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# Macroeconomic Effects of Central Bank Independence and Transparency: The case of Nigeria.

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**Abstract**

As the Nigerian economy tend towards democracy, the search began for how to establish monetary institutional policies that can be viewed as credible commitments. There is the notion that Central Banks in democratic economies have the likelihood of higher inflationary bias than other economies. Delegation of monetary policy to an independent central bank seem to be a good option for these economies. Thus, since then, greater independence became the practice across all groups of countries, but has been particularly marked for developing and emerging market economies. Transparency has been a good ingredient of Independence. Authors have not been able to conclude on the impact of these on macro economic variables, especially in the less developed countries where democracy is gaining ground and most government are trying to use monetary policies to support their government and administration. Against this background, this paper investigated the impact these two variables will have on many macroeconomic variables in these countries taking Nigeria as a case study. Indices of these variables were calculated and their impact was investigated on selected macroeconomic variables. The findings revealed that CBN independence and transparency means more employment for the Nigerian economy. It has negative effect on inflation and interest rate. The finding that increased independence lead to low interest rate is particularly very important for the growth of the economy.

**Keywords:** Central bank independence, Inflation Targeting, Transparency, Monetary policy.

## 1.0 Introduction

The central banks have existed for over a century but their purposes, functions and operations have evolved over time. Interest on the Central Bank Independence (CBI) intensified after models of monetary policy found the likelihood of an inflationary bias in monetary policy operated by democratic governments (Banaian, 2008). The consensus is that, democratic governments generate a more pronounced inflation bias, requiring greater delegation of authority. The second is that democratic government is more open and pluralistic, involving more checks and balances, and therefore more amenable to delegation within the political system (Crowe and Meade, 2008). As the economies tend towards democracy, the search began for how to establish monetary institutional policies that can be viewed as credible commitments. Delegation of monetary policy to an independent central bank was one strand of that exploration. Thus, since then, greater independence became the practice across all groups of countries, but has been particularly marked for developing and emerging market economies (Crowe and Meade, 2008). As central banks have become more independent, so the demand for transparency has increased, both for reasons of accountability and legitimacy, and to guide the expectations of financial market participants (whose appetite for information has expanded as financial markets have become broader and deeper). Transparency became more necessary with the experience of the banking crises in Mexico in 1994 and the South East Asian. In1997, official bodies, including the IMF and the Basel Committee on Banking Supervision, therefore, called for increased transparency of banking industry (see Nier 2005). Their suspicion is that the crises emanated from general lack of transparency in the affairs of both lender and borrowers and policies responsible for the depth of the crises which would not have been undertaken, had there been transparency. Also, monetary policy has become more information-intensive with the increasing popularity of inflation targeting (IT) over simpler policy anchors such as a fixed exchange rate or money aggregate rule. Hence both the supply of and demand for central bank transparency seem to have increased (Blinder et al, 2001; Faust and Svensson, 2001; Geraats, 2002).

The Nigerian economy, on her adoption of democracy in 1999, therefore, started exploring the monetary anchor that is suitable for her economy particularly plague with high inflation and unemployment rate. As a result, the Central Bank of Nigeria (CBN) announced its intention to adopt Inflation Targeting regime in January 2009 which was later shelved (see Uchendu, 2009). According to Odoko (2008) the apex bank said it has shelved the commencement of earlier scheduled inflation targeting expected to start in January, 2009 to enable it effectively fashion out the operational framework in the Nigerian economy. Also, the authority noticed that in most countries across the world today, the consensus is to grant respective central banks instrument as well as financial and budgetary independence so as to ensure their effectiveness in the formulation and execution of monetary policy. Thus, the Central Bank of Nigeria was granted partial operational autonomy, making it independent. By 2007, the CBN was given total autonomy (CBN Act, 2007). Hence, the Nigerian monetary framework now combines operational independence with transparency. An important feature of the framework is increased accountability through the frequent publication of the communiqué of the Monetary Policy Committee's Meetings. Recently, this autonomy was threatened by the move by the lawmakers to amend the Central Bank of Nigeria's Act. This has caused a lot of concern to stakeholders and researchers.

Hence, this paper is out to investigate the effects of Central Bank independence and transparency on the macroeconomic variables in the Sub-Saharan economy using Nigeria as a case study. This is especially important in view of the fact that the Central Banks of Nigeria economies has experimented with exchange rate targeting and monetary targeting in the past. According to Martijn and Hossein (1999) and Dincer and Eichengreen (2009) , the case for transparency is based on the notion that it increases the credibility of monetary policy as policy becomes predictable by private agents. It also adds to political credibility of a country and the Central Bank, especially if policy has been time inconsistent. Additionally, transparency is associated with a low inflation rate.

Specifically, the paper examines the impact of operational independence and transparency on the conduct of monetary policy with a focus of the impacts of these on selected macroeconomic variables in the country. It compares the periods of interference in CBN affairs with the time of autonomy as regard the performance of selected macroeconomic variables. The paper covers the period 1970 to 2011.

The rest of the paper is divided into four parts, section 2 describes related literature on the topic, section 3 discusses the methodology, section 4 shows the analysis of the results gotten and section 5 concludes and recommends.

## 2.0 Related Literature

### Conceptualizing Central Bank Independence

There is no clear definition of Central Bank Independence (CBI) in the literature, as many authors give the definition in various ways. According to Friedman (1962), CBI relates to the relationship between the government and the Central Banks (CBs) as the government relates to the Judiciary. As the Judiciary can rule only on the basis of the laws provided by the legislation so also the CBs can only work on the policy of the government. According to Mboweni (2011) the traditional argument in favour of a strong independent central bank is that the power to spend money should in some way be separated from the power to create money. Numerous episodes in the world's economic history testify to a government's potential abuse of its power to create money. He gave an analogy of this as what happened around the third century AD in the Roman Empire, where the government collected silver coins as tax from the people melted and combined them with inferior metals, yielding many more coins to spend on the Caesar's priorities than the initial tax taken. With too much money chasing too few goods, the end result was hyper- inflation. Therefore, authors like Hasse (1990), Ejffinger and Haan (1996) highlighted three major areas where the influence of government must either be excluded or radically reduced. These areas include; personnel, Financial and Policy sectors of the central bank. Thus, there is the need for independence in the operations of the Central Banks in these three major areas. These are explained below;

1. Personnel Independence: This refers to the level of the influence of government in appointment of personnel in the Bank. According to Ejffinger and Haan (1996) it may not be totally possible for government to hands-off from this but it can be limited to areas like, having government representative in the board of government of the Central Bank, government influencing appointment procedure and have a say in the terms of service and dismissal of the governing board.
2. Financial Independence: This refers to the extent of power and type of access given to the government to handle Central Bank's Credits. If the government is given direct access, it means that the Central Bank is not financially independent. While indirect access like the power to have the Central Bank as the cashier of the government or having the power to handle government debt management means independent of the Central Bank.
3. Policy Independence: This is given as the maneuvering room allowed for a central bank to formulate and implement monetary policy. This can be in respect of goal or instrument (Ejffinger and Haan, 1996). In respect of goal, two important issues are raised. (1) the scope the Central Bank has to exercise its discretion and (2) the presence or absence of monetary policy as its central goal.

A central bank is independent if it has the power to manipulate effective policy instruments and given the power by the law of the land to choose the means by which it will accomplish its goals. It is however not independent if it will have to seek the endorsement of the government before it could use any instrument to attain its goal, then it is not independent with respect to instrument.

**Inflation Targeting**

Central Bank Independence is closely associated with inflation targeting. Inflation Targeting is defined as a framework for policy decisions in which Central Bank makes explicit commitment to conduct monetary policy to meet a publicly announced numerical inflation targets within a particular time frame (Aliyu and Englama, 2009). Central Bank therefore endeavors to adopt a monetary policy framework that would ensure price stability. Monetary policy framework adopted in most countries in the past includes exchange rate targeting, monetary targeting, GDP targeting, interest rate targeting and more recently inflation targeting. The interest in inflation targeting largely stems from the fact that it controls inflation better and the degree of fiscal deficit financed by an inflation tax, especially if supported by an independent Central Bank. South Africa was the first country to implement Inflation Targeting in Africa in 2000. Ghana with similar characteristics to Nigeria adopted inflation targeting in 2004 while, Nigeria implemented intended to implement it in 2009. Inflation targeting involves an institutional commitment to price stability, the public announcement of the inflation targets and communicating to the public and the market the rationale for the decisions taken.

**Central Bank Transparency**

Transparency of monetary policy can be defined as the extent to which central banks disclose information that is related to the policymaking process (Eijffinger, S.C., and Geraats, P.M.(2004)). However, for the Central Bank to show that it is pursuing its policy independence effectively and democratically the central bank must be accountable to the public for its actions. The bank must regularly demonstrate that it is appropriately pursuing its mandated goals, which in turn requires transparency in the central bank's economic outlook and policy strategy (Kingsley, 2011). Kingsley (2011) defined transparency as the presence of symmetric information, which involves clarity about central bank processes, about their objectives, outlooks, policy strategies, and even their mistakes. Helder and José (2008) defined central bank transparency as the existence of symmetric information between monetary policymakers and other economic agents. Transparency is, therefore, a multifaceted concept that could pertain to any aspect of monetary policymaking. Thus, it seems natural to use a conceptual framework that reflects the different stages of the decision-making process. Kuttner and Possen (2000) and Posen (1999), enumerated some elements of monetary transparency especially if the Central Bank engages in an optimizing behaviour. They include making a model of the economy, identifying the goals of the monetary policy, setting targets, and forecasting the effects of monetary policy on the economy. They observe that disclosure of policy by the Central Bank constitutes institutional transparency. The disclosures include, a long-run goal for monetary policy, an inflation report describing the bank's model of the economy, estimate of the likely effect of monetary policy changes, and updates thereof, the central bank's forecast of the goal variable, an evaluation of what monetary policy moves were made in the past and its outcome. Kuttner and Posen (2000) argue that the litmus test for monetary transparency in the event of unforeseen economic shocks is the ability to fix expectations when policy deviates from its target. Faust and Svensson (1998) note that increased transparency improves the precision of private sector inference about central bank goals, and makes the bank's reputation and the private sector's inflation expectations more consistent. If the Central bank's response is contrary to expectations, but it still goes ahead to communicate its action to the public, it means it is transparent and this is termed transparency in discretion.

Following Geraats (2002), one can distinguish five aspects of transparency. These, according to them are; political, economic, procedural, policy and operational transparency. These aspects of transparency correspond to information disclosure about the stages of monetary policymaking.

- Political transparency refers to openness about policy objectives. This encompasses a statement of the official objectives of monetary policy, including an open prioritization in case of potentially conflicting goals, and quantitative targets. Political transparency is improved by institutional arrangements, like central bank independence and central bank contracts, which 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. So, the central bank's actions are likely to reflect anticipated developments.
- Procedural transparency refers to the ways 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 decisions were reached, which are achieved by the release of minutes and voting records.
- Policy transparency focuses on how a prompt announcement of policy decisions is made. In addition, it includes an explanation of the decision and a policy proclivity or signal 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 confirmation warrants moving a full step.

- Operational transparency is the implementation of the central bank's policy actions. It involves a debate on control errors in achieving the operating instrument or target set in the policy decision, and (unanticipated) macroeconomic disturbances that affect the transmission of monetary policy from instrument to conclusion. Eijffinger and Geraats (2005) developed a conical model on each of these aspects of Transparency feature in the process of Central Bank Transparency. They assumed a central bank with the objective function of;

$$W = \delta\left(\varphi - \varphi^*\right) + \theta\left(y - y^*\right) \quad (1)$$

Subject to the structure of the economy represented as;

$$y = \bar{y} - a\left(i - \varphi^* - \bar{r}\right) + d \quad (2)$$

$$\varphi = \varphi^* + b\left(y - y^*\right) + s \quad (3)$$

Where $\varphi$ is inflation, $\varphi^*$ is target inflation, $y$ is output and $y^*$ is target output $\bar{y}$ is natural rate of output , $\bar{r}$ is long-run interest rate, $i$ is nominal interest rate, $s$ and $d$ are aggregate supply and demand shocks respectively.

The model shows that; the central bank independence ensures that central bankers can pursue their objectives, without political influence, and incentive schemes effectively by modifying their objective function (1) subject to institutional arrangements in the economy. Assume that the nominal interest rate $i$ is used as monetary policy instrument. The central bank could set it based on a Taylor-type instrument rule, or it could maximize (1) subject to (2) and (3), adopting a Fuast and Svensson (2002) style targeting frame-work that allows for judgment. Alternatively, the central bank could use different procedures and formulate its own monetary policy strategy. 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. In the context of the canonical model, policy transparency means 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.

**Theoretical Framework**

According to Hayo and Hefeker (2001) the theory of Central Bank Independence emanated from the work of Barro and Gordon (1983) who built upon earlier work by Kydland and Prescott (1977),that introduced the idea of time-inconsistent behavior. They started with the idea that the monetary authority is a social welfare maximizer who has complete control over the rate of inflation and whose objectives are defined over employment (or output) and inflation. Deviations of employment and inflation from their target values (here taken to be zero) enter the loss function quadratic. Nominal wage contracts are fixed over a certain time period, which implies that inflation reduces real wages, creating more output and employment. This creates an incentive to surprise wage setters by letting the rate of inflation rise above the expected rate, which determines nominal wage demands. Rational expectations wage setters foresee this incentive and incorporate the expected rate of inflation into their nominal wage demands. Under the assumption that the objective function of the monetary authority is publicly known, the expected rate will reflect the equality between marginal gains and costs from inflation, and the actual rate of inflation will be equal to the expected rate. There is no monetary surprise and no employment gain, but a positive rate of inflation. Promises not to inflate are not credible because the welfare maximizing government has an incentive to renege on this promise once wage contracts have been signed. Ex-ante optimality requires zero inflation, but expost positive inflation is welfare maximizing. Hence, as Barro and Gordon pointed out, an inflationary bias exists in this setup.

To avoid positive rates of inflation that carry only costs but no benefits, a mechanism is sought to commit the monetary authority to a non-inflationary monetary policy. The mechanism suggested by Rogoff (1985) is to appoint someone whose preferences are known to diverge from those of the welfare maximizing authority. If someone who puts more relative weight on avoiding inflation than unemployment were to set monetary policy, the rate of inflation would be lower, since marginal costs and benefits from inflation are different for that person. Given that the preferences of this person are known, the expected and actual rate of inflation would fall. This simple and intriguing solution of appointing a "conservative" central banker, as Rogoff called these preferences, could help to reduce the inflation bias.

However, as he also pointed out, this solution is not costless in a world with stochastic shocks, because in such a world there is a stabilizing role for monetary policy. With a conservative central banker, however, stabilization policy would be relatively weak. Hence, lower average inflation comes at the potential price of higher output variability. Another aspect pointed out by Rogoff (1985) is that conservatism is only a second-best solution to the inflation bias problem. The first-best would be to eliminate existing rigidities in the labour and product markets. Rigidities in labour and product markets must be present to generate an inflation bias, since if all factors of production are employed there is no incentive to increase production and employment.

**Central Bank Independence and Transparency**

Central bank independence and transparency have actually become best practice in monetary policy. Independence is justified as a way of permitting the appointment of central bankers who are more conservative than the median voter in order to offset the inflationary bias that results in inability to pre-commit. With independence, come demands for adequate accountability and hence more transparency. Nonetheless, the behaviour of independent central banks is quite heterogeneous in information disclosure (Eijffinger and Geraats, 2006; Demertzis and Hughes Hallet, 2007). Independence in Central Banks has become very important as the bank has been given the legal power to create money.

Most researchers agree that greater transparency in monetary policy is desirable because it allows the private sector to make Pareto-improving forecasts and decisions (Blinder, 1998; Blinder et al., 2001). But not everybody agrees. Some argue that information disclosure reduces the possibility for central banks to strategically use their private information. For example, information asymmetries between central banks and the public about the weight of each target in the central bank's loss function may affect trade union behaviour, induce wage moderation (Sorensen, 1991) and decrease both the level and the variance of inflation (Gr¨uner, 2002). It can be shown that incomplete transparency is optimal as a result of a trade-off between the effect on the central bank's reputation and its consequent ability to control inflation on one hand, and the private sector's wish to see output, employment and prices stabilised on the other hand (Faust and Svensson, 2001; Jensen, 2002). For others, certain restrictions on transparency are important for operational reasons in order to reinforce the central bank's credibility (Eijffinger and Hoeberichts, 2002).

**Transparency and Central Bank Independence in Nigeria**

Some recent developments support CBI in Nigeria and they include CBN's autonomy as stated in the CBN Act of 2007, recognition of price stability as a distinct mandate in the 2007 Act, greater co-operation between fiscal and monetary authorities and stable macroeconomic environment. Other arguments for central independence are on the ground that the control of the nation's monetary system is not only important but too delicate a matter to be left in the hands of politicians (Ajayi and Ojo, 2006). According to them, given the special nature of the management of money, it requires the skill and refinement in both financial manipulation and market operation that only the most skilled experts possess. Secondly, it is argued that politicians lack the political courage and the sense of long-run responsibility which are necessary to protect the currency of the nation from abuse and debasement. Thirdly, given that a central bank protects the general interest, there may be situations when government interest may be in conflict with societal welfare. Fourthly, there is need for an independent person outside the government circle to speak publicly on economic matters. This necessitated the review of the Act which culminated in the enactment of the CBN Act of 2007. Under the Act, the core mandate of the Bank shall be to:

* Ensure monetary and price stability;
* Issue legal tender currency;
* Maintain external reserves to safeguard the international value of the legal tender currency;
* Promote a sound financial system in Nigeria; and
* Act as banker and provide economic and financial advice to the Federal Government.

The Act clearly spelt out monetary and price stability as part of the core mandate of the CBN, something that could only be inferred in the previous legislations. Consequently, it made it possible for the bank to join global central banks that are specifically tasked to keep inflation low and stable, recognizing the importance of price stability to the economic development process. The current CBN Act 2007 also grants the CBN full autonomy to choose its instruments for the purpose of meeting its mandate in line with international best practice. It also spells out clearly the modalities for the appointment of the Governor and four Deputy Governors, which shall be by the President, subject to confirmation by the Senate of the National Assembly while the removal of the Governor shall be subject to the concurrence of two-thirds of the Senate.

The Central Bank also has full powers to adopt appropriate measures to promote confidence and ensure stability in the financial system, as demonstrated during the global financial and economic crises. To a significant extent, then, the CBN, though an agency of the Government, has significant flexibility to pursue its mandate without undue political interference.

In implementing the present frame work, the CBN reviewed the contingency planning framework for systemic distress in banks to ensure timely regulatory action. The conduct of monetary policy is dictated by prevailing domestic and external economic conditions. Policy is made transparent as much as possible and market driven using instruments such as cash reserve requirements, appropriate interest rate policy, open market operations, discount window operations and foreign exchange market intervention. The objective of monetary policy is ensuring price stability and promoting financial stability so as to support the macroeconomic objectives of government. Other objectives of the CBN include achieving a low interest rate regime and exchange rate stability. In achieving transparency and maintaining public confidence in the conduct of monetary policy, the CBN will disclose its policies as well as follow a policy of zero tolerance on all unethical conduct especially in the banking sector. It will achieve this through enforcement of code of corporate governance and strengthened risk management.

Transparency of the MPC's goals and achievements is a precondition for accountability and serve as a substitute in convincing the public of the MPC's intentions and competency. According to King (1997), cited in Kuttner and Possen (2000), a transparent monetary policy is synonymous with inflation targeting.

**Lesson from Other Countries**

**The transparency and Independence of Federal Reserves of South Africa**

The adoption of the inflation-targeting monetary policy framework has substantially improved the transparency and accountability of monetary policy. The publication of monetary policy statements and press releases, and live television broadcasts after each MPC meeting, i.e. six times a year, keep the general public well informed on monetary policy issues.

In order to further develop a better understanding of monetary policy, Monetary Policy Forums are convened by the Bank. These forums are held twice a year in the major centres of South Africa and representatives of the labour movement, business, government and academic institutions are invited to attend. At these meetings MPC members provide an overview of recent international and economic developments and explain the monetary policy stance. At the same time the public is invited to express their views on monetary policy and economic conditions. This ensures that the MPC takes the view of interested parties into account in the determination of monetary policy. In addition, the Reserve Bank publishes a Monetary Policy Review twice a year. In these reviews a more detailed analysis is made of domestic and international economic developments and the factors that affected or could in future influence inflation. The review includes the Bank's core forecast of inflation in the form of a fan chart. Confidence intervals in the fan chart show the varying degrees of certainty for projected rates of increase in projected inflation. The inflation-targeting framework improves the accountability of the Reserve Bank because it provides an explicit and publicly known benchmark that must be reached over a specific time frame. In South Africa's previous monetary policy frameworks, the objective of monetary policy was to bring the domestic inflation rate down to those of the country's main trading partners and competitors. A specific numerical target was therefore not provided and it was not indicated at what time this objective would be achieved. The Governor of the Reserve Bank is required to submit annually a report on the implementation of monetary policy to the Minister of Finance. In addition, in terms of section 32 of the Reserve Bank Act, the Bank must, on a monthly basis, submit a statement of assets and liabilities and annually present its financial statements to the National Treasury. These reports are then tabled in Parliament by the Minister of Finance. The Governor also appears regularly in Parliament before the Portfolio and Select Committees on Finance to explain the monetary policy stance adopted by the MPC. Moreover, section 37 of the Reserve Bank Act provides that if at any time the Minister of Finance is of the opinion that the Bank has failed to comply with any provision of the Act or a regulation thereunder, he may by notice in writing require the Board of the Bank to make good or remedy the fault within a specified time. If the Board fails to comply with such a notice, the Minister may apply to the Supreme Court for an order compelling the Board to make good or remedy the default, and the Court may make such order thereon as it deems fit.

**Bank of Ghana Transparency and Autonomy**

The Bank of Ghana Act 2002 gave operational independence to the central bank, established an implicit inflation targeting framework, and created a Monetary Policy Committee (MPC) to oversee the new policy. Under Ghana's inflation targeting regime, the monetary and fiscal authorities have made a joint institutional commitment to price stability as the primary goal of monetary policy, to which all other goals are subordinated. The numerical target range for inflation is announced in the context of the annual budget and the Bank of Ghana communicates on a regular basis with the public and the markets about its goals and decisions. The current medium-term goal is around 5 percent inflation. Because this monetary policy strategy is highly transparent, the central bank faces a greater degree of accountability for reaching its inflation targets than it otherwise would. As the inflation target is agreed jointly with Ghana's Ministry of Finance, the accountability of the latter also increases. The anchor of their new macroeconomic framework was a reduction in domestic debt. The domestic debt decreased from about 31 percent of GDP in 2001 to 13.5 percent in 2006 and inflation also come down from about 62 percent in 2001 to around 12.7 percent 2009. Ghana's five-year success with "implicit" inflation targeting-when a country establishes inflation targets but does not announce this as its primary monetary policy objective-encouraged the government to formally adopt the policy in 2007.

## 3.0 Methodology

### Nature and Sources of Data

### The index of independence

Several methods to construct the index of central bank independence are proposed in the literature ( Fry et al. 2000). The most widely employed index is due to Cukierman et al. (1992). This index is based on four legal characteristics as described in a central bank's charter. First, if the chief executive is appointed by the central bank board rather than by the president or the Minister of Finance,and he is not subject to dismissal, and has a long term of office, then the bank is considered as more independent .Secondly, if policy decisions are made independently of government involvement. Thirdly, if the central bank's charter states that price stability is the primary goal of monetary policy.. Fourthly, if the government's ability to borrow from the central bank is limited. Cukierman et al. (1992) combine these for aspects into a single measure of legal independence which ranges from zero to one. This method was used by several authors like Cukierman et al. (1998) and Polillo and Guillén (2005). Our index is constructed in line with this method.

### The index of transparency

In the literature, there are mainly two basic methods to estimate the index of central bank transparency. The first is as proposed by Fry et al. (2000) and Mahadeva and Sterne (2000). These authors measure central bank transparency on the basis of a survey focusing on the information published by central banks that enhances the public understanding of the central bank policy, analysis and forecasts. The second approach is as constructed by several authors and it is based on the actual information disclosed by central banks (Siklos, 2002; De Haan et al., 2004; Eijffinger and Geraats, 2006; Dincer and Eichengreen, 2007). These authors construct the index of transparency either for a very limited number of central banks or a single point in time, in the exception of Dincer and Eichengreen. These authors construct an index for a large range of central banks (124) and a long period (1998-2005). Their index is more suitable for cross section time series analysis, and therefore we retain it in our analysis.

### Theoretical frameworks

This paper follows Crowe and Meade (2008). It investigates the relation between macroeconomic variables and central bank independence transparency and Independency respectively, for the period 2000-2010. All data are annual and extracted from CBN Statistical Bulletin and WDI (world development indicators). In order to take into account the country specific effects of the meaningful temporal variation in independence, and transparency, we use panel data approach to evaluate the effects of the central bank transparencyand independence respectively on the macroeconomic variables. The model is specified as:

$$y_t = \alpha_i + \beta_i X_t + \varepsilon_t \qquad (1)$$

Where $y_t$ is the selected macroeconomic variables; and $X_t$ is Central bank Independent and transparency. The independent variables are measured as the indices of Transparency and independence.

## 4.0 Model Results

**Table 1: Employment Model**

**Dependent Variable: LPR (labour Participation Rate)**

| Independent Variable | Coefficient | Standard Error | t-statistics | p-value |
|---|---|---|---|---|
| **C** | 64.96170 | 0.926223 | 70.13617 | 0.0000 |
| **GDP** | 1.123510 | 0.325611 | 3.45047 | 0.0078 |
| **Ind** | 0.988138 | 0.147380 | 6.704716 | 0.0000 |

$R^2$=0.588794
Adjusted $R^2$=0.579340
F-Statistic=62.28627
DW=1.714332

The result of the employment model shows that GDP has positive effect on employment and independence variable (IND) has positive and significant impact on employment. This means that as Central Banks Independence increases, the employment situation in the country will also increase.

**Table 1: Interest Rate Model**

**Dependent Variable: IR (Interest Rate)**

| Independent Variable | Coefficient | Standard Error | t-statistics | p-value |
|---|---|---|---|---|
| C | 16.80659 | 0.453182 | 37.08573 | 0.0000 |
| IND | -0.723822 | 0.164671 | -4.395570 | 0.0001 |

$R^2$=0.812323
Adjusted $R^2$=0.648105

F-Statistic=4.946621
DW=1.689264
The table above shows the impact of independence and transparency on the interest rate in Nigeria. The independence variable has a negative impact on the interest rate. Thus, the interest rate will become low as the central bank becomes more independent. This creates an avenue for more investment which will tend to increase more avenues for employment.

**Inflation Model**

**Dependent Variable: Inflation**

| Independent Variable | Coefficient | Standard Error | t-statistics | p-value |
|---|---|---|---|---|
| C | 27.57501 | 2.698672 | 10.21799 | 0.0000 |
| GDP | -0.187311 | 0.062752 | -2.984941 | 0.0035 |
| IND | -4.176203 | 5.757113 | -0.725399 | 0.4697 |

$R^2$=0.516800
Adjusted $R^2$=0.501703
F-Statistic=7.736448
DW=1.695302
The table above shows that the GDP and Independence variable have negative impact on inflation. This means that as the CBN becomes more independent, inflation will go down.

## 5.0 Conclusion

Consequent upon these findings, it is concluded that CBN independence and transparency means more employment for the Nigerian economy. It will reduce inflation and also reduce interest rate. This is in line with Crowe (2009) who observed that independence enhance reduction in inflation and increase employment rate. The finding that increased independence lead to low interest rate is particularly very important for the growth of the economy. This is because the low interest rate will lead to increase in investment (which is an important factor for growth) . Also it reduces interest rate. This in turn will increase investment and lead to further increase in employment.

## References

Aliyu, S and Englama, A (2009), Is Nigeria Ready for Inflation Targeting?, *MPRA Paper,* no. 14870, Available Online http://mpra.ub.uni-muenchen.de/14870/

Banaina, K. (2008). Measuring Central Bank Independence: Ordering, Ranking, or Scoring? In King Banaian and Bryan W. Roberts Jr., eds, The Design and Use of Political Economy Indicators. New York: Palgrave, 2008

Barro, R. J. and D. Gordon (1983), Rules, Discretion, and Reputation in a Positive Model of Monetary Policy, Journal of Monetary Economics 12, 101-121.

Blinder, A., Goodhart, C., Hildebrand, P., Lipton, D., Wyplosz, C., (2001), How Do Central Banks Talk? Geneva Report on the World Economy, vol. 3. ICMB. May

Blinder, Alan S., 1998. Central Banking in Theory and Practice. MIT Press, Cambridge, MA

*Burke, (2008) IMF helps Ghana learn from others on Inflation TargetingIMFSurvey Magazine: Countries & Regions.*

Crowe, C and Meade E, (2008), ‘Central Bank Independence and Transparency: Evolution and Effectiveness,’ *IMF Working Paper*, no.119.

Cukierman, A, Webb, S. and Neyapti, B. (1992), ‘Measuring the Independence of Central Banks and its Effects on Policy Outcomes’, *The World Bank Economic Review*, Vol. 6, 353-398.

Cukierman, A., Miller, G. P. and Neyapti, B. (1998), 'Central bank reform, liberalization and inflation in transition economies: An International Perspective', Manuscript.

Cukierman, A. and Lippi, F. (1999), Central bank independence, centralization of wage bargaining, inflation and unemployment – theory and some evidence. European Economic Review 43, 1395–1434.

de Haan, J., Leertouwer, E., Meijer, E. and Wansbee, T. (2003), 'Measuring central bank independence: A latent variables approach', Scottish Journal of Political Economy 50(3), 326_340.

Dincer, N. N. and Eichengreen, B. (2007), 'Central bank transparency:Where, why, and with what effects?', NBER Working Paper 13003.

Dincer, N. N. and Eichengreen, B (2009), ‘Central Bank Transparency: Causes, Consequences and Updates,’ *NBER Working Paper*, no. 14791.

Dermertzis, M. and Harllett, H. (2007), Central Bank transparency in theory and practice. Journal of Macroeconomics 29, 760-789.

Eijffinger, S.C.W., de Haan, J., 1996. The political economy of central-bank independence. Princeton Special Papers in International Economics 19.

Eijffinger, S.C., and Geraats, P.M.(2004). How transparent are central banks? Cambridge Working Papers in Economics no. 0411.

Eijffinger, S. C. and Geraats, P. M., (2006). How transparent are central banks? European Journal of Political Economy 22, 1–21.

Eijffinger, S., Hoeberichts, M., 2002. Central Bank accountability and transparency: Theory and some evidence. International Finance 5 (1), 73–96.

Gr¨uner , H. P.(2002). How much should central banks talk? A new argument. Economics Letters 77, 195–198.

Grüner, H. P. and Hefeker, C. (1995) Domestic Pressures and the Exchange Rate Regime:
Why Economically Bad Decision Are Politically Popular, *Banca Nazionale del Lavoro Quarterly Review* 194, 331-350.

Faust, J. and L. Svensson (2001), "Transparency and Credibility: Monetary Policy with Unobservable Goals," *International Economic Review* 42, pp. 369-397.

Faust, J., Svensson, L., 2002. The equilibrium degree of transparency and control in monetary policy. Journal of Money, Credit and Banking 34 (2), 520–539.

Friedman, M. (1962), Should there be an independent Monetary Authority? In Leyland, B. Yeager ed., In search of a monetary constitution, Cambrige, Mass. Harvard University Press.

Fry, M., Julius, D., Mahadeva, L., Roger, S. and Sterne, G. (2000), 'Key issues in the choice of a monetary policy framework', in L. Mahadeva and G. Sterne (eds), Monetary Policy Frameworks in a Global Context, London: Routledge pp. 1_216.

Geraats, P., 2002. Central bank transparency. Economic Journal 112, 532–565.

Grilli, V, Masciandaro, D and Tabellini G. (1991), "Political and Monetary Institutions and Public Financial Policies in the Industrial Countries," *Economic Policy* 13, pp. 341-392.

Hasse, R. H. (1990), The European Central Banks: Perspectives for the further development of the European Monetary System. Gutersloh, Bertelsmann Foundation.

Hayo, and Hefeker (2001), Do we really need a central Bank Independence? A critical Re-examination. WWZ Discussion Paper 01/03, University of Basel.

Helder, F. M. And Jose, S. F. (2008), Macroeconomic Effects of Central Bank Transparency: The Case of Brazil. *Cato Journal*, Vol. 28, No. 1 Cato Institute.

Hughes Hallett, A., Weymark, D.N. (2005). Independence before conservatism: Transparency, politics and central bank design. German Economic Review 6, 1–21.

Jensen, H. (2002),Optimal degrees of transparency in monetary policy making. Scandinavian Journal of Economics 104, 399–422.

Kaufman D, Kraay A and Matruzzi M (2007), 'Governance Matters VI: Aggregate and Individual Governance Indicators 1996–2006', *World Bank Policy Research Working Paper,* no. 4280. Washington, D.C.

Kingsley, C. M. (2011), Central Banking in Emerging Economies: Challenges, successes and prospects. Being a paper delivered by Dr. Kingsley Chiedu Moghalu, Deputy Governor, Financial System Stability, Central Bank of Nigeria (CBN) at the 90th anniversary seminar of the South African Reserve Bank (SARB) held at Pretoria, South Africa, on July 1, 2011

Kuttner K and Posen A (2000), 'Inflation, Monetary Transparency, and G3 Exchange Rate Volatility,' Prepared for the 22nd SUERF Colloquium, Commission III, April 28, 2000, Vienna, Austria. No.00-6.

Kydland, F. and E. Prescott (1977), "Rules Rather than Discretion: The Inconsistency of Optimal Plans," *Journal of Political Economy* 85, pp. 473-490.

Mboweni, T. T. (2000), Central bank independence. A speech by Mr T T Mboweni, Governor of the South African Reserve Bank, at the Reuters Forum Lecture, held in Johannesburg, on 11 October 2000.

Martijn J and Hossein S (1999), 'Central Bank Independence and the Conduct of Monetary Policy in the Uniited Kingdom', *IMF Working Paper*, no 170.

Mahadeva, L. and Sterne,G. S. (2000), 'Monetary policy frameworks in a global context', Routledge, London

Mishkin, F.S. (1999). Central Banking in a Democratic Society: Implications for Transition Countries. Zagreb Journal of Economics 3 (3), 51–74.

Polillo, S. and Guillén, M. F. (2005), 'Globalization pressures and the state: The global spread of central bank independence', American Journal of Sociology 110, 1764_1802. Poole, W. and Rasche, R. H.

Posen, A (1999) No Monetary Masquerades for the ECB. In *The European Central Bank: How Accountable? How Decentralized?,* ed. Ellen Meade. American Institute for Contemporary German Studies.

Rogoff, K. (1985), "The Optimal Degree of Commitment to an Intermediate Monetary Target," *Quarterly Journal of Economics* 100, pp. 1169-1189.

Siklos, P. (2002), 'The changing face of central banking: Evolutionary trends since world war II, New York:

Cambridge University Press
Sorensen, J.R., 1991. Political uncertainty and macroeconomic performance. Economics Letters 37, 377–381.
Stiglitz, J. (1998). Central Banking in a Democratic Society. De Economists 146 (2), 199–226.
Walsh, C. (1995), "Optimal Contracts for Central Bankers," *American Economic Review* 85, pp. 150-167.