could perhaps be linked to something external - for example, gold. However, the most likely alternative is that it will be fixed in a market. Since it is a price, it will be determined, like any other price, by demand and supply. This is the supply and demand of Naira traded on the foreign exchange market and is not the amount of Naira in circulation! A high level of demand for a currency will force up its price - the exchange rate. Where supply is equal to demand is the equilibrium exchange rate. The demand for Naira comes from people who are investing in the Nigeria from abroad and so need Naira, or from firms who are buying local products. They will need naira to be able to pay for the goods. The supply comes from people and institutions in the Nigeria who are selling Naira. This may be because they have bought goods from overseas (imports), or it may simply be

that they are investing in another country and so need the local currency. To get this they have to sell Naira in exchange for the other currency.

The equilibrium rate is where supply is equal to demand, and this will change as supply and demand changes. Say, for example, that interest rates increase. This will tend to attract more overseas investment into Nigeria. To invest here, they will need to buy local currency, and so the demand for naira will rise.

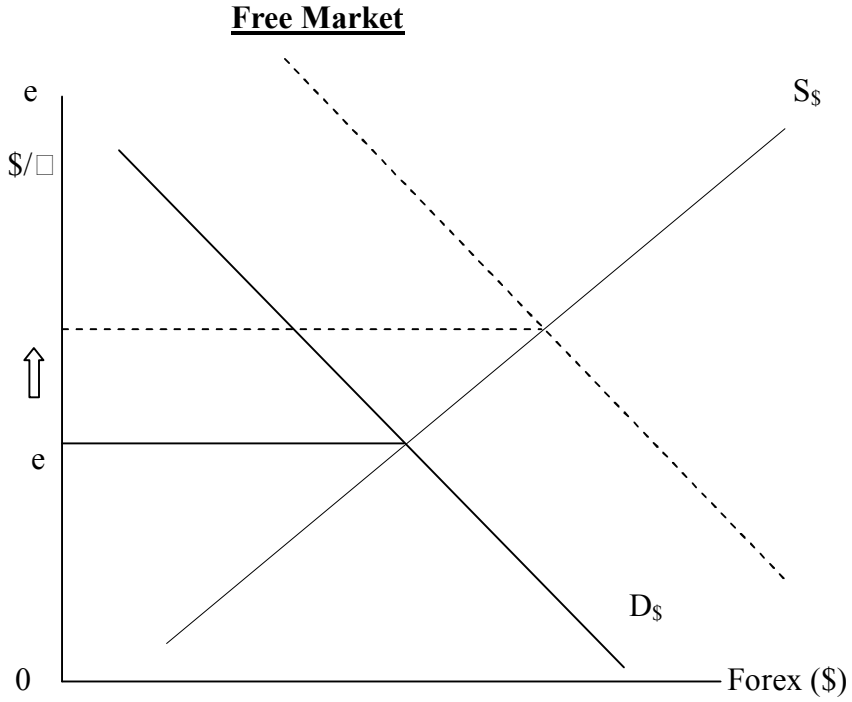


Figure.1:Free market framework showing the demand and supply of dollar and naira.

From the free market framework we can see the demand and supply curve of the foreign exchange market of the Naira and Dollar currency in the foreign exchange market. Any information release by the central bank that suggest a future appreciation or depreciation of the Naira or Dollar will change the equilibrium position by increasing or decreasing in the demand for the Naira or Dollar, which in turn will affect the expectation of the market participants and vice versa. But in the case of the framework above an increase in the price of

the Naira or Dollar will lead to an increase in the demand for either the Naira or Dollar. In other words, participants in the foreign exchange market look up to the information releases by the central bank after the MPC meetings and the decision reached on either the appreciation or depreciation of the Naira or Dollar currency when forming their expectations. Therefore, we can deduce that formation of expectation by participants is greatly influence by the information or signals release by the central bank.

The information release by the Central Bank of Nigeria (CBN) after the MPC meeting in May, 2011 appeared to have had effect on peoples' expectation which appeared to have caused the exchange rate to close at □151.61 (including the 1% commissions) on 22nd July, 2011, representing an appreciation of 2.14 per cent over the □154.91/US$ on 23rd May, 2011. The information releases which suggest tightening in order to value the naira affect the expectations of market participant either positively or negatively and it imply that the value of the naira appreciated. The inter-bank selling rate opened at □156.67/US$on 23rd May, 2011 and closed at □152.33 on 22nd July, 2011, representing an appreciation of 2.77 per cent. At the ABC segment of the market, the exchange rate closed at □166.00/US$ on 22nd July, 2011, representing a depreciation of 4.40 per cent over the opening rate of □159.00/US$ on 23rd May, 2011. (See CBN Communiqué No. 76 and 77 of the MPC). The nation's currency has appreciated markedly by over □3.5 from □153.62 on Jun 22, 2011 to □150.11 as at July 20, 2011, following the implementation of restriction on Dollar sales by banks to Bureaux de Change. (See Access Bank Report on MPC Decision Preview on 22nd July, 2011).

In the foreign exchange market the interest rate plays a role in determining exchange rate. This is so because a decrease in the interest rate of naira in relation to interest rate of

dollar leads to increase in the demand of the dollar bonds which also lead to an increase in the demand of the dollar, the increase in the demand for dollar lead to an increase in exchange rate which also resulted to the depreciation of the naira. The central bank communication also plays a role in determining the exchange rate where communications lead to a change in the interest rate of the naira which as a result leads to a change in the demand of the dollar and in turn that lead to a change in exchange rate.

Expectation and central bank communication plays a role because exchange rate is determined in Auctions by the central bank which rules the forex market including parallel. When dealers/users of forex expects Naira to depreciate, the sell □ and $, and vice-versa. This changes the current exchange rate. Participants look up to the central bank for information when forming their expectations. Information that suggests to the market a future depreciation of naira or lower interest rate will increase the demand for dollar hence cause depreciation of the current rate.

Auctions play an important role in economics. In their most basic form, they are one of the ways in which various commodities, financial assets and concession rights are allocated to individuals and firms, particularly in a market-oriented setting. An auction is a market institution with an explicit set of rules determining resource allocation and prices on the basis of bids from the market participants. Following the failure of the other mechanism of exchange rate determination that had been implemented to achieve objectives set in Nigeria, the Retail Dutch Auction System (RDAS) was introduced first in 1987. The RDAS was re-introduced in 1990 and 2002 as a result of the distortions in the foreign exchange market. The re-introduction in 2002 was specifically to eliminate the distortions; persistent excess demand pressure and the volatility that still prevails in the market. Under the Retail

Dutch Auction System (RDAS), the Central Bank of Nigeria (CBN) comes into the market twice weekly on Mondays and Wednesdays by sending signals of an amount on an offer for auction in the morning. After the CBN announcement of the amount on an offer for auction, the authorized dealers then now buys foreign exchange on behalf of their customers by submitting their customers bid signed by two authorized signatories for any particular auction session (Njiforti and Aliyu, 2011).

The introduction of the Wholesale Dutch Auction System (WDAS) in 2006 by the CBN as an approved framework or measure for determining exchange rate in the foreign exchange market came as a result of the failure of RDAS to establish a realistic and stable exchange rate value for the naira. The WDAS is an auction system where the CBN sells the foreign exchange to the Authorized Dealers (ADs) who bid on their own account. The ADs in turn sell the foreign exchange to End-Users at their current bid rate. The CBN under this regime use two way quotes (i.e. quoting the selling and the buying price) and it remains an active market participant.

Base on the above discussion, the CBN being the sole supplier of the foreign exchange in the market sent signals or communicate to participants in the foreign exchange market by announcing the amount on an offer for auction for bidders to come and bid. Against this background the use of the RDAS and WDAS by the CBN as the frameworks in determining exchange rate of the Nigeria naira to other currencies in the foreign exchange over the years can help as see the importance of central bank communication as another monetary tool in determining exchange rate in Nigeria. The announcements of the exchange rate on an offer for auction in the market influences the expectations of various bidders, this is because if the announcement of the future exchange rate by the CBN indicates an increase

or decrease it will determine the number of bidders that will go and bid for the currency. In other words, the selling and buying price announce by the central bank determine the demand of that currency in the foreign exchange market (Njiforti and Aliyu, 2011).

In summary, there are broadly two theoretical channels through which communication affect the exchange rate. First, communication affects the interest rate formation, which in turn affects the exchange rate via the uncovered interest rate parity relations. Second, because the exchange rate is also directly affected by expectations, central bank communication affects the exchange rate by affecting the way market participants form their expectations.

2.3 EMAPIRICAL LITERATURE

A remarkable change towards greater transparency has occurred in the past decade regarding central banks objectives, decision making procedures and policy decisions. A significant feature of the regime is the communication structure put in place this has opened a host of issues for policy makers to consider in regard to their overall communication strategies. Objective and instrument target have been announced and there is greater recognition of the interaction between the tactics of monetary policy and communication policies.

On the empirical side, a number of recent studies have analyzed the effect of communication on asset prices. Kohn and Sack (2004) investigate the effect of statements by Federal Reserve Chairman Greenspan on the volatility of various asset prices and find that overall they have had a sizeable effect. Ehrmann and Fratzscher (2005) take a broader perspective by analyzing and comparing the effects of communication on monetary policy

and the economic outlook between the Federal Reserve, the Bank of England and the ECB. The paper finds that communication about the monetary policy inclination of committee members is highly effective, but that markets react significantly to statements about the economic outlook only by the FOMC. Moreover, the paper compares the degree of communication dispersion and relates it to the voting behaviour and the predictability of decisions by the three central banks. Other papers that have focused on the content and dispersion of communication are Jansen and de Haan (2004) who have found that the degree of dispersion in the ECB's communication about the outlook for monetary policy was higher in the initial period after is start in 1999 and has declined over time. Gerlach (2004) analyses the content of the introductory statements of the ECB's Monthly Bulletins and concludes that it can explain well the overall interest rate setting of the euro area.

Fratzscher (2004), look at how do actual and oral interventions work? And how are they used? Which he identify three transmission channels: the port folio balance channel, the signaling channel and the co-ordination channel. Much of the literature has focused on the role of the signaling channel. In the channel, oral interventions or actual interventions affect expectations of investors and asset prices by signaling either private information of the monetary authorities about relevant economic fundamentals and/or revealing the authorities intentions about future policy. From a policy perspective, a key question is whether oral intervention and actual interventions proved to be successful by inducing a permanent, long-term effect on exchange rate.

Gürkaynak, Sack and Swanson (2005) and Ehrmann and Fratzscher (2005) concentrate on the communication of the Federal Reserve on FOMC meeting days, in particular the effectiveness of the balance-of-risks assessments the Federal Reserve has been

providing since May 1999. Gürkaynak, Sack and Swanson (2005) find that the bias has indeed been an effective guide of market expectations about the path of monetary policy. Ehrmann and Fratzscher (2005) also find that the balance-of-risks assessment has enhanced the market's ability to anticipate future decisions, but that this type of information has crowded out other sources of information. The paper shows that financial markets were equally good in anticipating the Federal Reserve's policy decisions prior to 1999 as they are under the new disclosure regime since 1999. In particular, markets drew more information from other types of FOMC communication prior to 1999, so that on average market participants nowadays obtain their information more directly through balance-of-risks assessments but are overall not better in predicting decisions. Moreover, Bernanke, Reinhart and Sack (2004), Eggertsson and Woodford (2003) and Woodford (2005) stress that communication by the Federal Reserve has been particularly important when there was a risk that the US economy might be heading into a deflation and interest rates might hit the zero lower bound.

Blinder and Wyplosz (2004) provide a broader framework for analyzing the functioning and set-up of different central bank committees. They distinguish between collegial and individualistic committees and central banks where decisions are taken by individuals, such as e.g. the Reserve Bank of New Zealand. Their study encompasses a wider strand of the literature that has analyzed the role of committees in the decision-making process. There is a broad consensus that decision-making in committees has improved the overall quality of the decisions, partly because it allows for learning and pooling of information (Blinder and Morgan 2005; Lombardelli, Proudman and Talbot 2005) and partly because it enhances the flexibility of policy to respond to shocks of different magnitude and

nature (Sibert 2003, Mihov and Sibert 2004). At the same time, it has been shown that the voting record of committees, if released to the public, can provide useful information about future monetary policy decisions (Gerlach-Kristen 2004).

The work conducted severally to quantify the impact of the communication on the economics agents' expectation empirically, most of the literature analyses the effects of communication on exchange rate their findings were misused. While Jansen and de Haan (2005) find that effects of the ECB to support the Euro-US$ exchange rate did not affect its level but rather increase volatility. Fratzscher (2004) shows it that can influence both the level as well as the volatility of the exchange rate. His result shows that it moves in the desired direction and reduces market volatility. Using high frequency, exchange rate data Jansen and de Haan (2007) report that ECB communication has only short run effect on the Euro-US$ exchange rate. Cornrad and Lamla (2007) also found a significant impact of ECB communication on exchange rates highlighting the importance of news on price development as well as the complementariness of the different communication devices.

Lamla *et al.,* (2006) found that there is broad consensus among researchers that central bank communication, by improving credibility and transparency, can enhance monetary policy outcomes and hence welfare. Jansen and De Haan (2004, also came into a broad consensus that communication under certain conditions, increases the effectiveness of monetary policy and hence improves welfare. Although they discover that the relationship between communication and welfare is not necessarily positively related. In other words, more communication is not always welfare enhancing. Another empirical work conducted on the role and effectiveness of communication policies, with two notable exceptions; Guthrie and Wright (2000) for New Zealand and Kohn and Sack (2003) for the United States provide

an assessment of the effectiveness of communication on monetary policy. Both studies find that communication can indeed be rather effective policy instrument in these two countries.

Lamla *et al.,* (2009) from Blinder (2001) distinguish three channels and said communication can be welfare enhancing. He said communication can reduce transmission lags of monetary policy actions. The European Central Bank (ECB) controls overnight exchange rate that has an effect in the real economy through inflation expectations. Arguably, a transparent central bank is more credible. He went further to say that communication may reduce volatility in the markets and consequently improve accuracy of monetary policy. Expectations about the future path of overnight exchange rates affect the economy by being incorporated in long-term interest rates, asset prices and exchange rates. It is also argued that central bank transparency and a sound communication can reduce uncertainty in expectations. Because less uncertainty lowers financial market volatility, thereby reducing financial cost and improves efficient allocation of resources. Hence, communication reduces volatility in expectations which in turn offers the central bank a more precise estimate of the future impact of monetary policy decisions and hence increases the accuracy of monetary policy. Fratzscher (2004), Jansen and de Haan (2005) analyze exchange rate respond to speeches of central bank officials of ECB and provide an evidence that speeches affects the level as well as the volatility of exchange rate.

Egbuna (2008) examine the current CBN's communication practices and challenges as well as highlight the need to be proactive in planning a communication policy for the Bank. In the work it is discover that credibility is an attribute needed by the CBN, and establishing it is a challenge faced because inflation is on the increase and no central bank can establish or maintain credibility through communication alone. In other words, it is what

you do, much more than what you say. The work also saw a need for CBN to actively promote economic education through a variety of publications and activities for schools in Nigeria. There should also be both internal and external communications. The paper concludes by saying that CBN can help stabilize the economic growth of the economy by reducing the expectations of uncertainty about its monetary policies frameworks and actions.

On the other hand, some strands of the literature are of the view that too much transparency may harm the effectiveness of monetary policy. Cukierman and Mettzer (1986) argue that being too precise in the announcement of targets would decrease the possibility of creating a policy surprise without loss of reputation. In other words, precise announcement would lead to the time inconsistency problem in line of Kydland and Prescott (1977). Hence the central bank does not reveal all its information. Stain (1989) and Garfinkel and oh (1995) also argued that the announcement of imprecise and fuzzy statements (i.e. announcing a range) instead of a precise target would solve the inconsistency issue: the central bank can remain credible by not systematically failing to meet the target. A more relevant issue for the ECB is that revealing too much of their private information to the public may cause confusion. Financial markets receive more signals from the central bank and therefore likely to over react as they are only able to digest a limited amount of information (Kahnemenn, 2003). This in turn would increase volatility. A best response is to reduce the precision of announcements. Amato, et al (2002) also pointed out that better communication of the central bank may not always be welfare enhancing.

This contrasts strongly with the analysis of transparency in models from the 1970s through 1990s in which policy could only be effective if it were opaque and able to surprise

private agents. Central banks increasingly recognize the importance of communication so that the public understands the systematic nature of policy. This recognition has played a large part in motivating the greater transparency with which policy is now conducted (Issing 2005). Eijffinger and Geraats (2005) provide an index of transparency for a set of developed economies that includes some inflation targeters (Australia, Canada, New Zealand, Sweden, and the UK) as well as non-targeters (Japan, Switzerland, and the US). They find that between 1998 and 2002, transparency increased for virtually all the central banks they studied. Even the Federal Reserve, which has so far resisted calls to establish a formal inflation target, has moved to make its policy practices more transparent.

However in conclusion, the picture emerging from the theoretical literature shows that the effectiveness of the monetary policy is enhanced by harnessing the power of transparency via central bank communication. However, too much transparency might cause confusion and therefore too detailed central bank communication may be harmful for monetary policy effectiveness. Hence theory does not give a clear advice about the optimal design of a communication to realize that communication indeed "predictability and current price function in the financial markets contribute to efficient allocation of fund reducing uncertainty about exchange rates" as postulated by Trichet (2005), this makes it necessary to evaluate the success the central bank of Nigeria (CBN) has made in achieving this goals.

2.4 MONETARY POLICY COMMITTEE

Blinder and Morgan (2005, 2007), in experimental research found clear evidence that monetary policy by committees outperform individual decision makers in making simulated monetary policy. Lombardelli *et al.,* (2005) also found the same evidence in their work conducted using students at the London School of Economics. Committee are considered more outperforming because in Blinder and Morgan (2007), committees do not react more slowly to demand shocks than individuals do, instead they perform better because they make fewer mistakes-without taking longer to reach decisions. There is also a genuine gain from group's interactions. The committees do not simply follow the median voter rule and they are not dominated by their most skilled members instead, the group seems to generate some sort of collective wisdom that makes the whole somewhat greater than the sum of its parts.

Recently Anne Sibert (2005) disputed the conclusion that committees are better and outperforming. She suggested two reasons why committees in general and MPCs in particular, might perform less well than individual decision makers. One is free-riding on the public-goods nature of macroeconomic information, which is related to what psychologist call "social loafing"-letting someone else do the work. The other is what is commonly called "group-think" the psychological drive for consensus.

The Monetary Policy Committees (MPCs) are classified into two: An individualistic committee founded on the principle of individual accountability which does not insist on achieving consensus when that is difficult, but instead makes decisions by approximating majority vote. It often speaks with multiple voices. By contrast, a collegial committee is founded on the principle of group accountability. Indeed it may insist on, a consensus

decision that everyone on the committee embrace, and it may or may not hold a formal vote. Such a committee generally speaks with a single voice.

The issue of voting in Monetary Policy Committee (MPC) is where majority voting is an efficient method way to aggregate information can be traced back all the way to Condorcet (1785). Feddersen and Pesendorfer (1997) confirm the idea by showing that majority voting can achieve full information equivalence in large elections. Gerlach-Kristen (2006) theoretically argues that voting outperforms averaging if there is uncertainty about the state of the economy-which, of course, there always is. Fry et al. (2000) found that, of the 79 that make decisions by committee out of the 94 central banks surveys, only 36 do so through formal voting while the other 43 reach decisions by consensus. However, Buiter (1999) argues that non-transparent voting reduces accountability and provides scope for undue influence, and Sibert (2003) finds that delaying the release of votes reduces welfare because it leads to less reputation building.

Berger *et al.,* (2006) had a cross-sectional empirical study of actual (not necessary optimal) committee size and they found that MPCs tend to have more members in larger and more heterogeneous countries, those with democratic institutions, and those with flexible exchange rates. Blinder and Morgan (2007) tested the performance of four-member versus eight-member committee in an experimental setting and found only small differences in either strategy or performance. (A slight edge in performance went to the larger committees, though it was generally not statistically significant.).

2.5 MONETARY POLICY IN NIGERIA

The Central Bank of Nigeria has adopted various monetary policy regimes since its inception in 1959. The different monetary policy regimes that were adopted include: the Exchange rate targeting regime; (1959-1973), Monetary Targeting Regime 1974 to present; Direct Monetary Control 1974-1992 and Indirect Monetary Control 1993 to present. These policy regimes have been on short term basis (annual) between 1959 and 2001. However, in 2002, the medium term perspective monetary policy framework was introduced mainly to address the lag in which monetary policy affect the ultimate objective in the short-term. This framework is aimed at freeing monetary policy from the problem of time inconsistency and minimizing overreaction due to temporary shocks. This new monetary policy framework, which is still in operation, is based on the evidence that monetary policy actions affect the ultimate objective with a substantial lag.

Under the framework, monetary policy guidelines are open to half-yearly review in the light of developments in monetary and financial market conditions in order to achieve medium and long term goals. The main objectives of monetary policy since then have been to achieve a low and stable inflation as well as maintain a stable exchange rate of the naira. In order to achieve its objective the CBN, has the responsibility of formulating and implementing monetary policy, as well as of deciding on matters pertaining to the conduct of monetary policy to the Monetary Policy Committee (MPC).

2.6 CBN'S MONETARY POLICY COMMITTEE (MPC)

Prior to January 2007, the Monetary Policy Committee (MPC) used to convene every quarter but now convenes on a bi-monthly basis with effect from January 2007. The MPC comprises the Governor (chairman), the four (4) deputy Governors, six (6) departmental Directors, two (2) external board members, one (1) member appointed by the Ministry of Finance and the secretary. The secretariat for the MPC at the CBN has also gone through a number of modifications over time from being an ancillary function of the Research and Statistics Department to the creation of a fully fledged department in 2005.

2.7 THE FOREIGN EXCHANGE MARKET IN NIGERIA

2.7.1 FOREIGN EXCHANGE MARKET EVOLUTION

The evolution of the foreign exchange market in Nigeria was influence by a number of factors such as the changing pattern of the international trade, institutional changes in the economy and structural shifts in production. Before the establishment of the Central Bank of Nigeria (CBN) in 1958 and the enactment of the Exchange Control Act 1962, foreign exchange was earned by private sectors and held in the balances aboard (outside Nigeria) by commercial banks which acted as agent for local exporters. During this period, agriculture export contributed the bulk of foreign exchange receipts. Then the currency was Nigerian pound which was tied to the British pound sterling her colonial master at par, with easy convertibility, delayed the development of active foreign exchange market. However the establishment of central Bank of Nigeria (CBN) and the subsequent centralization of foreign exchange authorities in the bank, the need to develop a local foreign market became paramount. The increased export of crude oil in the early 1970s, following the sharp rise in it

prices enhanced official foreign exchange receipts. The foreign exchange market experienced a boom during this period and the management of foreign exchange became necessary to ensure that shortages did not arise. However it was not until 1982 that comprehensive exchange controls were applied as a result of the foreign exchange that set in that year. The increasing demand for foreign exchange at the time when the supply was shrinking encourages the development of a flourishing parallel market of foreign exchange. The exchange controls was unable to evolve an appropriate mechanism for foreign exchange allocation in consonance with the goal of internal balance. This led to introduction of second tier Foreign Exchange Market (SFEM) in September1986.Under SFEM, the determination of the Naira exchange rate and allocation of foreign exchange were based on market forces. To enlarge the scope of Foreign Exchange Market, Bureaux de Change was introduced in 1989 for dealing in privately sourced foreign exchange. As result of volatility in rates, further reforms were introduced in the Foreign Exchange Market in 1994. These included the formal pegging of the Naira exchange rate, the centralization of foreign exchange in the CBN, the restriction of Bureaux de Change to buy foreign exchange as agents of the CBN, the reaffirmation of the illegality of the parallel market and the discontinuation of open account and bills for collection as means of payments sectors. The Foreign Exchange Market was liberalized in 1995 with the introduction of an Autonomous Foreign Exchange Market (AFEM) for the sale of foreign exchange to end-users by the CBN through authorized dealers at the market determined exchange rate. In addition, Bureaux de Change again accorded the status of authorized buyers and sellers of foreign exchange. The Foreign Exchange was further liberalized in October, 1999 with the introduction of the Inter-bank Foreign Exchange (IFEM).

Auctions play an important role in economics. In their most basic form, they are one of the ways in which various commodities, financial assets and concession rights are allocated to individuals and firms, particularly in a market-oriented setting. An auction is a market institution with an explicit set of rules determining resource allocation and prices on the basis of bids from the market participants. Following the failure of the other mechanism of exchange rate determination that had been implemented to achieve objectives set in Nigeria, the Retail Dutch Auction System (RDAS) was introduced first in 1987. The RDAS was re-introduced in 1990 and 2002 as a result of the distortions in the foreign exchange market. The re-introduction in 2002 was specifically to eliminate the distortions; persistent excess demand pressure and the volatility that still prevails in the market. Under the Retail Dutch Auction System (RDAS), the Central Bank of Nigeria (CBN) comes into the market twice weekly on Mondays and Wednesdays by sending signals of an amount on an offer for auction in the morning. After the CBN announcement of the amount on an offer for auction, the authorized dealers then now buys foreign exchange on behalf of their customers by submitting their customers bid signed by two authorized signatories for any particular auction session.

The Wholesale Dutch Auction System, (WDAS) was re-introduced on February 20, 2006 as an improved framework for determining the exchange rate in foreign exchange market. Under the arrangement, the CBN remains active market participation and the dealing is based on the two-way quote. The adoption of WDAS was to consolidate the gains of the retail DAS, further liberalize the foreign exchange market to enhance its depth, and achieve convergence in rates between the official and other segments of the market. The introduction of the Wholesale Dutch Auction System (WDAS) in 2006 by the CBN as an approved

framework or measure for determining exchange rate in the foreign exchange market came as a result of the failure of RDAS to establish a realistic and stable exchange rate value for the naira. The WDAS is an auction system where the CBN sells the foreign exchange to the Authorized Dealers (ADs) who bid on their own account. The ADs in turn sell the foreign exchange to End-Users at their current bid rate. The CBN under this regime use two way quotes (i.e. quoting the selling and the buying price) and it remains an active market participant (Njiforti and Aliyu, 2011).

Other complement policy measures that were introduced are:

. Special foreign exchange auction offered to deposit to Deposit Money Bank (DMB)

. Direct sales of foreign exchange to licensed Bureaux De Change (BDC) operators.

. The Foreign Exchange Manual, which guides the operators of the all stakeholders in the Foreign Exchange Market, was also reviewed to accommodate all the transaction that was liberalized during the year.

Base on the above discussion, the CBN being the sole supplier of the foreign exchange in the market sent signals or communicate to participants in the foreign exchange market by announcing the amount on an offer for auction for bidders to come and bid. Against this background the use of the RDAS and WDAS by the CBN as the frameworks in determining exchange rate of the Nigeria naira to other currencies in the foreign exchange over the years can help as see the importance of central bank communication as another monetary tool in determining exchange rate in Nigeria. The announcements of the exchange rate on an offer for auction in the market influences the expectations of various bidders, this is because if the announcement of the future exchange rate by the CBN indicates an increase or decrease it will determine the number of bidders that will go and bid for the currency. In

other words, the selling and buying price announce by the central bank determine the demand of that currency in the foreign exchange market (Njiforti and Aliyu, 2011).

CHAPTER THREE

3.0 RESEARCH METHODOLOGY

3.1 INTRODUCTION

To achieve the central objective of this study, i.e. to examine the effect of central bank communication on the exchange rate, this study builds and estimates a variant of the ARCH model, the Exponential Generalized Autoregression Conditional Heteroscedasticity model (EGARCH). The choice of this model is informed by our conceptualization of the effect of communication on the exchange rate as well as the nature of the data- high frequency. If communication affects the exchange rate formation, we should expect the release of such information to reduce noise and increase signals, hence reducing the signal to noise ratio. This will therefore change the volatility of the exchange rate. Hence, volatility modeling using the EGARCH model would enable us achieve the objective of this study.

3.2 SOURCES OF DATA

The study would use daily exchange rate and interest rate time series data for the period 2007-2011. The data for this study depend mainly on secondary sources gotten from Central Bank of Nigeria (CBN). To measure the central bank communication, publications of different types such as communiqués from the MPC meetings, speeches by the Central Bank Governor and official, monthly reports, quarterly reports and annual economic reports, as well as other sources of information from the central bank to the money market will be obtained.

3.3 ANALYTICAL TECHNIQUE

Following Fratzscher (2004, 2006), we will use the exponential GARCH (EGARCH) model to estimate the impact of central bank communication on exchange rate in Nigeria. This is so because our interest is to test how the release of information by the central bank through communication affect the exchange rate volatility and to know whether this signal reduces volatility and uncertainty in the market for accurate predictability of people's expectations. The analytical techniques that will be employed to test the hypothesis for this study are the exponential GARCH (EGARCH) model. This is so because we are interested in how the release of oral and written policy statements by the Central Bank of Nigeria (CBN) influences the exchange rate volatility or how CBN communication moves exchange rate in the desired direction or not.

3.4 MODEL SPECIFICATION

The justification for using the EGARCH over other methods is because the phenomenon associated with asset prices is volatility clustering, that is, period in which the exhibits wide swings for an extended time period. In this case, the EGARCH model captures such volatility clustering which gives it relative advantage over other methods of correcting for heteroscedasticity.

$$\Delta s_t^N = \propto + \partial\left(i_t^N - i_t^{US}\right) + \sum_i x^i X_t^i + \sum_i \left(\beta^i IA_t^i\right) + \sum_i \left(\alpha^i IO_t^i\right) + \varepsilon_t \ldots\ldots\ldots\ldots\ldots (1)$$

Equation (1) above is the change in the log spot exchange rate (Δs_t) which is modeled as a function of the difference in the interest rates between two countries (i^N-i^{US}), both types

of interventions are; the macroeconomic control which includes the economic news items like, inflation, output, etc. ($x^iX_t^i$), the actual interventions at the present period by the central bank (i.e. selling and purchasing of the foreign exchange). ($\beta^iIA_t^i$), the oral interventions (communication) at the present period by the central bank (i.e. communiqués, speeches, minutes, reports/release monthly, quarterly and annually). ($\alpha^iIO_t^i$), which constitutes the estimation equation for the conditional mean. The conditional mean equation above will help us achieve the first objective by testing the hypothesis on how the various coefficients are significant in explaining its effect on exchange rate formation and to also examine whether their impact on exchange rate causes volatility or stability. We will also use the mean equation to test whether the shift from actual intervention regime to oral intervention regime is an effective monetary policy tool in achieving exchange rate stability in Nigeria.

While the equation (2) below is the variance equation which is modeled using the standard log likelihood function, which has advantage that non-negativity constraint on the coefficient of the mean equation that exhibits strong non-normality. The variance equation also will help us test for non-normality exhibited by the coefficients in the mean equation and the asymmetric information as a result of the signals release by the central bank. This will help us achieve the third objective of testing the credibility of the CBN in terms of how effective and committed they have been in their communications.

$$\log(h_t) = \gamma + \tau\left(\left|\frac{\varepsilon_{t-1}}{\sqrt{h_{t-1}}}\right| - \sqrt{2/\pi}\right) + \delta\log(h_{t-1}) + \rho\left(\frac{\varepsilon_{t-1}}{\sqrt{h_{t-1}}}\right) + \sum_i\left(\omega^i\left|IA_t^i\right|\right) + \sum_i\left(\varphi^i\left|IO_t^i\right|\right) \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots. (2)$$

Where:

Δs_t^N= is the change in the log of exchange rate.

$\left(i_t^N - i_t^{US}\right)$ =is the differentials of the interest rate of Nigeria and United State.

$\beta^i IA_t^i$ = is the actual interventions at the present period by the central bank (i.e. selling and purchasing of the foreign exchange).

$x^i X_t^i$ = is the macroeconomic control which includes the economic news items like, inflation, output, etc.

$\alpha^i IO_t^i$ = is the oral interventions (communication) at the present period by the central bank (i.e. communiqués, speeches, minutes, reports/release monthly, quarterly and annually).

ε_t = is the error term at the present period.

$\frac{\varepsilon_{t-1}}{\sqrt{h_{t-1}}}$ = is the ARCH term in standard form.

$\sqrt{2/\pi}$ = is a constant.

h_{t-1} = is the variance at the previous period.

h_t = is the variance at the present period.

$\rho\left(\frac{\varepsilon_{t-1}}{\sqrt{h_{t-1}}}\right)$ = is to measure for the asymmetric information effect on exchange rate.

$\partial, \beta, \alpha, \gamma, \tau, \delta, \rho, \omega, \varphi, \propto, x$, are the parameters in the model.

The variables use in the work were demand of exchange rate, supply of exchange rate, MPC Signals, Speeches, inflation rate and the MPR was use as the interest rate. The demand and supply of exchange rate are they actual intervention ($\beta^i IA^i_t$), MPC Signals and Speeches are they oral intervention ($\alpha^i IO^i_t$), interest rate (i_t) and inflation as the macroeconomic control ($x^i X^i_t$). We all measured the variable by collecting data from all these variables except MPC communiqués and speeches that were assign dummys of plus one (+1) for tightening, minus one (-1) for easing and zero (0) for policy target that is neutral.

CHAPTER FOUR

4.0 PRESENTATION, ANALYSIS AND INTERPRETATION OF RESULT

4.1 INTRODUCTION

This chapter deals with the presentation, analysis and interpretation of results and findings of the impact of central bank communication on exchange rate in Nigeria. We shall present analysis and findings of unit root test and the exponential GARCH (EGARCH) test.

4.2 TREND ANALYSIS OF EXCHANGE RATE

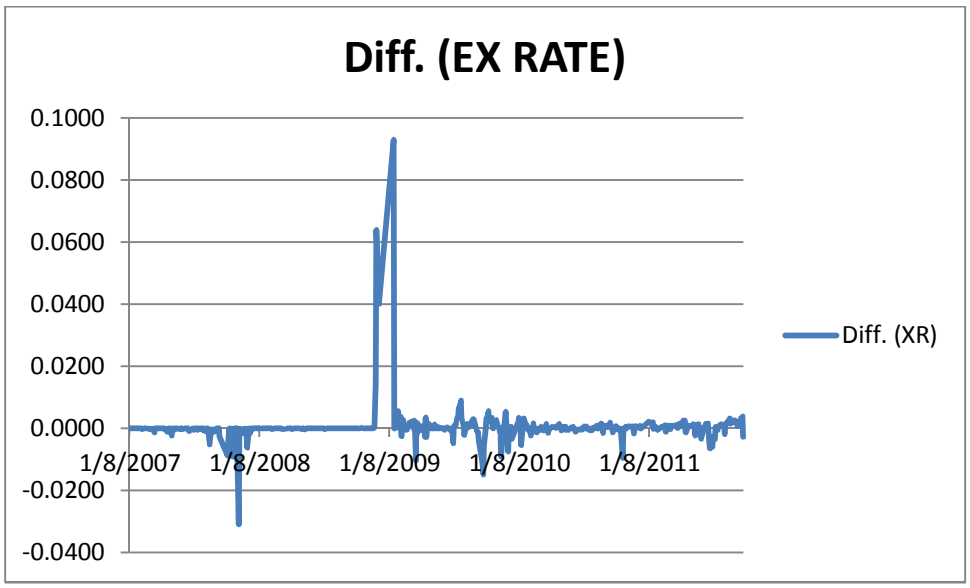


Figure.2: Trend of First Difference or Simple Changes of Exchange Rate.

The figure above shows the simple changes of exchange rate from 2007 to 2011which is under review. The exchange rate had simple changes of between -0.03 to 0 from 2007 to 2008 but at the wake of the global financial crisis in late 2008, there was a wide swing of the exchange rate change of between -0.01 to 0.09 from December, 2008 to September, 2009. As a result of this crisis the value of the naira to a dollar depreciated. After the crisis the

exchange rate stabilizes at a change range of between -001 to 0 from late 2009 to 2011 as we can see from the figure above. The spikes and fluctuations seen from the above trend of exchange rate is associated with the signals release by the CBN through the communiqués in 2008, 2009 and 2010 which suggest tightening to support the naira and easing by allowing the naira to depreciate in their decisions reached after the meetings. We can also attribute these changes to the effect of communication (oral intervention) by the monetary authorities in our case the CBN.

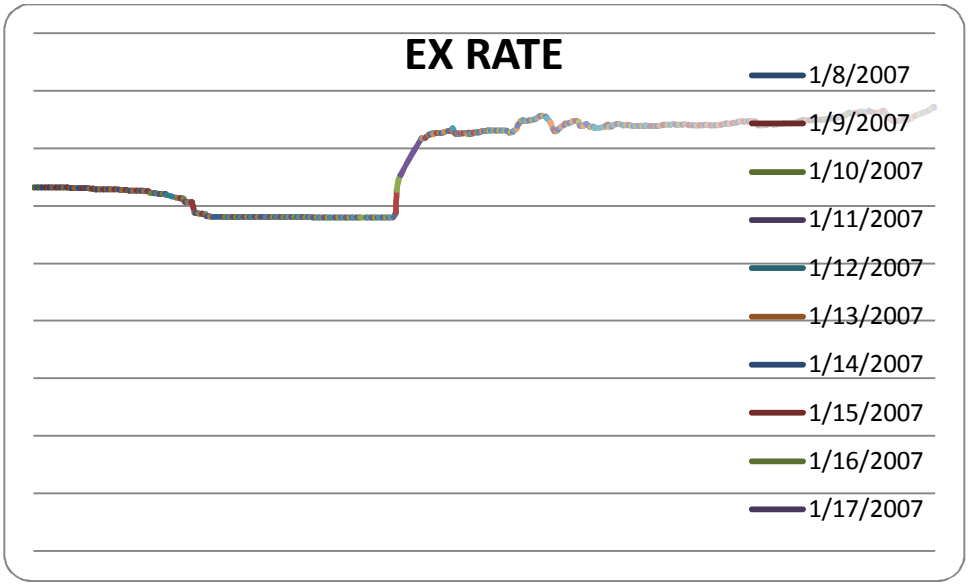


Figure.3: Trend Analysis of Exchange Rate

The exchange rate trend from January 2007 settled at about N126 per dollar which was maintain up to November 2007 when the value appreciated at about N117 and N116 which was maintain until December 2008 after which marked the beginning of the Global Financial Crisis (GFC). At the wake of GFC the naira depreciated to about N130 and it continued to depreciate until it came to about N154 to a dollar. The GFC cause the value of

the naira to depreciate and also causes the exchange rate to fluctuate which makes it more volatile and uncertainty of the exchange rate on the side of the market participants. The volatility cause by the Global Financial Crisis (GFC) as a result of the actual intervention by the monetary authority (CBN) to support the naira by purchasing or sales of foreign exchange in the foreign exchange markets is evidence that the actual intervention raises volatility and uncertainty. It is also notice from the trend that in July 2010 an oral intervention by the monetary authority (CBN) to strengthen the domestic currency (naira) reduce the volatility and the uncertainty by making the exchange rate stable at about N148/N150 until September 2011 when the exchange rate rises again from N150 to about N154.In other words, a credible intervention helps in lowering market uncertainty and hence reduces exchange rate volatility. Therefore a credible intervention has a significant effect on the level of exchange rate which reduces volatility and market uncertainty in the foreign exchange market. Now we can see from the coefficient and the probability values of the oral intervention (MPC, SPEECHES) having a significant effect on the level of the exchange rate both at 99%, 95% and 90% level of significance. And the coefficient is showing a negative relationship with the dependent variable (EX RATE) implying that the more the CBN communicate or signal credible information, it reduces volatility and market uncertainty. We can also note that the value of the exchange rate being between N140 and N150 is determined almost purely by the CBN policy fixed /managed regime, but the variability/fluctuations may be due to speculations and can be managed by oral intervention (communication).

4.3 TESTS FOR NORMALITY AND UNIT ROOT

To estimate the EGARCH proposed in chapter three, we carry out two pre-tests: normality test and unit root test. This is to avoid misleading results, because it is established in the

literature that financial assets are prune to unit root and non-normal distribution with time-varying second moments. Thus, econometric theory requires that all the variables be stationary before the application of any standard econometric technique. The results for the normality test and unit root test are reported in table 4.2a and 4.2.1a. The Jarque Bera test in table 4.2a rejects the null hypothesis that the variables in this study are normally distributed (i.e p-values < 0.05). This suggests that the EGARCH technique is the most appropriate for this study, given its ability to capture these thereby producing efficient estimates. In performing the stationarity test we used a maximum lag of 4 based on the information criteria, and included intercept except for exchange rate that appears to be trending. We use both the Augmented Dickey Fuller (ADF) and Phillip-Perron (PP) test to find the existence of unit root in each of the time series.

Table 4.3: Normality Test Result of Ex Rate, SS, DD, INF and MPR.

	XR	**SS**	**DD**	**INF**	**MPR**
Mean	4.918081	18.78568	18.77217	11.00487	8.072564
Median	4.983650	18.82610	19.08690	12.10000	8.000000
Maximum	5.040300	21.41640	20.66270	15.60000	10.25000
Minimum	4.754000	17.50440	12.41010	4.100000	6.000000
Std. Dev.	0.105990	0.688221	1.195112	3.320335	1.618515
Skewness	-0.567629	0.214813	-1.386457	-0.748127	-0.094748
Kurtosis	1.541628	2.173275	5.379074	2.367345	1.435909
Jarque-Bera	67.17464	17.07172	262.5312	51.90086	48.81838
Probability	0.000000	0.000196	0.000000	0.000000	0.000000
Sum	2321.334	8866.843	8860.464	5194.300	3810.250
Sum Sq. Dev.	5.291111	223.0885	672.7255	5192.599	1233.827
Observations	472	472	472	472	472

Source: Authors Computation Using E-views 4.0

4.3.1 UNIT ROOT TEST

In the unit root test the line graph below also gives us a rough idea on whether the series is stationary or not. In addition, it reveals the presence of trend in the data.

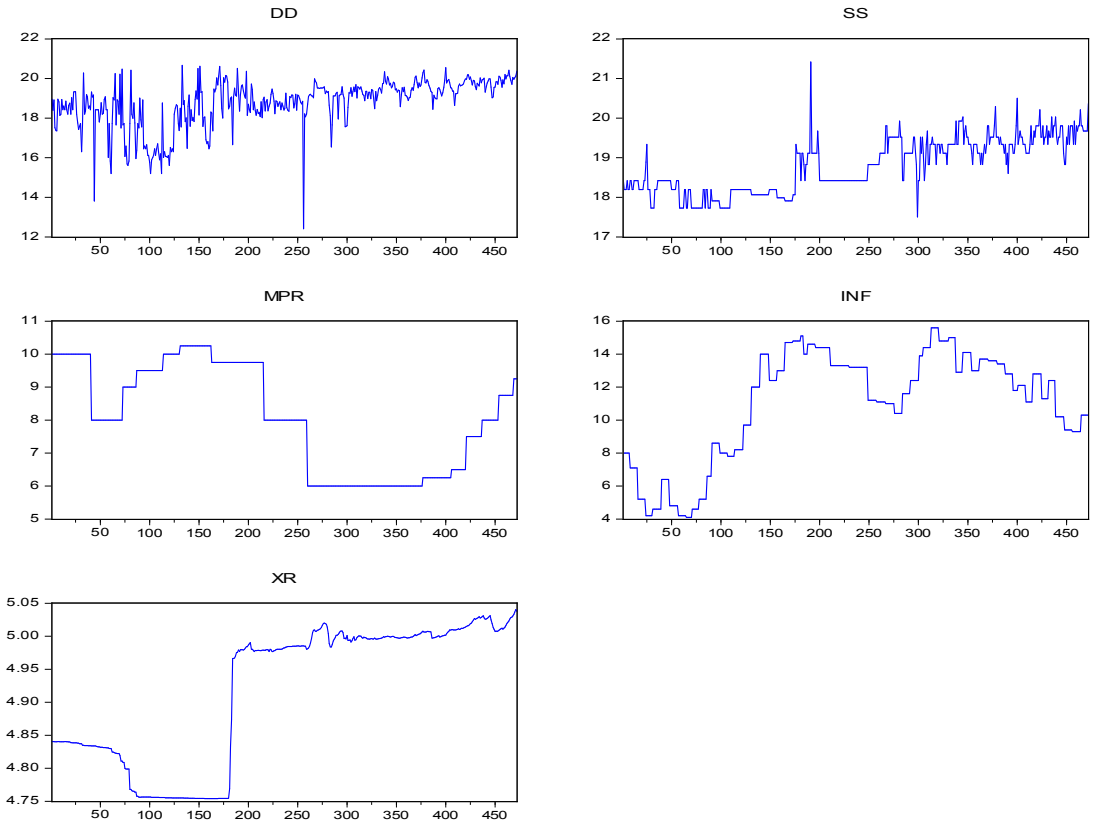


Figure.4: Unit Root Test – Line Graphs

Table 4.3.1 ***Unit Root Tests for both Augmented Dickey Fuller (ADF) and Phillip-Perron(PP)***

	Levels		First Difference		
Variable	**ADF**	**PP**	**ADF**	**PP**	**Comment**
EXRATE	**-1.9178**	**-1.8463**	**-7.7022*** **	**-13.6134*** **	**I(1)**
	(-3.9819)	*(-3.9817)*	*(-3.4466)*	*(-3.4465)*	
	(3.4213)	*(-3.4213)*	*(-2.8680)*	*(-2.8680)*	
	(3.1331)	*(-3.1331)*	*(-2.5702)*	*(-2.5702)*	
MPR	**-1.3895**	**-1.3923**	**-9.5698*** **	**-21.6564*** **	**I(1)**
	(-3.4466)	*(-3.4465)*	*(-2.5701)*	*(-2.5700)*	
	(-2.8680)	*(-2.8680)*	*(-1.9402)*	*(-1.9401)*	
	(-2.5702)	*(-2.5702)*	*(-1.6160)*	*(-1.6160)*	
INF	**-1.4368**	**-1.4519**	**-9.2952*** **	**-21.6567*** **	**I(1)**
	(-3.4466)	*(-3.4465)*	*(-2.5701)*	*(-2.5700)*	
	(-2.8680)	*(-2.8680)*	*(-1.9402)*	*(-1.9401)*	
	(-2.5702)	*(-2.5702)*	*(-1.6160)*	*(-1.6160)*	
DD	**-4.5083*** **	**-9.1995*** **			**I(0)**
	(-3.4466)	*(-3.4465)*			
	(-2.8680)	*(-2.8680)*			
	(-2.5702)	*(-2.5702)*			
SS	**-2.0899**	**-3.6692*** **	**-13.8935*** **		**I(1)**
	(-3.4466)	*(-3.4465)*	*(-2.5701)*		
	(-2.8680)	*(-2.8680)*	*(-1.9402)*		
	(-2.5702)	*(-2.5702)*	*(-1.6160)*		

Note: . (***), (**) and (*) suggest the rejection of unit root at 1%, 5% and 10% respectively. In parentheses are the critical values in the above order of the significance levels.
Source: Authors Computation Using E-views 4.0

The result in the table 4.2.1a shows that exchange rate (EX RATE), monetary policy rate (MPR) inflation rate (INF) and supply (SS) are not stationary at levels but demand (DD) is stationary at levels while table 4.1b shows that exchange rate (EX RATE), monetary policy rate (MPR) and inflation rate (INF) are not stationary but demand (DD) and supply (SS) are stationary at levels. This can be seen by comparing the observed values (in absolute terms) of

both ADF and PP test statistics with the critical values (also in absolute terms) of the test statistics at 1%, 5% and 10% level of significance. The result from the tables above provides strong evidence of non-stationary on exchange rate, MPR, INF and SS in the case of ADF test. This is because both the ADF and PP test statistics are less than the McKinnon critical values at 1%, 5% and 10% level of significance. Therefore, the null hypothesis is accepted and it is sufficient to conclude that there is a presence of unit root in the three variables at levels. But in the case of DD and SS the result provides strong evidence of stationary except SS in table 4.1a. This is so because both the ADF and PP test statistics are greater than the McKinnon critical values at 1%, 5% and 10% level of significance. Therefore, the null hypothesis is rejected and it is sufficient to conclude that the variables are stationary.

The result in table 4.2.1a above also reveals that EX RATE, MPR and INF were differenced once and found stationary. This is because both the ADF and PP test statistics are greater than the McKinnon critical values at 1%, 5% and 10% level of significance. On the basis of this, the null hypothesis of non stationary is rejected and it is safe to conclude that the variables are stationary. This implies that the variables are integrated of order one i.e. I (1).

4.4 EXPONENTIAL GENERALISED AUTOREGRESSIVE CONDITIONAL HETEROSCHEDASTICITY (EGARCH (2, 2)) ESTIMATION.

Before the exponential GARCH (EGARCH) estimations analysis, we took the natural log of exchange rate (EX RATE), demand (DD) and supply (SS) after which we perform statonarity tests on the variables: exchange rate (EX RATE), monetary policy rate (MPR), inflation rate (INF), demand of exchange rate (DD) and supply of exchange rate (SS)..

The choice of the model is as a result of the model selection conducted after modeling the variables using the EGARCH technique by considering some model selection criterion (Akaike and Schwarz information criterion) to determine the impact effect of the interventions on exchange rate in Nigeria. The table below is showing the coefficient, standard error and the probability values of the variables: MPR, INF, DD, SS, MPC and SPEECHES of the conditional mean and variance equation of the EGARCH estimation on exchange rate in Nigeria.

Table 4.4 Effects of Intervention on Exchange Rate

Mean Equation				
Dep. Var. EXRATE				
	Coefficient	Std. Error	z-Statistic	Prob.
C	-0.002914***	0.000166	-17.57799	0.0000
D(MPR)	-0.000119	8.78E-05	-1.349842	0.1771
D(INF)	5.06E-05	3.15E-05	1.604070	0.1087
DD	0.000153***	8.79E-06	17.36333	0.0000
D(SS)	0.000234***	4.86E-05	4.816706	0.0000
Variance Equation				
C	-5.014393***	0.420921	-11.91290	0.0000
ARCH(1)	0.102824***	0.029142	3.528345	0.0004
ARCH(2)	0.614693***	0.011956	51.41473	0.0000
GARCH(1)	1.800171***	0.047824	37.64184	0.0000
GARCH(2)	0.173733***	0.077611	2.238516	0.0252
Lev. Effect(1)	0.249192***	0.059584	4.182237	0.0000
Lev. Effect(2)	0.472854***	0.028353	16.67755	0.0000
MPC	-1.043366***	0.108309	-9.633189	0.0000
SPEECHES	-0.989975***	0.058459	-16.93463	0.0000

Notes: ***, **, * Indicate significance at the 99%, 95%, and 99% levels respectively.
Source: Authors Computation Using E-views 4.0

Table 4.3a presents the estimation result for the contemporaneous effects when controlling for the macroeconomic news inflation (INF), interest rate (MPR), actual intervention (DD,SS) and oral intervention (MPC and SPEECHES). The key result is that

both oral intervention and actual interventions in the country have a highly significant contemporaneous effect on the daily exchange rate a day after it occurs. On average, the oral interventions move the daily exchange rate by between -1.043366% and -0.989975%. As to actual interventions, these also mostly have a significant effect on exchange rates. But on the contrast, the impact of actual interventions varies substantially. An actual intervention by the Central Bank of Nigeria (CBN) of one billion naira purchase or sale moved the exchange rate by about 0.000153% to 0.000234%. The coefficient of inflation (INF) and actual intervention (DD, SS) show a positive relationship with the dependent variable (EX Rate). Here it also implies that actual intervention raises volatility. While in the case of the oral intervention (MPC, SPEECHES) it shows that there is a negative relationship between exchange rate and oral intervention. This helps us to understand that communication (oral intervention) reduces volatility because the signals conveys by the CBN to the market are true and credible. However, the result reveals the presence of ARCH and GARCH effects (see table 4.4). These effects can be attributed to actual intervention and other macroeconomic variables. Thus, communication has impact on exchange rate and also influences market participant expectation. This result is consistent with Fratzscher (2004 and 2006). Theoretically the interest rate (MPR) result is consistent with the uncovered interest rate parity framework which says an increase in the domestic interest rate implies a strengthening of the domestic currency. In other words, the traditional view maintain that an increase in the domestic interest rate makes domestic debt more attractive to foreign investors and generate demand for the domestic currency.

From the estimation results, we can also see the impact effects of interventions on exchange rate in the Nigeria economy by observing the coefficient of the variables and their

probability values which tells us how significant the coefficient of the variables of both the conditional mean and that of conditional variance equation are on the economy. In other words, the probability values tell us at what level of significance is both variables significant or has impact on exchange rate. From the result above, it reveals that inflation (INF) is not significant but actual intervention (DD-SS) and oral interventions (MPC, SPEECHES) are significant at 1%, level of significance.

Therefore the hypotheses concerning the contemporaneous effect of interventions (I_t) are shown in the table below. First, in an efficient market setting, an actual intervention to sell foreign exchange or an oral intervention in support of the domestic currency that is credible, i.e. when markets believe that it conveys true and relevant signals about economic fundamentals or future monetary policy, should lead to a corresponding appreciation of the domestic currency. Secondly, a credible intervention should help lower market uncertainty and hence reduce exchange rate volatility. And thirdly, an intervention that is not credible is expected to have no significant effect on the level of the exchange rate while raising uncertainty and volatility.

4.5 TESTS FOR EFFECTIVENESS AND CREDIBILITY OF THE CBN

Table 4.5: Test of contemporaneous effects of actual and oral interventions

	Conditional Mean	Conditional Variance
Credible intervention (I_t)	β^N,(= α^N □0	ω^N, $\varphi^N \leq 0$
Not credible or ambiguous intervention (I_t)	β^N, α^N= 0	ω^N, φ^N □ 0

The empirical result of the model is based on spot exchange rates for daily data over the period 2007-2011. As seen in the table above of hypotheses, parameters β and α in the conditional mean equation (1) and parameters ω and φ in the variance equation (2) measure the contemporaneous effect of oral and actual interventions. From the estimation result in Table 4.3a reveals that both actual and oral interventions coefficient are highly significant by observing the probability values of their coefficient. In measuring their credibility by using the hypothesis above, we can see that the actual intervention parameters (β^N, ω^N,) coefficient is greater than zero which means that actual intervention is not credible and because of that it raises market uncertainty and exchange rate volatility. But in the case of oral intervention parameters (α^N, φ^N), the coefficient is less than zero which means that the intervention is credible. In other words, we can say that communication by the monetary authority (CBN) in Nigeria has been credible in conveying true and relevant signals to the market which helps in lowering market uncertainty and hence reduce exchange rate volatility in the market.

CHAPTER FIVE

5.0 SUMMARY, CONCLUSION AND RECOMMENDATION

5.1 SUMMARY 0F MAJOR FINDINGS

This study had attempted to find out the impact of central bank communication on the daily exchange rate dynamics in Nigeria. There are broadly two theoretical channels through which central bank communications can affect the dynamics of daily exchange rate. First, communication affects the interest rate formation, which in turn affects the exchange rate via the uncovered interest rate parity relations. Second, because the exchange rate is also directly affected by expectations, central bank communication affects the exchange rate by affecting the way market participants form their expectations. The study used daily naira to dollar exchange rate data for the period 2007-2011 to estimate an EGARCH model, in which the effect of monetary policy action, inflation and Excess of Demand over Supply of foreign exchange, which we interpret as actual intervention, are controlled for in the first-step mean equation. In the conditional variance equation, the effects of communication signals from the MPC communiqués and Governor's speeches, which we interpreted as oral intervention, are estimated. The study reveals that both central bank communication signals (i.e. oral interventions) and actual interventions (excess demand for forex) have indeed been effective in influencing the daily exchange rate dynamics in Nigeria. Communications are not only relatively more effective compared to actual policy action (or actual interventions), but they also generally tend to lower uncertainty and volatility in the markets whereas actual interventions have generally raised currency volatility.

5.2 CONCLUSIONS

The past decade has witnessed a fundamental regime change in exchange rate policies among developing economies. The United States and Euro area have basically abandoned actual interventions in foreign exchange markets and have shifted almost entirely towards the use of oral intervention policies, or communications to influence the market's expectations to achieve exchange rate stability, while Japan has intensified both oral and actual intervention policies. The major conclusion that can be derived from this study is that because central bank communications were found to have significant effect on the dynamics of daily exchange rate, oral intervention in the Nigeria's foreign exchange market can potentially be used as an effective tool to at least augment the actual intervention, and achieve exchange rate stability.

Another interpretation of this finding is that oral interventions influence financial markets not only by signaling future monetary policy decisions or actual interventions, but also by conveying private information that is relevant for the economy and for financial markets.

Overall, the study is an attempt to fill the gap in the literature on the role and importance of communication policy for exchange rates. The empirical focus on oral interventions prove to be as important one for determining whether the regime shift in exchange rate policies in Nigeria over the past decade has been a successful one. Ultimately, the analysis of oral interventions help us learn and better understand what monetary authorities can do or could do better to communicate to the markets and to the public their view about the appropriate evolution of exchange rates and underlying fundamentals.

5.3 RECOMMENDATIONS

Arising from the findings, some policy recommendations have become relevant.

(a) The government through the monetary authorities can smoothen out any temporary daily fluctuations in the exchange rate in Nigeria by using communication (oral intervention) instead of using actual intervention. This would reduce cost of actual interventions which raises volatility and markets uncertainty. It also implies in turn that market volatility and uncertainty will be reduced as confirm by our findings or the results.

(b) The literature on analyzing and understanding the importance of communication (oral interventions) for asset prices, and in particular for exchange rates, is still in its infancy. However, from a policy perspective it is important to understand the role communication may play as a policy tool and what its limitations are. The objective of the paper has been to contribute towards a better understanding of this role of communication.

(c) Though many open issues, particularly concerning the channels through which communication work, remain for future research.

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APPENDIX

Table 1: EGARCH Estimation Result

Dependent Variable: D(XR)
Method: ML - ARCH (Marquardt)
Date: 06/20/12 Time: 14:41
Sample(adjusted): 2 472
Included observations: 471 after adjusting endpoints
Convergence achieved after 264 iterations
Variance backcast: ON

	Coefficient	Std. Error	z-Statistic	Prob.
C	-0.002914	0.000166	-17.57799	0.0000
D(MPR)	-0.000119	8.78E-05	-1.349842	0.1771
D(INF)	5.06E-05	3.15E-05	1.604070	0.1087
DD	0.000153	8.79E-06	17.36333	0.0000
D(SS)	0.000234	4.86E-05	4.816706	0.0000
Variance Equation				
C	-5.014393	0.420921	-11.91290	0.0000
|RES|/SQR[GARCH](1)	1.800171	0.047824	37.64184	0.0000
RES/SQR[GARCH](1)	0.249192	0.059584	4.182237	0.0000
|RES|/SQR[GARCH](2)	0.173733	0.077611	2.238516	0.0252
RES/SQR[GARCH](2)	0.472854	0.028353	16.67755	0.0000
EGARCH(1)	0.102824	0.029142	3.528345	0.0004
EGARCH(2)	0.614693	0.011956	51.41473	0.0000
MPC	-1.043366	0.108309	-9.633189	0.0000
SPEECHES	-0.989975	0.058459	-16.93463	0.0000

R-squared	-0.007441	Mean dependent var	0.000419
Adjusted R-squared	-0.036099	S.D. dependent var	0.006072
S.E. of regression	0.006181	Akaike info criterion	-10.24326
Sum squared resid	0.017458	Schwarz criterion	-10.11976
Log likelihood	2426.287	Durbin-Watson stat	1.096352