

Monetary Policy Committee and Monetary Policy Conduct in Nigeria: A Preliminary Investigation

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Abstract: The study provides an incisive but preliminary investigation into the activities of the monetary policy committee of the central bank of Nigeria and the implications for monetary policy, using the standard deviation measure of volatility and the ordinary least square method. The findings show that the 'internal' members and majority of the 'external' members have different preferences as shown in the voting patterns. Also, there has been reduction in inflation, money and stock markets volatilities since the operations of the committee became more visible. Furthermore, there is no structural break in both the money and stock markets in the period when the central bank started releasing the personal statements and voting pattern of the committee members. The policy implication of these results is that the transparency with which the monetary policy committee has operated since 2011 has boosted policy credibility due to the reduction in markets volatility. Nevertheless, there is need for the individual committee members to be more visible to the public through different platforms as this will further improve the central bank's communications strategy.

Keywords: Monetary policy committee decisions, voting, volatility

1. Introduction

The role played by committees of central banks globally is becoming more and more a subject of discussion among policy and academic researchers. This is in line with the new thinking that committees may make better monetary policy decisions than individuals and that this has been seen as a major evolution in contemporary central banking.¹ To this end, interest has surged in areas such as the size and composition of this committee, the background and ideological leaning of the members, effectiveness of the committee in terms of how the decisions reduce markets volatility, etc. In the Bank of England (BOE) and the European Central Bank (ECB), the committee responsible for taking monetary decisions is the monetary policy committee (MPC), while for the Federal Reserve Bank it is the Federal Open Market Committee (FOMC). The Central Bank of Nigeria (CBN) also named its own committee the monetary policy committee as in the case of the BOE and the ECB. One of the main benefits of the committee on monetary policy is that it has enhanced the communications of central banks and therefore boosted monetary policy effectiveness. This is because the public, through the communications of the committee members, is able to gauge the likely direction of monetary policy and this will to some extent reduce volatility in the markets.

The objective of this paper is therefore to provide an overview of the MPC of the CBN with a view to ascertaining the following: (1) if inflation volatility has reduced as a result of the composition of the committee (2) if money and stock markets volatility have reduced since the committee came to being (3) if the relationship between official interest rate, inflation, money and stock markets are weaker or stronger with the advent of the MPC (4) if there was a structural break in monetary policy since the activities of the committee became public.

The literature on policy committee is summarized in section 2, while section 3 provides stylized facts on the MPC of the CBN and the voting patterns. Section 4 discusses the methodology for the empirical analysis while section 5 presents the results. Section 6 provides the policy implications of the findings.

2. Literature Review

The literature on the role played by the MPC is at its infancy just like the broader literature on central bank communications. This section however attempts to provide some of the theoretical and empirical studies on the role of the MPC in the monetary policy process.

¹ Vandenbussche (2006)

The theoretical work by Bhattacharjee and Holly (2006) considered interval censored responses of individual committee members for the Bank of England in the context of a model in which inflation forecast targeting is used, with both heterogeneity and interaction among the members of the committee. The study found substantial heterogeneity in the policy reaction function across members as well as significant interactions between individual decisions of the committee members. Using an analytical framework which shows how different arrangements could affect the voting behaviour of individual MPC members, Berk and Bierut (2009) demonstrate how different arrangements could affect the voting behaviour of individual MPC members. The results illustrate that when members are not too diverse in terms of expertise and experience, policy discussions should not be based on pre-prepared policy options. Instead, interest rate proposals should arise endogenously as a majority of views expressed by the members. Weber (2010) developed a theoretical model of a MPC with heterogeneous members whose decisions and public communications are observed by the financial markets. The results show that transparency about the different views among committee members surrounding the economic outlook is beneficial. However, the study also noted that communicating the diversity of views about the monetary policy decision may not be welfare enhancing, at least in the short term.

With respect to the optimal size of the committee, Erhart and Vasquez-Paz (2007) developed a conceptual model in order to analyze the issue in case of monetary policy formulation. The study posits that the optimal MPC size varies according to the uncertainty of members' information influenced by the size of the monetary zone and overall economic stability. Their conceptual model was backed up with econometric evidence where they found that of the 85 countries surveyed, the MPC size of large monetary zones (EMU, USA, Japan) is close to the estimated optimal level, but there exist several smaller countries with too many or too few MPC members. Similarly, Maurin and Vidal (2012) asked how large should the committee be and which voting rule should be adopted? The study proceeds to analyzing the relationships between the committees' size and voting rules in a model where policy discussions are subject to a time constraint. Their results suggest that in large committees' majority voting is likely to enhance policy outcomes while under unanimity (consensus) it is preferable to limit the size of the committee. The study concludes that supermajority voting rules are social contrivances that contribute to policy performance in a more uncertain environment, when initial policy proposals are less likely to be correct, or when payoffs are asymmetric. Hansen *et al.* (2012) used voting data from the Bank of England and showed that different individual assessments of the economy strongly influence votes after controlling for individual policy preferences. The study therefore estimated that internal members form more precise assessments than external members and are also more hawkish, though preference differences are very small if members vote strategically. They also showed that committees add value through aggregating private assessments, but those gains to larger committees taper off quickly beyond five members. They concluded that there is no evidence that external members add value through preference moderation. Therefore, since the assessments of external members have lower precision the study concluded that mixed committees may not be optimal. Chappell *et al.* (2013) developed an econometric model to describe intra-committee power-sharing across members for the Bank of England and Sweden's Riksbank, the results of the study show that for the Bank of England the Governor has little influence over other committee members, while those for the Riksbank indicate that the Governor is highly influential.

With respect to the link with inflation, Erhart *et al.* (2007) conducted an empirical cross-country study to explore whether there is a link between the size of MPC and inflation volatility. The results show that countries with less than five MPC members tend to have larger deviations from trend inflation than MPCs with five members; raising the number of MPC members above five does not contribute to a further reduction in volatility. Farvaque *et al.* (2012) examined the influence of the biographical experience of MPC members on their performance in managing inflation and output volatilities. Using a sample of major OECD countries in the 1999 to 2010 period, they found that a higher number of governors are more effective, except in crisis time. Also, they show that policymakers' background influence the performance, with a positive role for committee members from the academia, the central bank and the financial sector.

Kiss (2012) studied preference heterogeneity in monetary policy committees of inflation-targeting (IT) countries in Central and Eastern Europe (CEE) during the period 2005–2010. The study employed (individual) voting records of the Monetary Council of the Magyar Nemzeti Bank (the central bank of Hungary) and of the Monetary Policy Council of the National Bank of Poland. Preference heterogeneity in committees is not directly observable. Therefore, they pursue an indirect measurement and conduct an econometric analysis based on (pooled) Taylor-type reaction functions estimated using real-time information on economic and financial indicators and voting records. The study finds preference heterogeneity to be random for both the members of the Monetary Policy Council of the National Bank of Poland (NBP), and the members of the Monetary Council of the Magyar Nemzeti Bank (MNB). However, the diversity of views on the inflation forecast is measurable in

both committees. A separate cluster analysis shows that different preferences of MPC members may be attributable to their status (chairman, internal member, external member) and that members may also differ in their desired response to changes in the economic outlook.

Following from the review of the literature, the next section provides some stylized facts about the committee in the central bank of Nigeria, with a view to providing the basis for descriptively and empirically investigating the role of the committee in the monetary policy process in Nigeria.

3. Stylized Facts on the Monetary Policy Committee of the Central Bank of Nigeria

The move towards greater transparency and credibility of monetary policy in Nigeria may have commenced in 2004 when the CBN started releasing its monetary policy communiqué. However, it was not until the promulgation of the CBN Act of 2007 that the apex bank became completely autonomous of the Ministry of Finance. Consequently, the CBN has been more independence in the use of its policy instruments in the conduct of monetary policy.

However, despite the release of monetary policy communiqués since 2004, monetary policy transparency remained an issue as the composition of the decision makers' was not known to the public. Therefore, the setting up of the MPC in line with the provisions of the CBN Act 2007 has led to an improvement in monetary policy process. Table 1 shows the composition of the committee as at May 2013, comprising two members from the CBN Board, two nominated by the CBN governor and three by the President of the Federal Republic of Nigeria. The five members, that is, the three appointed by the President and the two by the CBN governor, are herein referred to as 'external members'. The remaining seven members are 'internal members' since they are either fully affiliated with the CBN or are Board members.

Table 1: Monetary Policy Committee Members as at May 2013

	Status	Affiliation	Basis for membership
Sanusi L. Sanusi	Governor and Chairman	CBN	CBN Act 2007
Tunde Lemo	Dep. Governor and Member	CBN	CBN Act 2007
Sarah Alade	Dep. Governor and Member	CBN	CBN Act 2007
Suleiman Barau	Dep. Governor and Member	CBN	CBN Act 2007
Kingsley Moghalu	Dep. Governor and Member	CBN	CBN Act 2007
Sam O. Olofin**	Board Member	University of Ibadan	CBN Act 2007
Danladi Kifasi	Board Member	Ministry of Finance	CBN Act 2007
Adedoyin R. Salami	Member	Lagos Business School	Appointed by CBN Governor
John Oshilaja	Member	Consultant	Appointed by CBN Governor
Abdul-Ganiyu Garba	Member	Ahmadu Bello University	Appointed by President
Shehu Yahaya	Member	AfDB	Appointed by President
Chibuikwe U. Uche	Member	University of Nigeria	Appointed by President

Source: Compiled from CBN website as at 31 May 2013

**Last meeting as MPC member was in March 2013

Since activities of the committee became obvious to the public, monetary policy operations are now fairly gauged as the committee meets six times in a year and there is a time-table for such meetings, meaning that the public is able to follow and monitor the proceedings. In addition, there are instances when special meetings are called such as the one held on 18 September 2008 due to the effects of the global financial crisis on the domestic economy.

In 2011, the MPC took a significant step in line with global best practices when it started releasing members' personal statements and voting patterns alongside the communiqués.¹ This further brought greater awareness

¹ There are, however, a few instances where the personal statements and voting patterns are not released as was the case in July 2011.

with respect to monetary policy operations in Nigeria. In other words, this step by the central bank has improved its communication with the public as analysts are able to read and study the sentiments of the committee members as well as monitor their voting patterns. The implication of this is that based on developments in the economy as well as knowing the ideological leaning of the committee members, the public may have an idea of the likely interest rate decision of the committee at any point in time.

Figure 1 shows that monetary policy has taken a more neutral stance since 2011 when the MPC started releasing members' statements and voting patterns. It is therefore important to illustrate how the different members have voted in line with some of the studies in the literature. The importance of this is that the voting pattern of the committee members provides the public with the ideological leaning of the MPC members and therefore help gauge the likely direction of future monetary policy decisions.

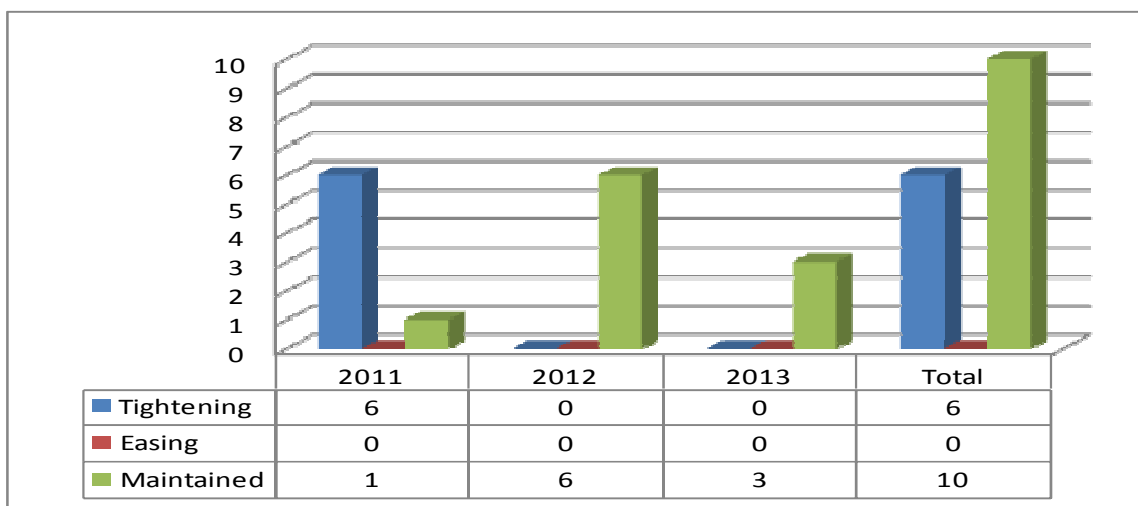


Figure 1: Breakdown of Monetary Policy Decisions since 2011

Source: Compiled from CBN monetary policy communiqués

Figure 2 explains that in 2011, the voting pattern of all the 'internal' members was similar as they all voted six times to increase the monetary policy rate (MPR) and voted once to leave it unchanged. The voting pattern of the 'external' members, however, appears different given that Dr. Adedoyin Salami and John Oshilaja's voting aligns with those of the 'internal' members. However, Professor Abdul-Ganiyu, Chibuike Uche and Shehu Yahaya, through their voting appear to have favored a neutral rather than a contractionary stance.

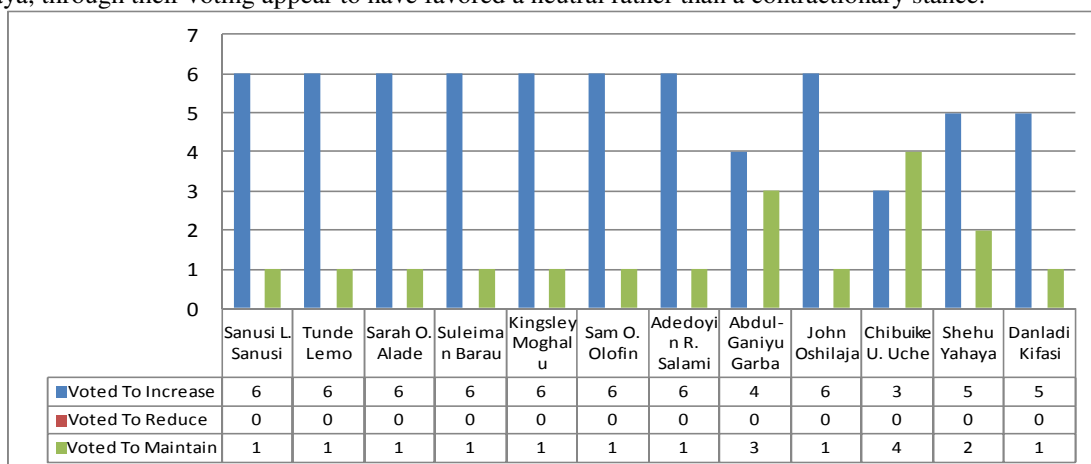


Figure 2: Monetary Policy Committee Voting Pattern in 2011

Source: Compiled from CBN monetary policy communiqués

Figure 3 again depicts that in 2012, the voting pattern was similar across the board for all the ‘internal’ members who all voted six times to maintain the MPR. Of the ‘external’ members, both Dr. Adedoyin Salami and John Oshilaja voted similar to the ‘internal’ members. However, Professor Abdul Ganiyu Garba voted to maintain the rate five times while Shehu Yahaya voted thrice to leave the official rate unchanged.

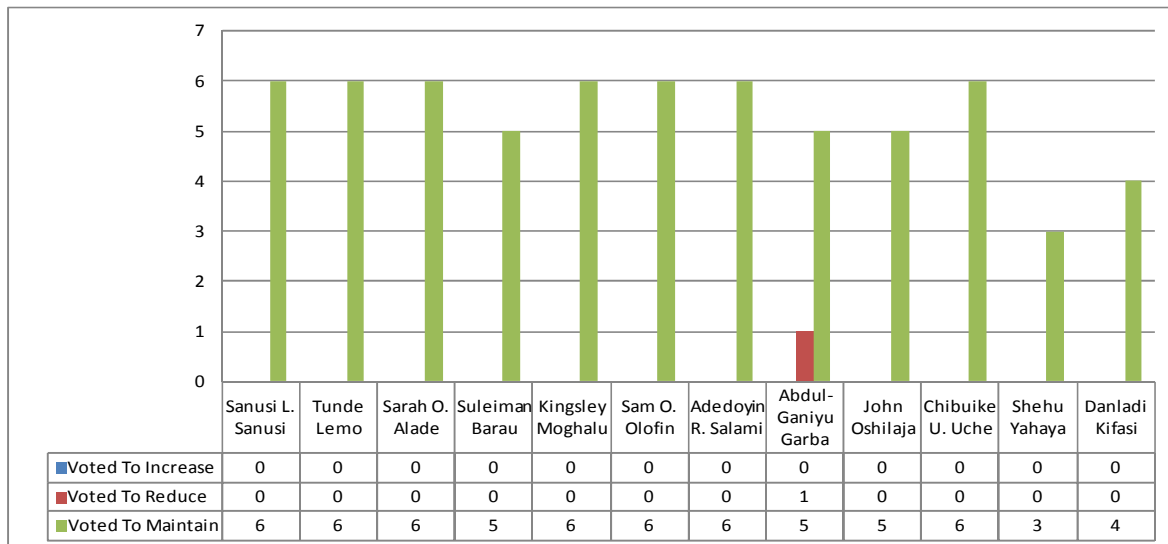


Figure 3: Monetary Policy Committee Voting Pattern in 2012

Source: Compiled from CBN monetary policy communiqués

The voting pattern in the first three meetings held in 2013, depicted in Figure 4, indicates that the voting pattern of the ‘internal’ members remained similar as they all voted to hold interest rate constant. One of the ‘external’ members Dr. Adedoyin Salami voted similar to the ‘internal’ members to keep the MPR unchanged. On the contrary, two external members, Professor Abdul Ganiyu Garba and Chibuikwe Uche voted three times in favor of interest rate cut while Danladi Kifasi and Shehu Yahaya voted to cut interest rate once.

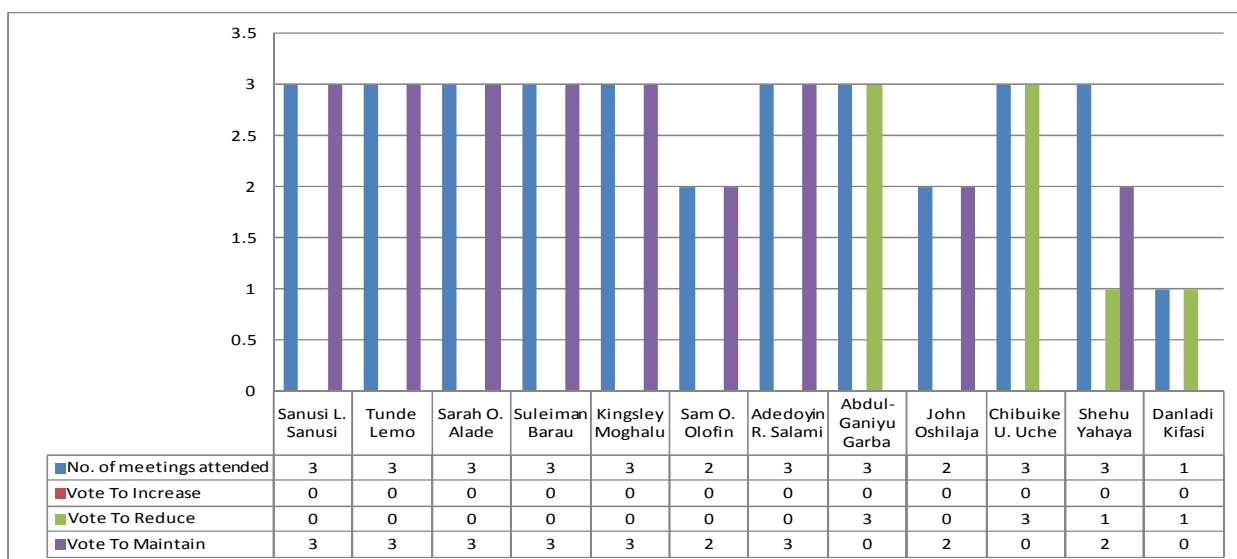


Figure 4: Monetary Policy Committee Voting Pattern in 2013

Source: Compiled from CBN monetary policy communiqués

The implications of the voting pattern of the MPC members are that the ‘internal’ members have similar voting pattern while the majority of external members appear to lend dissenting voices. Specifically, while the internal members show more preference for price and exchange rate stability, the majority of the external members are more inclined towards the secondary mandate of the central bank which is to support economic growth. The voting pattern of the ‘external’ members is usually mixed with one or two of them always aligning with the ‘internal members’ while the majority of them usually vote contrariwise. The observed voting pattern of the monetary policy committee of the CBN is in line with the findings of Ehrmann and Fratzscher (2004) whose results show that the Bank of England’s MPC exhibits a remarkably high degree of dispersion in voting since external members seem to provide statements indicating tightening or easing of policy relatively more often than internal members.

4. Methodology

4.1 Descriptive Analysis

We first attempt to ascertain if the move towards improved communications by the central bank by way of making the activities of the monetary policy committee more visible has affected markets volatility. The volatility measure applied here is the standard deviation. Following from the volatility measure, we use the correlation technique to find out the manner of association between the official interest rate and other rates, particularly since the activities of the monetary policy committee became pronounced.

4.2 Empirical Estimation

The ordinary least square (OLS) estimation technique is applied in to the study. The first OLS estimation aims to ascertain how the official interest rate and communications have affected the money market rate (NIBOR). The linear relationship is stated as follows:

$$\text{NIBOR} = f(\text{MRRMPR}, \text{COMM}, \text{TIME}) \quad (1)$$

Where NIBOR is Nigerian Interbank Offer Rate, MRRMPR is the official interest rate, COMM is communications and TIME captures the time variable included in the equation. Communications is captured using a dummy and will provide an indication of the impact of the monetary policy committee on the money market. The estimation will use the Chow test to find out if structural breaks exist under the different communication regimes.

Theoretically, precisely through the monetary policy transmission mechanism, the money market rate proxied by the NIBOR is expected to mirror the official interest rate (MRRMPR). This is because the central bank in attempting to push through its policy goal sees the banking sector as a key transmission channel. Therefore, an expansionary policy stance is expected to affect the NIBOR rate, thereby increasing liquidity in the system, and vice-versa. Also, the way the central bank communicates its policy decisions is very important as money market players, if they truly understand what the central bank is doing, may have already factored in the expected policy decision in their transactions, thereby reducing market rate volatility. The essence of the time variable is because the economy is not static hence the need to capture its changing dynamics.

The second OLS estimation is to ascertain how the official interest rate and communications as captured by the role of the monetary policy committee have affected the stock market All Share Index (ASI). Again, the Chow test will be used to ascertain if structural breaks exists in the period that the policy committee started making its activities public. The relationship is stated as follows:

$$\text{ASI} = f(\text{MRRMPR}, \text{COMM}, \text{TIME}) \quad (2)$$

The stock market rate is expected to respond negatively to interest rate decision due to the fact that the market is an alternative platform for investment. For example, an expansionary policy stance is expected to increased liquidity which will depress money market rates, making investors seek alternative investment outlets. Also, the improved liquidity position means that there is enough money in the system and the stock market is expected to benefit from such liquidity increase.

Therefore, the *a priori* expectation is a negative relationship between the stock market and the official interest rate. Also, the way the central bank communicates its policy decisions through the monetary policy committee is very important to both value and short-term investors in the stock market. For example, if the market is able to gauge monetary policy sentiment fully through the way and manner the central bank is communicating, then investors will factor in the expected policy decision in their investments decision.

4.3 Data Source and Time Frame

Quarterly data from 1985q1 to 2013q2 sourced primarily from the Central Bank of Nigeria is used. The analysis is grouped on the basis of three periods namely 1985q1 to 2004q3, 2004q3 to 2010q4 and 2011q1 to 2013q2. The period 1985q1 to 2004q3 is when the CBN was not releasing the monetary policy communiqué and the composition of the policy committee was not known by the public. The period 2004q4 to 2010q4 was when the policy communiqués were released while the period 2011q1 to 2013q2 is when the central bank started releasing the personal statements and voting patterns of the committee members.

5. Discussion of Results

5.1 Measures of Volatility

Figure 5 shows that the volatility in the inflation rate was considerably high in the period 1985q1 to 2004q2 with a standard deviation of 23.764. However, between 2004q4 and 2010q4 when the central bank started releasing the policy communiqués, inflation volatility dropped significantly with the standard deviation being only 4.777. The volatility reduced further between 2011q1 to 2013q2 when the central bank started publishing the personal statements and voting patterns of the MPC members. The implication of this is that improved monetary policy transparency through activities of the MPC has led to better communications and consequently reduced inflation volatility.

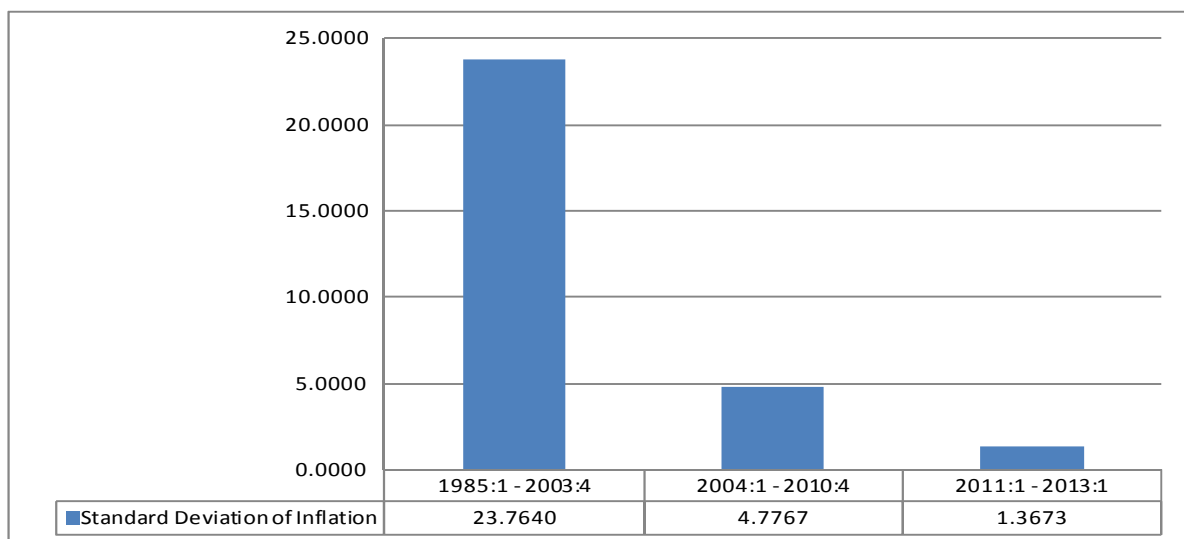


Figure 5: Inflation Rate Volatility

Source: Authors' estimates

Figure 6 shows that money market volatility was highest between 1985q1 and 2004q3, the period when interest rate decisions were not clearly communicated to the public. Between 2004q4 and 2010q4 when policy communiqués were released, volatility reduced significantly, while the reduction continued between 2011q1 to 2013q2 when the members' personal statements and voting patterns of committee members were released alongside the policy communiqués.

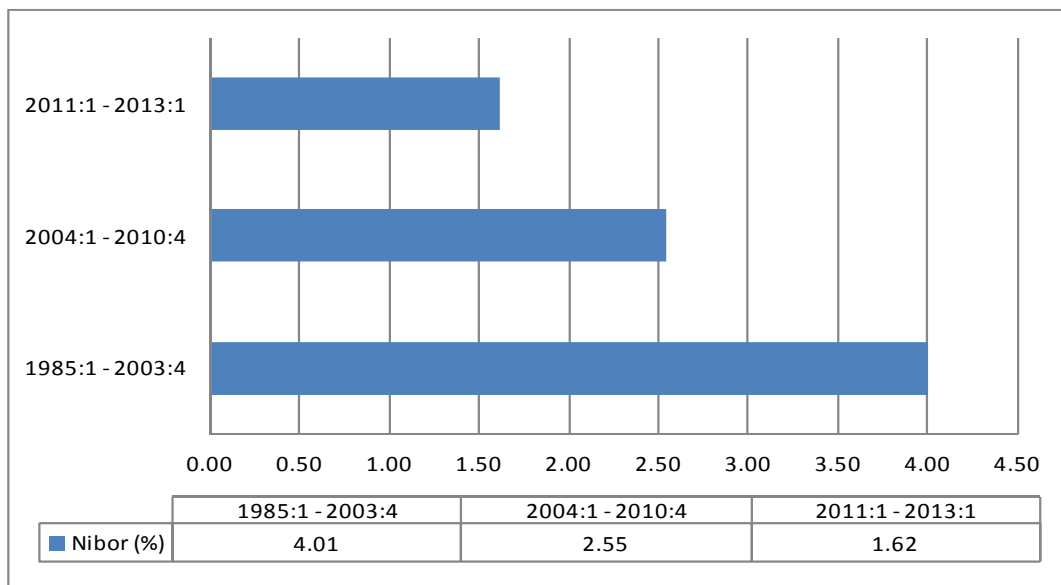


Figure 6: Volatility of the NIBOR Rate

Source: Authors' estimates

The stock market volatility is also examined in the different periods. Figure 7 shows that the volatility of the market has reduced significantly since 2011q1 when the CBN started publishing the personal statements and voting patterns of the MPC members. However, between 2004q4 and 2010q4 when only the communiqué of the meetings were released, the volatility of the market was even higher than the period when the CBN was not releasing policy communiqués. The relatively high volatility in this period may be attributed to the effect of the different reforms in the financial sector which led to high speculative activities. Specifically, the banking consolidation reform saw all the banks going to the stock market to raise funds in order to meet the new capital requirement. As a result, margin loans by banks increased while stock brokers and other market participants engaged in short-term trading rather than the long-term horizon that the market was supposed to serve.

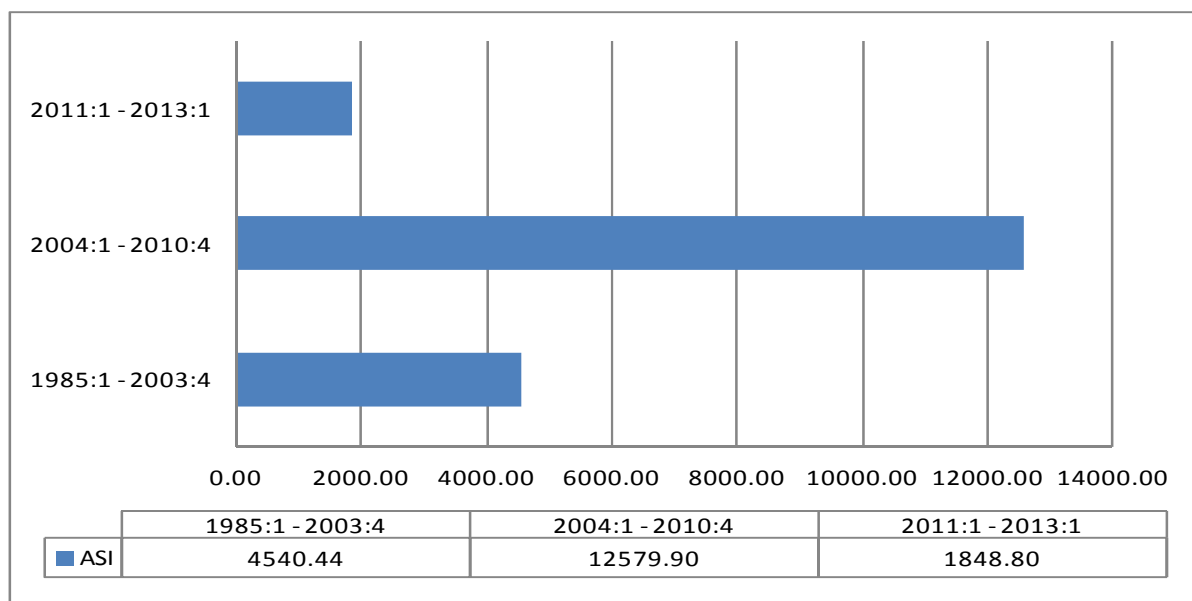


Figure 7: Volatility of the All Share Index

Source: Authors' estimates

5.2 Measures of Relationship among the Variables

Following from the volatility measure of inflation rate, the money market rate and the stock market all share index, this sub-section attempts to corroborate that discussion with the analysis on the relationship between the official interest rate and the NIBOR rate as well as between the official interest rate and ASI and inflation in the different periods.

As shown in Figure 8, between 1985q1 and 2004q3 when central bank communications was still unclear, the then anchor rate, the Minimum Rediscount Rate (MRR) had a strong relationship with the NIBOR with a correlation coefficient of 0.78. During the period 2004q4 to 2010q4 when the policy communiqués were being released, the relationship between the MRR and NIBOR was weak with coefficient of 0.39. This weak relationship may be attributed to the instability in the banking sector which the various reforms that were implemented in the period were meant to correct. However, one of the unintended consequences of the reforms turned out to be a weak relationship between the official interest rate and the NIBOR rate. Part of the measures taken to correct this shortcoming was the dropping of the MRR on 5 December 2006 and replacing it with the Monetary Policy Rate (MPR). However, the overall relationship between the official anchor and the market rate in the period 2004q4 to 2010q4 remained weak in the period despite the move towards improved communications by the CBN.

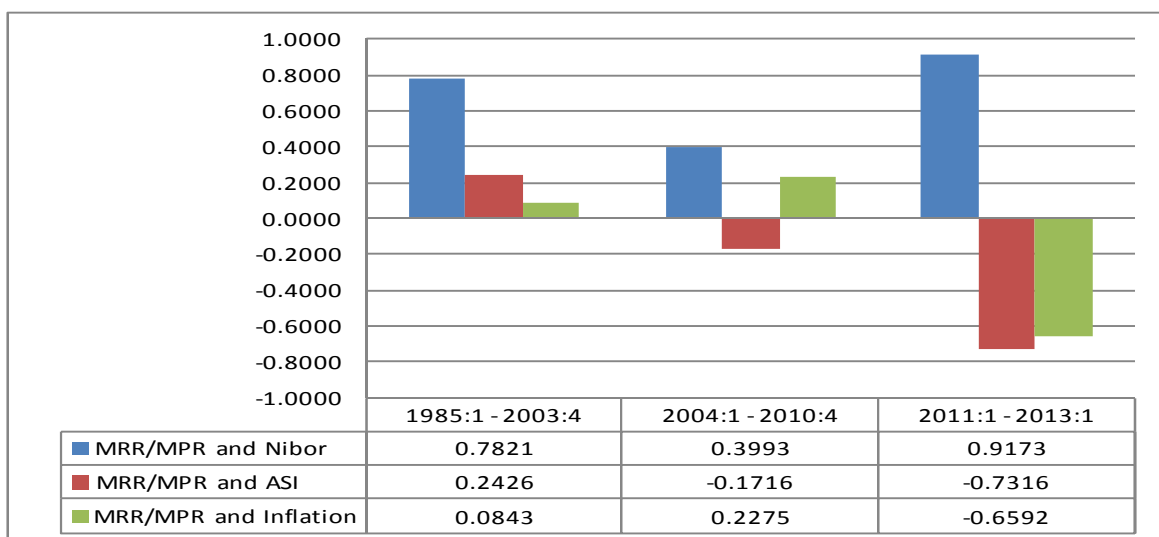


Figure 8: Correlation between MRR/MPR, NIBOR, ASI and Inflation

Source: Authors' estimates

However, in the period 2011q1 to 2013q1 when the CBN stepped up its communications strategy by releasing as part of the policy communiqués, the personal statements and voting pattern of the MPC members, the relationship between the MPR and the NIBOR became more robust with a correlation coefficient of 0.91.

With respect to the relationship between the official interest rate and the stock market, Figure 8 also shows that between 1985q1 and 2004q3 when policy communiqués were not made public, the correlation coefficient between the MRR and the ASI is 0.24. The implication of this positive but weak relationship is that the stock market was not providing the platform as alternative vehicle of investment as theory posits a negative association between interest rate and equity investments. However, between 2004q4 and 2010q4 when policy communiqués were released, the market became responsive to interest rates decisions as the correlation coefficient became negative, albeit, weak. This implies a gradual sophistication of the market as investors saw the market as an alternative investment platform in the event of an interest rate change by the central bank. Since 2011q1 when the personal statements and voting patterns of MPC members are released, there has been a stronger negative relationship between the MPR and the ASI.

The periods 1985q1 to 2004q3 as well as 2004q4 to 2010q4 saw a positive but weak relationship between the official interest rate and inflation rate. However, the relationship since 2011q1 when the public can properly gauge monetary policy sentiment because of the understanding provided by the releasing of the personal statements and voting patterns of the MPC members' a strong negative relationship exists between the MPR and the inflation rate. The implication of this is that the MPR has been relatively effective as the monetary policy anchor.

5.3 Empirical Results

5.3.1 Unit Root Test

To ascertain the time series properties of the variables, Figure 9 shows that the MRRMPR, NIBOR and ASI have unit roots and became stationary after first differencing as shown in Figure 10. Therefore, the empirical analysis is conducted using the variables after first difference. Also, the variables were transformed into their natural logarithms.

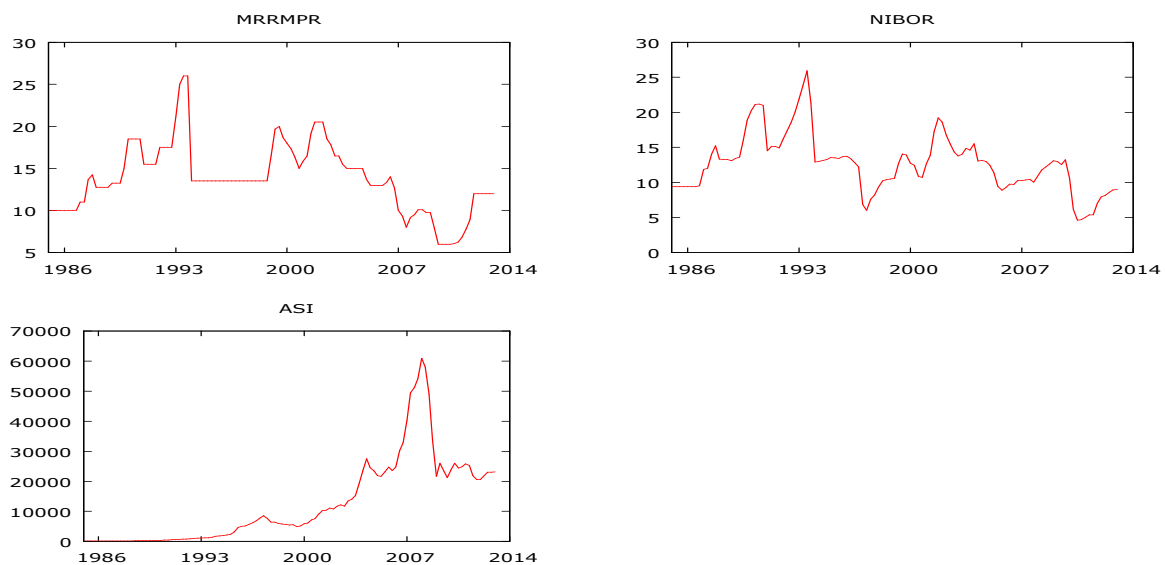


Figure 9: Charts of Selected Variables at Level

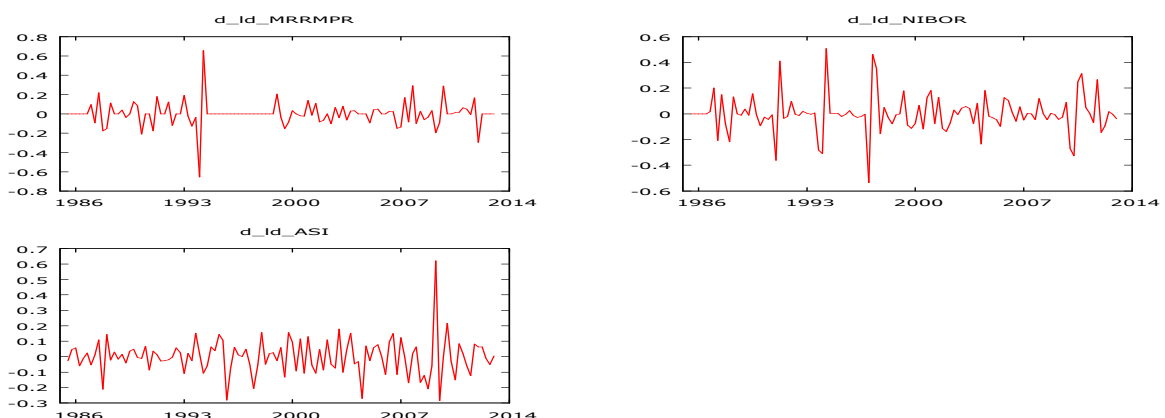


Figure 10: Charts of Selected Variables at First Difference

5.3.2 OLS Estimations

The first OLS estimation is to ascertain how the official interest rate and improved communications through activities of the MPC have affected the money market in the period 1985q1 to 2013q2. Table 2 shows the results

of estimation with the official interest rate having significant positive impact on the NIBOR, while communications is insignificant even though it has the right sign. The explanatory variables are only able to explain 26% of the variations in the NIBOR rate.

Table 2: Model 1: OLS, using observations 1985:2-2013:1 (T = 112)
Dependent variable: NIBOR

	Coefficient	Std. Error	t-ratio	p-value
Const	0.0152	0.0232	0.6554	0.5136
MRRMPR	0.6017	0.1081	5.5683	0.0000
COMM	0.0531	0.0466	1.1382	0.2576
Time	-0.0004	0.0004	-0.9433	0.3476
R-square	0.2639			
Adj. R-square	0.2435			
Durbin-Watson	1.3302			

Source: Authors' estimations

Table 3 shows the results of the diagnostic tests. Although the model failed the normality test, other results indicate that there is no presence of heteroskedasticity while the specification test shows that the model is adequately specified. The test for structural break indicates that in the period 2004q4 when the central bank started releasing its monetary policy communiqué, we fail to accept the null hypothesis of no structural break. In other words, the results show that there is a structural break in the period. On the contrary however, we fail to reject the null hypothesis of no structural break from the period 2011q1 when the central bank started releasing the personal statements and voting pattern of the MPC members.

Table 3: Results of the Post-estimation Tests for Model 1

Tests	Null hypotheses	P-value
Normality	Error is normally distributed	0.0002
Heteroskedasticity	No presence of heteroskedasticity	0.8474
Specification test	Specification is adequate	0.3373
Test for structural break at 2004q3	No structural break	0.0079
Test for structural break at 2011q1	No structural break	0.9226

Source: Authors' estimations

The results of the second OLS estimation as shown in Table 4 indicates that the explanatory variables are only able to explain less than 10% of the variation in the stock market all share index in the period 1985q1 to 2013q1. However, the official interest rate has significant negative impact on the all share index, meaning that investors in the period have been able to see the stock market as an alternative investment platform. The impact of communications is, however, insignificant even though it has the right sign. This is an indication of the weak transmission of monetary policy decisions through the asset channel.

Table 4: Model 2: OLS, using observations 1985:2-2013:1 (T = 112)
Dependent variable: ASI

	Coefficient	Std. Error	t-ratio	p-value
Const	0.1019	0.0215	4.7268	0.0000
MRRMPR	-0.1777	0.1003	-1.7709	0.0794
COMM	0.0065	0.0433	0.1520	0.8794
Time	-0.0009	0.0003	-2.6583	0.0091
R-square	0.0962			
Adj. R-square	0.0711			
Durbin-Watson	1.2033			

Source: Authors' estimations

Table 5 shows the results of the accompanying diagnostic tests. Again, the model failed the normality test but other results indicate that there is no presence of heteroskedasticity while the RESET test for specification shows that the model is adequately specified. Tests for structural breaks show that we fail to reject the null hypothesis

of no structural break in 2004q3 when the when the central bank started its policy communiqué as well as in 2011q1 when the apex bank started releasing the personal statements and voting pattern of the MPC members.

Table 5: Results of the Post-estimation Tests for Model 2

Tests	Null hypotheses	P-value
Normality	Error is normally distributed	0.0001
Heteroskedasticity	No presence of heteroskedasticity	0.1713
Specification test	Specification is adequate	0.4535
Test for structural break at 2004q3	No structural break	0.2172
Test for structural break at 2011q1	No structural break	0.8313

Source: Authors' estimations

6. Summary of Findings and Policy Implications

The study provided a preliminary investigation into the activities of the monetary policy committee of the central bank of Nigeria and how this has affected both inflation volatility and the money and stock markets. The main findings are as follows (i) the voting pattern of the 'internal' and 'external' members is usually different, albeit, with one or two 'external members' voting in a similar manner with the 'internal members' (ii) inflation volatility reduced significantly since operations of the committee became more public (iii) money and stock markets volatility have also reduced since the activities of the policy committee became public (iv) the relationship between the official interest rate and inflation on one hand and between the official interest rate and money and stock market on the other, has improved in the period of the committee's operations (v) official interest rate has significant positive impact on the money market while communications has insignificant effect even though it has the right sign (vi) there is a structural break in the period 2004q4 when the central bank started releasing its policy communiqués (vii) there is no structural break in the period when the central bank started releasing the personal statements and voting pattern of the MPC members (viii) official interest rate has significant negative impact on the stock market all share index, while the impact of communications is insignificant even though it has the right sign (ix) there is no structural break when the apex bank started releasing the personal statements and voting pattern of the MPC members.

These findings have a number of policy implications. First, monetary policy through the operations of the monetary policy committee has reduced markets volatilities which is good for macroeconomic stability. Therefore, there is need for the central bank, through the committee, to continue to pursue credible policy initiatives. Second, the fact that the relationship between the official interest rate and market indicators improved the most since the policy committee's activities became more transparent is also an indication that the central bank through the committee should continue to improve on its communications with the public. Third, given that there is no structural break in the period that the policy committee's activities have become pronounced means that the central bank must continually devise ways by which it will improve on the activities of the committee.

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