International Journal of Economics, Commerce and Management
United Kingdom Vol. II, Issue 11, Nov 2014
http://ijecm.co.uk/ ISSN 2348 0386

AN EMPIRICAL ANALYSIS OF THE TRANSPARENCY OF MONETARY POLICY IN THE WEST AFRICAN MONETARY ZONE

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The views expressed in the paper are those of the authors and do not in any way represent the official position or thinking of the Central Bank of Nigeria or the West African Monetary Institute (WAMI). The authors acknowledge the comments and criticisms of anonymous reviewers.

Abstract

The paper examined the disclosure of explicit information by central banks using the transparency index method advocated by Ejiffinger and Geraats (2006) and Malik and Din (2008) as well as used by Egbuna (2013). A weighted transparency index of five key performance indicators (political, economic, procedural, policy and operational) was measure for each West African Monetary Zone (WAMZ) country. The result shows vast differences in the weighted transparency indexes across countries. The Gambia, Ghana and Nigeria are relatively transparent with overall weighted indexes of 9.5, 11 and 11.5. On the other hand transparency appears to be weak in Guinea, Liberia and Sierra Leone with indexes of 5.5, 2.0 and 6.0. This underscores the need to enhance central bank transparency in these countries.

Keywords: Central Banking, Monetary Policy, Monetary Policy transparency, Transparency Index, West African Monetary Zone

INTRODUCTION

Central banks in the West African Monetary Zone (WAMZ) are responsible for the conduct of monetary policy in the zone. It has been established in literature that central banks and the private sector consider transparency not only desirable but important for monetary policy. Central bank transparency has become the topic of a lively public and academic debate on monetary policy. The public demands transparency to achieve accountability of central banks that have increasingly become independent.

Monetary policy transparency can be defined as the disclosure of information relevant to the conduct of monetary policy by the central banks, and requires symmetrical information between the central bank and the private economic agents (Egbuna, 2013, Geraat, 2002a, 2005a). According to Malik and Din (2008), monetary policy transparency holds particular significance for developing countries like those in the West African Monetary Zone (WAMZ).

Monetary policy framework varies across member central banks of the WAMZ. From an exchange rate management regime in Liberia to inflation targeting in Ghana. The Gambia, Guinea, Nigeria and Sierra Leone have monetary targeting as the framework for their monetary policy. The mix of monetary policy framework regimes amongst member countries, portrays dynamism of the banks both in terms of autonomy and independence in line with global trends. This along with the recent monetary policy reforms in the WAMZ have impacted positively on the stability of financial system.

The change-over from national currencies to a single currency, with a common Central Bank and common monetary and foreign exchange policies, will mark the completion of the process of Monetary Union in the WAMZ. But before then, there is need to achieve sustainable qualitative and quantitative macroeconomic convergence as well as the building of the agreed architecture for the union.

Monetary policy transparency holds particular significance for developing countries where misperceptions and lack of knowledge about monetary policy issues and outcomes are not uncommon. In this context, an important benefit of transparency is that it can educate the public about what monetary policy can and cannot do and thus avoid unnecessary criticism of the central bankers (Svensson 2002). Another benefit of transparency for developing countries is the promotion of public dialogue on policy issues that can be instrumental in bringing central bank policies in line with society's preferences. Also, a transparent monetary policy is vital for enforcing fiscal discipline on governments that rely heavily on seignorage revenues to meet budgetary shortfalls. For instance, in most member states, most times monetary aggregate targets have been missed due to fiscal policy inconsistencies and indiscipline. Finally, monetary policy transparency can allow the public to compare central bank performance with international best practices, and thus create public pressure for the adoption of such practices whenever the performance of the central bank falls short of internationally accepted benchmarks.

Following recent monetary policy reforms in member states, in an effort to improve transparency; this paper is an attempt to evaluate the effectiveness of the reforms. The evaluation would be useful to the banks and stakeholders in the financial system. This paper therefore will undertake an empirical analysis of the transparency of monetary policy in member countries of the WAMZ. Also, this paper seeks to contribute to the growing literature on transparency of central banks especially in developing and emerging economies. The main objective of the study is to analyse monetary policy transparency in WAMZ, appraise performance with a view to recommending policy options that would foster synergy for the monetary union.

The paper is building on two papers, namely Ejiffinger and Geraats (2006) and Egbuna (2013). While the former provided an index of central bank transparency, the latter employed the approach to measure monetary policy transparency of the Central Bank of Nigeria. The paper will measure monetary policy transparency of the central banks in WAMZ using the 'independent analysis approach. The rest of the paper is structured as follows: Section 2 presents the monetary framework in each of the WAMZ member states Section 3 gives the theoretical and conceptual framework for transparency of monetary policy. Section 4 sets out the methodology for the measurement of transparency and Section 5 presents the empirical evidence from the central banks in the WAMZ in the light of the literature. Finally, Section 6 concludes the paper with some policy options.

MONETARY POLICY FRAMEWORK IN EACH OF THE WAMZ MEMBER STATES

- **The Gambia**

The Central Bank of The Gambia (CBG) adopted an indirect monetary policy framework in the context of the economic and financial reforms undertaken since 1986. This involves the use of OMO in government and central bank securities as well as imposition of reserve requirements in place of selective credit and interest rate controls. A treasury bills market (money market) was introduced in 1987 to facilitate the migration from direct to indirect monetary policy regime. The CBG used weekly auctioning of treasury and central bank bills through primary dealers for both government deficit financing and control of money supply, while using reserve money as an intermediate target. The independence of the bank in the conduct of monetary policy was enhanced under the revised statute of the Central Bank (2005), which also prescribed price stability as the overriding mandate of the Bank. Some of the innovations include the setting up of a Monetary Policy Committee (MPC) to oversee monetary policy formulation and implementation, as well as ensure that the price stability objective is given prominence in the monetary and exchange rate activities of the bank. Since its establishment, the MPC, though still defining its price objective in terms of headline inflation, also reports on core inflation as well as other indicators, as a barometer of underlining price developments.

- **Ghana**

The overriding goal of monetary policy in Ghana is price stability, which is stated explicitly in the Bank of Ghana (BOG) Law (2002), Act 612. Section 3(1) of the law stipulates that “the primary objective of the Bank is to maintain stability in the general level of price”. The Law thus gives a clear mandate to BOG to pursue inflation-targeting. It is envisioned that the implementation of sound monetary and financial policies aimed at price stability would create an enabling macro-economic environment for the promotion of sustainable economic growth and poverty reduction. The BOG formally adopted an inflation-targeting framework for its monetary policy operations to track underlying inflation, using a core measure of the Consumer Price Index (CPI), which excluded energy and utility prices in May, 2007. Prior to that, the strategy for monetary management was based on monetary targeting, i.e. the view that inflation is essentially a monetary phenomenon.

- **Guinea**

The objective of monetary policy in Guinea is to control inflation. The authorities set target for rate of growth of reserve money and monitor its evolution through quarterly benchmarks on its counterparts: the central bank’s minimum level of net foreign assets and its net credit to government position. Since 1993, indirect monetary policy instrument, has been in use, with the application of reserve requirements.

- **Liberia**

The principal monetary policy objective of the Central Bank of Liberia (CBL) is exchange rate targeting. Given the weaker monetary transmission in dual currency regimes, the authorities recognize the strong role played by the exchange rate on price inflation, and therefore use the exchange rate as the main indicator of domestic conditions. Recent developments show that this objective was pursued by ensuring that growth in money supply is consistent with developments in macroeconomic fundamentals by maintaining foreign exchange rate targeting. The framework also aims at maintaining broad exchange rate stability as a means of managing consumer price inflation.

In order to ensure broad stability of the exchange rate, the CBL introduced a sales auction program in 2004. The auction system sought to smoothen the exchange rate and to respond to imbalances in the domestic money market. The major participants of the foreign exchange sale auction are commercial banks and Forex bureaus.

The monetary authorities are at advanced stages in the establishment of Treasury Bills Market which was expected to be launched in 2013. This is with a view to increase the number of monetary policy tools available for the conduct of effective monetary policy.

- **Nigeria**

The main monetary policy objective in Nigeria is price stability and promoting non-inflation growth. The framework used to achieve this objective is monetary targeting, which involves setting aggregate money supply targets and reliance on Open Market Operations (OMO) and other policy instruments to achieve the target. In November, 2006, the MPC adopted the Interest Rate Corridor approach, which resulted in the replacement of the Minimum Rediscount Rate (MRR) by the Monetary Policy Rate (MPR). The new framework became necessary as the MRR proved not to be sufficiently responsive to CBN's policy initiatives, especially in tackling the problem of excess liquidity in the system. The MPR determines the lower and upper band of the CBN standing facility and was intended as the nominal anchor for all other rates in the market. The MPC meets bi monthly to review developments in the economy.

- **Sierra Leone**

Monetary policy in Sierra Leone is conducted within the framework of a monetary targeting regime. Prior to 1990, monetary policy was conducted using direct instruments of monetary management. In 1990, The Bank of Sierra Leone in a bid to address emerging economic challenges, shifted away from direct monetary controls (which was found to be financially repressive) to an indirect system of monetary management. Thus, the main instrument of monetary management is OMO, and operations are concentrated in the primary markets for government securities.

CONCEPTUAL AND THEORETICAL FRAMEWORK FOR TRANSPARENCY

Conceptual Framework

Transparency is a complex concept that could be appropriate for any aspect of economic policy-making. Thus, it seems natural to use a conceptual framework for transparency that reflects the different stages of the decision-making process. Following Geraats (2000), one can distinguish five aspects of transparency: political, economic, procedural, policy and operational transparency. Each of these aspects may give rise to different motives for transparency.

•***Political*** **transparency** refers to openness about policy objectives. This comprises a statement of the *formal objectives* of monetary policy, including an explicit prioritization in case of potentially conflicting goals, and *quantitative targets.* Political transparency is enhanced by *institutional arrangements,* like central bank independence, central bank contracts and explicit override mechanisms; because they ensure that there is no undue influence or political pressure to deviate from stated objectives.

•***Economic*** **transparency** focuses on the economic information that is used for monetary policy. This includes the *economic data* the central bank uses, the *policy models* it employs to construct economic forecasts or evaluate the impact of its decisions, and the *internal forecasts* the central bank relies on. The latter are particularly important since monetary policy actions are known to take effect only after substantial lags. Central bank actions are likely to reflect anticipated developments.

•***Procedural*** **transparency** is about the way monetary policy decisions are taken. It involves an explicit monetary policy rule or *strategy* that describes the monetary policy framework, and an account of the actual policy deliberations and how the policy decision was reached, which is achieved by the release of *minutes* and *voting records.*

•***Policy*** **transparency** means a *prompt announcement* of policy decisions. In addition, it includes an *explanation* of the decision and a *policy inclination* or indication of likely future policy actions. The latter is relevant because monetary policy actions are typically made in discrete steps; a central bank may be inclined to change the policy instrument, but decide to wait until further evidence warrants moving a full step.

•**Operational transparency** has to do with the implementation of the central bank's policy actions. It involves a discussion of *control errors* in achieving the operating targets of monetary policy and (unanticipated) macroeconomic disturbances that affect the *transmission* of monetary policy.

The index for central bank transparency in section 4 attempts to quantify each of these five aspects. We focus on the objective information disclosed by central banks, rather than the subjective ways in which the private sector interprets and incorporates this information. Also note that the concept of transparency is closely related to accountability. In fact, some degree of transparency is a necessary condition for accountability. Conceptually, transparency refers to mere information disclosure, whereas accountability concerns the explanation of one's actions and bearing responsibility for them, including possible repercussions when the policy outcomes fall short of the objectives.

Theoretical Insights

Transparency of monetary policy refers to the absence of information asymmetries between monetary policymakers and the private sector (Geraats 2002). Perfect transparency corresponds to a situation of symmetric information. This does not imply that monetary policymakers and the private sector have complete information. For instance, they could both be uncertain about economic disturbances. But perfect transparency means that both have the same information to face the same uncertainties.

It is easy to see that greater transparency could be beneficial since the private sector gets access to more information. In fact, in an economy with no market imperfections besides some information asymmetry, perfect transparency is optimal by the first welfare theorem. However, an Increase in transparency could be detrimental in richer, more realistic settings.

To better understand the consequences of transparency, it is necessary to distinguish two basic effects namely the 'information effects' and the 'incentive effects'. *Information effects* are the direct, ex post effects of the information disclosure. In particular, when the central bank (the sender) reveals information to the private sector (the receiver), the central bank no longer has the opportunity to use its information advantage and the private sector gets access to new information to act upon. For instance, the release of a central bank forecast of high inflation could increase inflation expectations. *Incentive effects* are the indirect, ex ante structural changes in economic behavior that result from the different information structure under greater transparency. In particular, anticipating the disclosure of a particular type of information, the central bank and/or private sector could face different incentives that systematically alter their behavior. For instance, a central bank that publishes its inflation forecasts may be less inclined to pursue inflationary monetary policy. Incentive effects are determined by the information disclosure regime and remain in place for the duration of the regime, whereas information effects vary with each communication within the disclosure regime and depend on the news that is released. It should be stressed that the information and incentive effects of an increase in transparency need not be beneficial but could actually be detrimental.

Regarding information effects, the receiver of the information always enjoys a direct benefit because (s)he faces less uncertainty and has the opportunity to make better informed decisions. The new information also leads to an adjustment of the receiver's expectations, which could affect other economic variables, possibly in undesirable ways. In addition, the communications of the sender may be misunderstood by the receiver, which gives rise to unintended noise.

To give some examples of information effects, transparency about the central bank's preferences makes monetary policy more predictable for the private sector. But the communication of central bank targets could affect inflation expectations and make inflation more volatile, which is exacerbated by misinterpretations (Geraats *2005a).* The disclosure of supply shocks could have a similar negative information effect.

In addition, a central bank with an exchange rate peg would be ill-advised to announce that its foreign reserves are running low since it is bound to incite a speculative attack. Similarly, central banks would be cautious to keep liquidity problems of commercial banks confidential to prevent bank runs. Such 'ex post discretionary disclosures' give rise to detrimental information effects that could impede financial stability (Gai and Shin 2003). However, 'ex ante communication' of such information in the form of regularly scheduled data releases on foreign reserves and liquidity positions could encourage prudent behavior that reduces the likelihood of financial fragility, which is a beneficial incentive effect.

The incentive effects of transparency could affect the economic behavior of both the sender and receiver of information. In particular, in response to the new information structure the receiver could modify the formation of his/her expectations. In turn, the change in responsiveness of the receiver's expectations could affect the sender's behavior. Suppose that the private sector cannot observe the central bank's preferences but attempts to infer them from monetary policy actions and outcomes, When there is greater transparency about the economic shocks affecting policy actions and outcomes, private sector expectations ultimately become more sensitive to unanticipated changes in policy actions and outcomes as they provide a more accurate signal of the central bank's preferences. The stronger response of inflation expectations makes the pursuit of inflationary preferences more costly, so that the central bank has a greater incentive to keep inflation in check. Stated differently, transparency induces the central bank to build and maintain a reputation for low inflation (Faust and Svensson 2001, Geraats *2005b).*

However, the response of the receiver could also have detrimental incentive effects. Suppose that economic agents with private signals have a motive to coordinate their actions (such as in financial markets) and therefore put a disproportionately high weight on a public signal sent by the central bank. Then, greater central bank transparency increases the reliance on the public signal even further, which could lead to greater volatility when the public signal is sufficiently noisy (Morris and Shin 2002). The increased focus on public communications due to a coordination motive also reduces the informativeness of market signals (Morris and Shin 2005). In addition, public disclosure could crowd out private sector efforts to acquire their own information and thereby reduce the net improvement in forecast accuracy (Tong 2005). Similar in spirit, less secrecy makes it less costly for financial market participants to engage in central bank watching, which could increase volatility due to overreactions (Rudin, 1988).

Finally, public disclosure could have another incentive effect by increasing the sender's efforts to improve the quality of its information so that it can withstand public scrutiny. For instance, the publication of central bank forecasts could induce the central bank to produce first rate macroeconomic projections. Similarly, the release of the minutes of monetary policy committee meetings could stimulate central bankers to engage in a high quality policy discussion. Thus, transparency could lead to better decision making.

These theoretical arguments give rise to three key results of the effects of monetary policy transparency on predictability, reputation and credibility.

(A) Transparency improves the predictability of monetary policy actions and outcomes.

This follows directly from the information effect that transparency reduces private sector uncertainty about the monetary policymaking process. A better understanding of the monetary policy objectives, strategy and decision-making process, combined with information about economic disturbances helps the private sector to better forecast the settings of the policy instrument and the effects on inflation and aggregate output. Empirically, greater monetary policy transparency indeed appears to lead to better predictability of monetary policy actions (e.g. Gerlach-Kristen 2004).

Although in theory greater transparency improves predictability, ceteris paribus, it could be misleading to use private sector forecast errors or market reactions to monetary policy decisions as a measure of lack of central bank transparency. The reason is that predictability is also determined by economic disturbances. When there are no major shocks to the economy, monetary policy is likely to be more predictable even in the absence of improved central bank communication. So, better predictability need not be the consequence of greater transparency.

(B) Transparency tends to induce reputation building* as *it increases the sensitivity of private sector expectations to unanticipated policy actions and outcomes.

This incentive effect follows from the fact that transparency makes monetary policy actions and outcomes a better signal of the central bank's intentions. The greater sensitivity of private sector expectations makes it less costly for a high-inflation central bank to build reputation through contractionary policies. In addition, a central bank that attempts to boost output beyond its natural rate would quickly be exposed and be penalized through higher inflation expectations. As a result, transparency makes central banks more inclined to pursue low inflation and to lowers the sacrifice ratio associated with disinflations. There is indeed econometric evidence that supports this (Chortareas et al. 2002, 2003).

(C) Transparency has the potential to enhance credibility and make long-run private sector inflation expectations more stable.

Transparency allows the private sector to check whether monetary policy actions and outcomes are consistent with formal monetary policy objectives, which has the potential to increase the credibility of monetary policy goals. Besides this information effect, there is an incentive effect as the private sector becomes more assured of the central bank's good intentions, which reduces its sensitivity to policy actions and outcomes. As a consequence, transparency helps to anchor long-run inflation expectations. Empirical evidence indicates that greater transparency indeed makes private sector inflation expectations less sensitive to past inflation outcomes (van der Cruijsen and Demertzis 2005).

Although the effects of monetary policy transparency on predictability, reputation and credibility are likely to be beneficial, opacity may prevail for two important reasons. First, as indicated above, there are good theoretical arguments why transparency could be detrimental, in particular in the form of greater volatility caused by information disclosures.

A more detailed and comprehensive survey of the theory of central bank transparency is provided by Geraats (2002). Second, there may be a pertinent practical challenge to communicate transparently, which is discussed in coming section. But these reasons for opacity have not prevented central banks from becoming increasingly transparent.

METHODOLOGY

Conceptual Analysis and its Implications

Transparency is a multifaceted concept that is conceived in the context of the monetary policy process with emphasis on the key stages of decision-making. Following Geraats (200b), one can distinguish five aspects of transparency: political, economic, procedural, policy and operational transparency. Each of these aspects may give rise to five key dimensions of transparency: political, economic, procedural, policy and operational. For each dimension of transparency, three distinct indicators are identified.

Table 1 shows the five dimensions of transparency, the focus and the associated indicators. *Political transparency* is indicated by the openness about policy objectives, *economic transparency* by the economic information while *procedural transparency* by the way monetary policy decisions are taken. Policy and operational transparency respectively are indicated by the promptness in the announcement of policy decisions and effectiveness in the implementation of policy decisions.

The three specific indicators of political transparency are statements of *formal objectives and priorities* where objectives conflict, *quantitative targets* and transparency enhancing *institutional arrangements* like central bank independence. Economic transparency are indicated by public access to the (1) *economic data* that the central bank uses, (2) the *policy models* the central banks uses to construct economic forecasts or evaluate the impact of its decisions and (3) *internal forecast* of key policy targets such as inflation.

Table 1 also shows three key indicators of procedural transparency (explicit monetary policy rule or *strategy*, timely releases of *minutes* and *voting* records), three indicators of policy transparency (*prompt announcement of policy*, *explanation* of decisions and clarity about *policy inclinations* i.e., clear directions about future policy) and three indicators of operational transparency - control errors (how errors are controlled), *transmission disturbances* (how the central bank addresses unanticipated macroeconomic disturbances that affect the *transmission* of monetary policy) and *policy evaluation*.

Table 1: Dimensions of Monetary Policy Transparency and the Indicators

Dimension of Transparency	Focus	Indicators
a. Political	openness about policy objectives	1. *formal objectives* of monetary policy, including an explicit prioritization in case of potentially conflicting goals, 2. *quantitative targets* 3. *institutional arrangements,* like central bank independence, central bank contracts and explicit override mechanisms
b. Economic	economic information	1. *economic data* 2. *policy models* 3. *internal forecasts*
c. Procedural	the way monetary policy decisions are taken	1. explicit monetary policy rule or *strategy* 2. timely release of *minutes* 3. *timely of voting records*
d. Policy	promptness in the announcement of policy decisions	1. prompt announcement of policy decisions 2. Policy explanation 3. policy inclination clear indication of likely future policy actions (clarity about policy direction)
e. Operational	effectiveness in the implementation of policy decisions	1. Control errors 2. Transmission Disturbances 3. Policy Evaluation

The key implications of the conceptual analysis is that an index of central bank transparency can be specified and used to measure the transparency of any central bank.

Implications of the Transparency Concept

This paper follows the approach that measures actual disclosure practices. It presents an index that captures the degree of transparency for the five aspects: political, economic, procedural, policy and operational transparency. This approach was developed by Ejiffinger and Geraats (200a) and applied in Malik and Din (2008) to measure monetary policy transparency of the State Bank of Pakistan.

For clarity, it is useful to show how each of the five aspects features in a standard model. Consider a central bank with the objective function (Eijffinger and Geraats 2006) :

$$W = \alpha\,(\pi - \pi^*)^2 + \beta\,(y - y^*)^2 \qquad (1)$$

Where: W is central bank policy instrument, π is inflation, π^* is inflation expectation, y is output, and y^* expected output. Important factors in specifying the equation includes: for example, political transparency requires the publication of inflation target (π^{*4}) for an inflation targeting regime, which clarifies the motives of monetary policymakers.

In particular, central bank independence ensures that central banks can pursue (1) without overbearing political interference.

The structure of the economy can be represented by the aggregate demand and supply equations (Eijffinger and Geraats 2006). Using any of the WAMZ member states economy as an example:

$$y = \bar{y} - \alpha (i - \pi^* - \hat{r}) + d \qquad (2)$$

$$\pi = \pi^* + b (y - \bar{y}) + s \qquad (3)$$

where,

y = real output

$\bar{y}$ = the natural rate of output

i = the nominal interest rate

π^* = inflation expectations (inflation targeting)

$\hat{r}$ = the long run interest rate

d = aggregate demand shocks

s = aggregate supply shocks

Economic transparency implies that the private sector has the same information about the economy as the central bank. This includes information about the structure of the economy and about the aggregate demand shocks (d) and aggregate supply shock (s) projected by the central bank and that is reflected in its actions, are available to the central bank and the private market operators.

If the central bank used the nominal interest rate i as monetary policy instrument in a Taylor-type monetary policy rule, that information should be available to private sector operators to enable them form rational expectations. Even when the central bank adopts a Svensson (2002) style targeting frame-work that allows for judgment, the central bank to as much as possible provide sufficient information to enable private sector operators form rational expectations. Whatever the central bank uses in terms of procedures and options in formulating monetary policy strategy, the information should be available to policy makers.

In the case of procedural transparency, the central bank's strategy and other procedural aspects like minutes and voting records are shared with the private sector. Policy transparency requires that the central bank promptly announces its decision about the policy instrument i. When interest rate movements are restricted to discrete increments, a policy inclination is also relevant. Finally, the implementation of monetary policy could be complicated by control errors pertaining to the policy instrument, or transmission disturbances in the form of unanticipated aggregate demand (d) and supply (s) shocks.

Operational transparency means that these control errors and transmission disturbances are communicated to the public. This stylized model, which is largely from Eijffinger and Geraats (2006), shows that all five aspects of our conceptual framework can be distinguished in theory and that each is required for an adequate analytical description of monetary policy.

It is important to emphasize that greater transparency may not be desirable. The comprehensive survey by Geraats (2002) explains the great variety of theoretical findings in the literature, depending on the aspect considered and the structure of the model. For example, transparency about supply shocks is detrimental when it affects the contemporaneous aggregate supply equation, because it hampers output stabilization. Furthermore, the public announcement of noisy information (e.g. a highly uncertain future interest rate path) could lead to greater variability and reduce social welfare when agents discard private information to coordinate their actions (Morris and Shin, 2002). However, the theoretical literature has also identified potential benefits of transparency. In particular, it could lead to lower inflation and enhance the central bank's reputation; it may give the central bank greater flexibility to stabilize economic shocks and reduce the volatility of output; it reduces private sector uncertainty; and it allows for greater accountability which makes it possible to align the actions of central bankers closer to socially optimal monetary policy.

The Index of Transparency

The index of transparency is given by:

$$\tau = \sum_{i=1}^{5} \omega_{ij} A_{ij}; j = 1,2,3 \text{ and } 0 \leq \omega_{ij} \leq 1. \quad (4)$$

where,

τ = weighted transparency index

A_{ij} = transparency aspect i, indicator j.

ω_{ij} = weighted index of transparency aspect i indicator j.

The maximum value of the transparency index range is 15 (highest degree of transparency) and the minimum is zero (lowest degree of transparency).

Several weaknesses of the Ejiffinger and Geraats index (equation 4). The obvious one is the assumption that all indicators are equally important. Second, in principle, the motives for and effects of each indicator on transparency could differ for each of the five classifications (Geraats, 2002). Theoretical arguments indicate that political, economic and operational transparency could enhance credibility of low-inflation monetary policy, procedural transparency may improve the quality of decision-making, and policy transparency could boost the effectiveness of interest rate setting. Third, the fact that some aspects of transparency could have a similar effect suggests that there may be some degree of substitutability. However, the theoretical literature shows that such substitutability is not straightforward. For instance, Geraats (2006) finds that economic transparency improves the central bank's incentives to invest in reputation and leads to lower inflation, but that greater transparency about preferences has the opposite effect. Ultimately, the relevance of (aspects of) transparency may differ across countries.

There are at least three important advantages of using the Ejiffinger and Geraats (2006) index. First, unlike survey-based techniques, this index is based on an independent analysis (by the researcher) of monetary policy practices. This is important because in surveys, respondents (central bankers) may have an incentive to falsely portray a favorable scenario of monetary policy transparency. Second, the index covers almost all the aspects of monetary policy and hence presents a broader measure of transparency as compared with other works that have focused on fewer aspects.

For example, Fry, Julius, Mahadeva, Roger and Serne (2000) constructed an index that consisted of three components, while Bini- Smaghi and Gros (2001) presented an indicator of central bank transparency and accountability for six major central banks that captured only four components: objectives, strategy, publication of data and forecasts and communication strategy. Third, the index is not constrained to any particular type of monetary policy framework like inflation targeting, monetary targeting etc.

To estimate the Ejiffinger and Geraats index for the Central Banks in the WAMZ, a questionnaire of 15 performance evaluation questions for each of the 15 transparency indicators are designed (see Appendix 1). Performance is scored on either a three-point scale (0, 0.5 and 1) or a two-point scale (0, 1). The authors score the Central Banks for each of the 15 indicators after evaluating available information in the public domain.

Table 2: Transparency Indicators, Maximum Scores and Point Scales

CBN Transparency	Maximum Scores	Point Scale
1. Political	**3**	**-**
a. *formal objectives*	1	2
b. *quantitative targets*	1	2
c. *institutional arrangements*	1	2
2. Economic	**3**	**-**
a. a. economic data	1	3
b. b. policy models	1	2
c. internal forecasts	1	2
4. Procedural	**3**	**-**
a. explicit monetary policy rule or strategy	1	2
b. timely release of minutes	1	2
c. timely of voting records	1	2
3. Policy	**3**	**-**
a. prompt announcement of policy decisions	1	2
b. policy explanation	1	3
c. policy inclination	1	2
4. Operational	**3**	**-**
a. control errors	1	3
b. transmission disturbances	1	3
c. policy evaluation	1	3
TOTAL	**15**	**-**

EMPIRICAL RESULTS

This section presents results of the questionnaire motivated by the model formulated in the previous section. The summary of the results is shown in Table 3. As mentioned earlier, the maximum obtainable score is 15, a weighted index of five key performance indicators; political, economic, procedural, policy and operational. The desirability of the weighted index is that it explicitly shows areas of stellar performance as against weak performance. The rest of the section provides detailed analysis of the aggregate and indicator-specific performance of each country.

Table 3: Index of Central Bank Transparency, June 2013

Central Bank Transparency	**The Gambia**	**Ghana**	**Guinea**	**Liberia**	**Nigeria**	**Sierra Leone**
1. Political	**2.5**	**3**	**2.5**	**1.5**	**2.5**	**2.5**
a. Formal Objectives	1	1	1	1	1	1
b. Quantitative Targets	1	1	1	0	1	1
c. Institutional Arrangements	0.5	1	0.5	0.5	0.5	0.5
2. Economic	**2**	**2.5**	**2**	**0.5**	**2.5**	**2**
a. Economic Data	0.5	0.5	0.5	0.5	1	0.5
b. Policy Models	1	1	1	0	1	1
c. Central Bank Forecasts	0.5	1	0.5	0	0.5	0.5
3. Procedural	**2.5**	**2.5**	**1**	**0**	**3**	**1**
a. Explicit Strategy	1	1	1	0	1	1
b. Minutes	1	1	0	0	1	0
Voting Records	0.5	0.5	0	0	1	0
4. Policy	**1.5**	**1.5**	**0**	**0**	**2**	**0**
a. Prompt Announcement	0	0	0	0	0.5	0
b. Policy Explanation	0.5	0.5	0	0	0.5	0
c. Policy Inclination	1	1	0	0	1	0
5. Operational	**1**	**1.5**	**0**	**0**	**1.5**	**0.5**
a. Control Errors	0.5	0.5	0	0	0.5	0.5
b. Transmission Disturbances	0	0.5	0	0	0.5	0
c. Evaluation Policy Outcomes	0.5	0.5	0	0	0.5	0
Total	9.5	11.5	5,5	2	11.5	6

The Gambia

Political Transparency

The country scored 2.5 out of 3.0. The formal objectives of the central bank are explicitly stated to be price stability in the Central Bank Act. In addition quantitative targets are set by the Central Bank of The Gambia (CBG). However, institutional arrangements need to be strengthened to enhance the CBG's independence.

Economic Transparency

In terms of economic transparency there are still lapses in macroeconomic data gathering and central bank forecasts, hence the country was scored 0.5 on each sub-indicator out of a possible score of 1 each. However, there are adequate macroeconomic models which are disclosed to the public. Hence, a total score of 2.0 out of 3.0 was obtained.

Procedural Transparency

While there are explicit strategies followed by the Central Bank's decision making committees including the recording of minutes, voting record are not easily accessible. Thus, a total score of 2.5 out of 3.0 obtained.

Policy Transparency

The Central Bank's explicitly discloses decisions on the direction of future policy actions but adequate explanation about the reasons for such decisions is not readily available. In addition, announcements about the adjustments of operating instrument are not very timely. A total score of 1.5 out of 3.0 was therefore awarded.

Operational Transparency

Overall, operational transparency seemed to be weak with the country obtaining a score of 1.0 out of 3.0. In particular, evaluations about the attainment of policy targets and broader macroeconomic objectives are not very regular. Moreover, information about unforeseen economic shocks which affect the transmission process is largely unavailable.

Ghana

Political Transparency

The country obtained full marks, 3.0 out of 3.0, with regard to political transparency. The formal objectives of the central bank are explicitly stated to be price stability in the Central Bank Act. In addition quantitative targets are set by the Bank of Ghana (BoG) through an inflation targeting framework. Furthermore, institutional arrangements have been strengthened to guarantee the BoG's independence through performance contracts and stability of tenure of the Board.

Economic Transparency

Economic transparency is sound in terms of reliable and timely macroeconomic forecast under the inflation targeting framework in addition to robust macroeconomic models which are disclosed to the public hence the country obtained the full score of 1.0 on each sub-indicator.

However, macroeconomic data gathering continued to be a challenge particularly in the areas of unemployment and capacity utilization. An overall score of 2.5 out of 3.0 was obtained.

Procedural Transparency

A total score of 2.5 out of 3.0 obtained with regard to procedural transparency. In this regard, there are explicit strategies followed by the Central Bank's decision making committees including the recording of minutes. However, voting record are not easily accessible to the public.

Policy Transparency

A total score of 1.5 out of 3.0 was awarded on policy transparency due to the BoG's explicit disclosure of decisions on the direction of future policy actions. On the other hand, adequate explanations about the reasons for policy decisions are not readily available while announcements about the adjustments of operating instrument are not very timely.

Operational Transparency

Overall, operational transparency seemed to be weak with the country obtaining a score of 1.5 out of 3.0. As a result, evaluations about the attainment policy targets and broader macroeconomic objectives are not very regular. Furthermore, information about unforeseen economic shocks which affect the transmission process is largely unavailable.

Guinea

Political Transparency

An overall score of 2.5 out of 3.0 was obtained for political transparency. The formal objectives of the central bank are explicitly stated to be price stability in the Central Bank Act, in addition to formal quantitative targets. Nonetheless, there are lapses in the institutional arrangements which constrain the Central Bank's independence.

Economic Transparency

In terms of economic transparency a total score of 2.0 out of 3.0 was obtained. Lapses subsist in macroeconomic data gathering including the publication of accurate central bank forecasts; hence the country was scored 0.5 on each sub-indicator out of a possible score of 1 each. On the contrary, there are adequate macroeconomic models which are disclosed to the public.

Procedural Transparency

There are explicit strategies followed by the Central Bank's decision making committees. However, the recording of minutes and voting records are not easily accessible. Hence, a total score of 1.0 out of 3.0 obtained.

Policy Transparency

Policy transparency appears to be very weak as a score of zero out of 3.0 was obtained. The Central Bank does not explicitly disclose decisions on the direction of future policy actions while adequate explanation about the reasons for such decisions is not readily available. In addition, announcements about the adjustments of operating instrument are not very timely.

Operational Transparency

Overall, operational transparency is also weak with the country obtaining a score of zero out of 3.0. As a result, evaluations about the attainment policy targets and broader macroeconomic objectives are unavailable. In addition, information about unforeseen economic shocks which affect the transmission process is largely unavailable.

Liberia

Political Transparency

The country obtained an overall score of 1.5 out of 3.0 for political transparency. While the formal objectives of the central bank are explicitly stated in the Central Bank Act, there are no formal quantitative targets. In addition, there are lapses in the institutional arrangements which constrain the Central Bank's independence.

Economic Transparency

Economic transparency appears to be weak with the country obtaining a score of 0.5 out of 3.0. Lapses subsist in macroeconomic data gathering; hence the country was scored 0.5 out of a possible score of 1 each. On the contrary, macroeconomic models are not disclosed to the public while the publication of accurate central bank forecasts is lacking.

Procedural Transparency

There are explicit strategies but the decisions of the Central Bank are not made public. In addition, the records of minutes and voting are not easily accessible. A total score of zero out of 3.0 was therefore obtained.

Policy Transparency

Policy transparency is very weak as the country scored zero out of 3.0. The Central Bank does not explicitly disclose decisions on the direction of future policy actions while adequate explanation about the reasons for such decisions are not readily available. In addition, announcements about the adjustments of operating instrument are not very timely.

Operational Transparency

Operational transparency is also weak with the country obtaining a score of zero out of 3.0. This implies that evaluations about the attainment policy targets and broader macroeconomic objectives are unavailable. Furthermore, information about unforeseen economic shocks which affect the transmission process is unavailable.

Nigeria

Political Transparency

Nigeria scored 3.0 full marks, with the primary objective of monetary policy in Nigeria being price stability. (Monetary policy Communique No 85), which was quantification to target single digit inflation (ranging from zero to 9.9999…). Consequently, a full mark is awarded on quantification of targets. The CBN enjoys instrument independence and this is guaranteed by the CBN Act of 2007, which ensures the independence of the monetary policy committee (MPC). Therefore, CBN is transparent in terms of institutional arrangement earning a full score.

Economic Transparency

Economic data used for monetary policy should be reliable and timely. On the whole, based on the fact that quarterly time series for three out of the five variables are available, the CBN was adjudged not fully transparent on data publication. The macroeconomic model of the Nigerian economy used for policy analysis by the CBN is not in the public domain, however, the CBN publishes numerical forecasts for inflation and GDP on medium term basis, (see www.cenbank.org for current forecast). Thus a total of 1.5 out of 3 was scored on economic transparency.

Procedural Transparency

On procedural transparency, a total score of 3 out of 3 was awarded because there is a clear statement of the monetary policy rule and strategy, which indicates that the monetary policy framework in Nigeria is monetary targeting (using short term overnight interest rate and base money as operating target). The CBN publishes a comprehensive minutes and the voting records of its Monetary Policy meetings, which are released along with the comminques promptly.

Policy Transparency

Policy changes in instruments/tools (monetary policy rate, cash reserve requirements etc), policy inclination indicate future policy as well as the implementation dates are promptly announced to the public in a press conference usually addressed by the CBN Governor. The Bank provide explanations when there are policy changes however, the Bank does not include explicit forward looking assessments and on that basis, consequently a score of 2.5 out of 3 was awarded

Operational Transparency

On operational transparency, the CBN was awarded an overall score of 1.5 out of 3 because though the Bank gives its operating targets, provides information such as short term forecasts as well as an analysis on macroeconomic developments and conducts analysis of policy evaluation, there are no explicit explanations for missing targets nor is there information on the exact contribution of monetary policy to achieved targets.

Sierra Leone

Political Transparency

A score of 2.5 out of 3.0 was obtained on political transparency. The formal objectives of the central bank are explicitly stated in the Central Bank Act as well as formal quantitative targets. However, institutional arrangements need should be strengthened in terms of recapitalization of the Bank to give it more instrument independence.

Economic Transparency

In terms of economic transparency the country obtained a total score of 2.0 out of 3.0. There are lapses in macroeconomic data gathering as well as the publication of central bank forecasts; hence the country was scored 0.5 on each sub-indicator out of a possible score of 1 each. However, there are adequate macroeconomic models which are disclosed to the public.

Procedural Transparency

There are explicit strategies followed by the Central Bank's decision making committees. However, the records of minutes and voting are not easily accessible. Thus, a total score of 1.0 out of 3.0 obtained.

Policy Transparency

Policy transparency is very weak as the country scored of zero out of 3.0. The Central Bank does not explicitly disclose decisions on the direction of future policy actions while adequate explanation about the reasons for such decisions is not readily available. In addition, announcements about the adjustments of operating instrument are not very timely.

Operational Transparency

Operational transparency is also weak with the country obtaining a score of 0.5 out of 3.0. As a result, evaluations about the attainment policy targets and broader macroeconomic objectives are unavailable. However, information about unforeseen economic shocks which affect the transmission process is available though not readily.

CONCLUSION

The paper examined the disclosure of explicit information by central banks using the transparency index method advocated by Ejiffinger and Geraats (2006) and used by Egbuna (2013) as well as Malik and Din (2008). A weighted transparency index of five key performance indicators (political, economic, procedural, policy and operational) was measure for each WAMZ country. The result shows vast differences in the weighted transparency indexes across countries. The Gambia, Ghana and Nigeria are relatively transparent with overall weighted indexes of 9.5, 11 and 11.5. On the other hand transparency appears to be weak in Guinea, Liberia and Sierra Leone with indexes of 5.5, 2.0 and 6.0. This underscores the need to enhance central bank transparency in these countries.

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APPENDICES

A: QUESTIONAIRE

The precise formulation of the central bank transparency index by Eijffinger and Geraats (2006} is reproduced here. There are a total of fifteen questions and all questions carry equal weight, so aggregate score for a particular central bank can vary from zero to fifteen.

1. Political Transparency

Political transparency refers to openness about policy objectives. This comprises a formal statement of objectives, including an explicit prioritization in case of multiple goals, a quantification of the primary objective(s), and explicit institutional arrangements.

(a) Is there a formal statement of the objective(s) of monetary policy, with an explicit prioritization in case of multiple objectives?

No formal objective(s) = O.

Multiple objectives without prioritization = 1/2.

One primary objective, or multiple objectives with explicit priority = 1
(b) Is there a quantification of the primary objective(s)?

No = O.

Yes = l.

(c) Are there explicit institutional arrangements or contracts between the monetary authorities and the government?

No central bank contracts or other institutional arrangements = 0.
Central bank without explicit instrument independence or contract =1/2.

Central bank with explicit instrument independence or central bank contract (although possibly subject to an explicit override procedure)= 1.

2. Economic Transparency

Economic transparency focuses on the economic information that is used for monetary policy. This includes economic data, the model of the economy that the central bank employs to construct forecasts or evaluate the impact of its decisions, and the internal forecasts (model based or judgmental) that the central bank relies on.

(a) Is the basic economic data relevant for the conduct of monetary policy publicly available? T he focus is on the release of data for the following five variables: money supply, inflation, GDP, unemployment rate and capacity utilization.

Quarterly time series for at most two out of the five variables = 0.
Quarterly time series for three or four out of the five variables = 1/2.
Quarterly time series for all five variables = 1.

(b) Does the central bank disclose the formal macroeconomic model(s) it uses for policy analysis?

No = 0.

Yes = l.

(c) Does the central bank regularly publish its own macroeconomic forecasts?

No numerical central bank forecasts for inflation and output = 0.
Numerical central bank forecasts for inflation and/or output published at less than quarterly frequency = 1/2.

Quarterly numerical central bank forecasts for inflation and output for the medium term (one to two years ahead), specifying the assumptions about the policy instrument (conditional or unconditional forecasts) = 1.

3. Procedural Transparency

Procedural transparency is about the way monetary policy decisions are taken. It involves an explicit monetary policy rule or strategy that describes the monetary policy framework, an account of policy deliberations and how the policy decision was reached.

(a) Does the central bank provide an explicit policy rule or strategy that describes its monetary policy framework?

No = O.

Yes = 1.

(b) Does the central bank give a comprehensive account of policy deliberations (or explanations in case of a single central banker) within a reasonable amount of time?

No, or only after a substantial lag (more than eight weeks) = O.

Yes, comprehensive minutes (although not necessarily verbatim or attributed) or explanations (in case of a single central banker), including a discussion of backward and forward -looking arguments = 1.

(c) Does the central bank disclose how each decision on the level of its main operating instrument or target was reached?

No voting records, or only after substantial lag (more than eight weeks) = 0.

Non-attributed voting records = 1/2.

Individual voting records, or decision by single central banker = 1.

4. Policy Transparency

Policy transparency means prompt disclosure of policy decisions. In addition, it includes an explanation of the decision, and an explicit policy inclination or indication of likely future policy actions.

(a) Are decisions about adjustments to the main operating instrument or target promptly announced?

No, or after a significant lag = O.

Yes, at the latest on the day of implementation = 1.

(b) Does the central bank provide an explanation when it announces policy decisions?

No = 0.

Yes, when policy decisions change, or only superficially always and including forwarding-looking assessments = 1.

(c) Does the central bank disclose an explicit policy inclination after very policy meeting or an explicit indication of likely future policy actions (at least quarterly)? No = O.

Yes = 1.

5. Operational Transparency

Operational transparency concerns the implementation of the central bank's policy actions. It involves a discussion of control errors in achieving operating targets and (unanticipated) macroeconomic disturbances that affect the transmission of monetary policy. Furthermore, the evaluation of the macroeconomic outcomes of monetary policy in light of its objectives is included here as well.

(a) Does the central bank regularly evaluate to what extent its main policy operating targets (if any) has been achieved?

No, or not very often (at less than annual frequency) = O.

Yes, but without providing explanations for significant deviations= 1/2.

Yes, accounting for significant deviations from target (if any); or, nearly) perfect control over main operating instrument/target = 1.

(b) Does the central bank regularly provide information on (unanticipated) macroeconomic disturbances that affect the policy transmission process?

No, or not very often = O.

Yes, but only through short-term forecasts or analysis of current macroeconomic developments (at least quarterly) = 1/2.

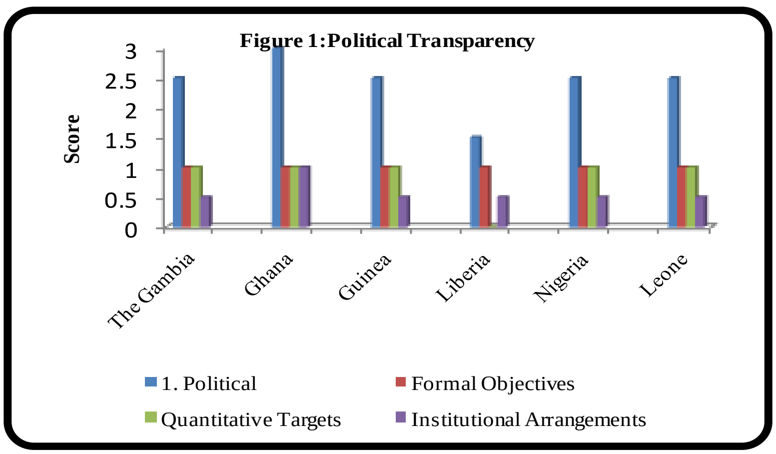
Yes, including a discussion of past forecasts (at least annually) = 1

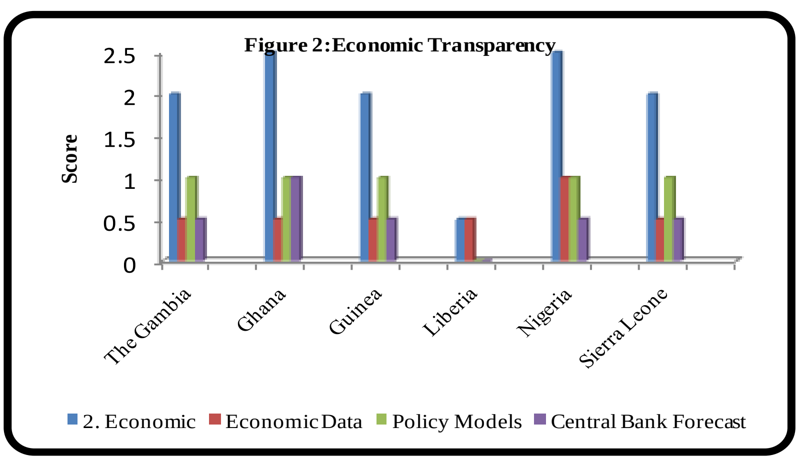
(c) Does the central bank regularly provide an evaluation of the policy outcome in light of its macroeconomic objectives?

No, or not very often (at less than annual frequency) superficially = 1/2.

Yes, with an explicit account of the contribution of monetary policy in meeting the objectives = 1.

B: Transparency Indices





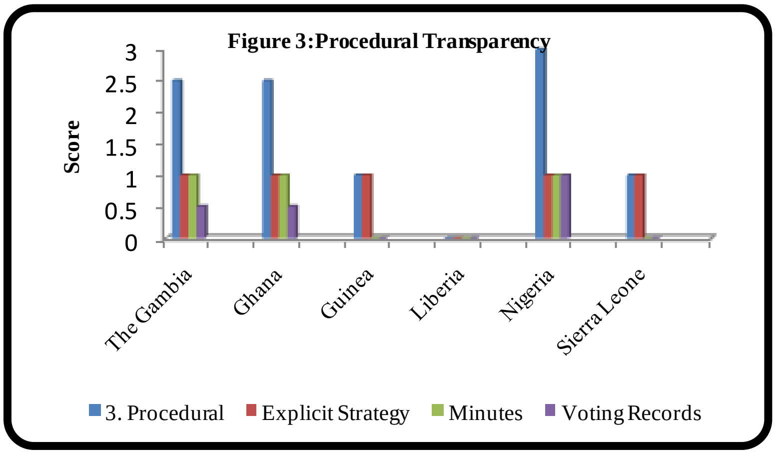


Figure 3:Procedural Transparency
Score
3
2.5
2
1.5
1
0.5
0
The Gambia
Ghana
Guinea
Liberia
Nigeria
Sierra Leone
3. Procedural
Explicit Strategy
Minutes
Voting Records

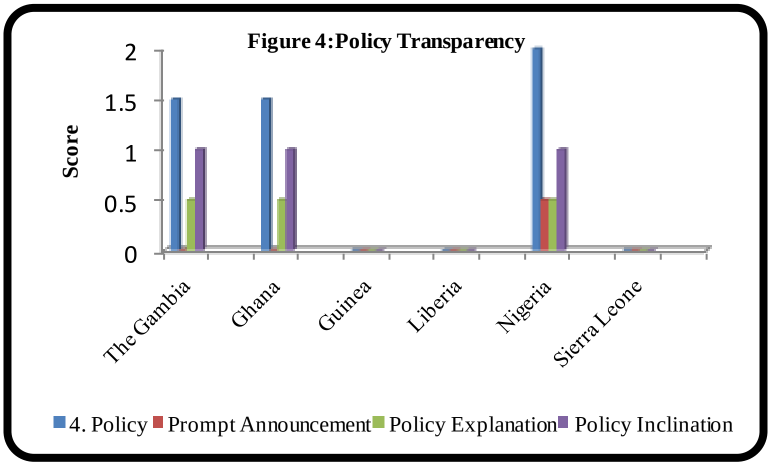


Figure 4:Policy Transparency
Score
2
1.5
1
0.5
0
The Gambia
Ghana
Guinea
Liberia
Nigeria
Sierra Leone
4. Policy
Prompt Announcement
Policy Explanation
Policy Inclination

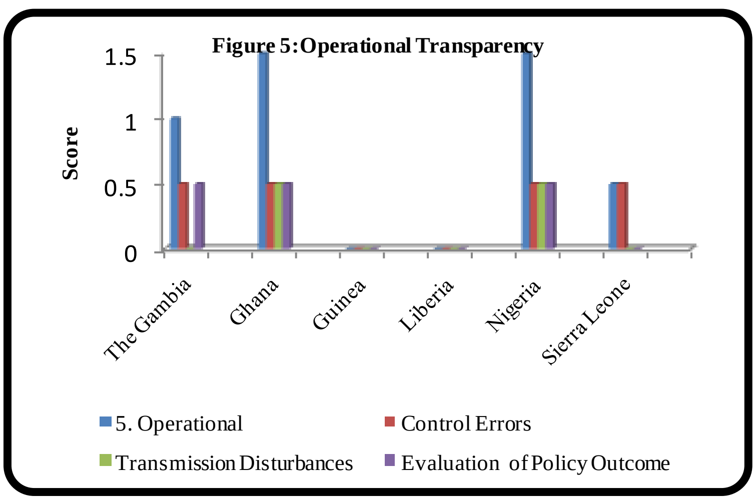


Figure 5:Operational Transparency
Score
1.5
1
0.5
0
The Gambia
Ghana
Guinea
Liberia
Nigeria
Sierra Leone
5. Operational
Control Errors
Transmission Disturbances
Evaluation of Policy Outcome