

Monetary Policy and the Informal Sector in Nigeria, 1970 - 2011

Jonathan Emenike Ogbuabor
&
Ifeoma C. Mba
&
Anthony Orji

Abstract

This study examined the impact of CBN monetary policy on informality in Nigeria over the period 1970-2011 using an ordinary least squares methodology. The results indicate that money supply impacts positively and significantly on informality; while other monetary variables such as minimum rediscount rate, exchange rate, inflation rate, and liquidity ratio do not impact significantly on informality in Nigeria. This finding implies that expansionary monetary policy that favours increased money supply in Nigeria encourages informality. The results further indicate that the burden of taxation and government regulatory activities in the economy are significant drivers of informality in Nigeria.

Key words: Monetary Policy; Money Supply; Informality; OLS; CBN; Nigeria

1. Introduction

If left to allocate themselves freely in an economy, money and credit flows are very unlikely to achieve some specific macro-economic policy objectives. To achieve balanced and steady economic growth and development, and to instill some sanity into a country's financial system, the need for monetary policy becomes inevitable. Monetary policy may be defined as a combination of measures undertaken by the monetary authorities (generally the central bank) to regulate and control the volume, cost and direction of money and credit in an economy with a

view to achieving predetermined macroeconomic goals (Folawewo and Osinubi, 2006; Dwivedi, 2005; Abata, Kehinde and Bolarinwa, 2012). It is an aspect of macroeconomics which deals the use of monetary instruments designed to regulate the value, supply and cost of money and credit in an economy, in line with the expected level of economic activity. Such monetary instruments include money supply, inflation rate, interest rate, balance of payments, external reserves and exchange rate policies. In other words, monetary policy is a major economic stabilization weapon used to achieve some specified macroeconomic policy objectives and to counter undesirable trends in the economy such as unemployment, inflationary pressures, sluggish economic growth and external sector instability (Ubi, Effiom and Eyo, 2012; Anyanwu, 1996; Gbosi, 1998; Okowa, 1995).

Clearly, monetary policy influences the volume and direction of purchasing power in an economy and is an instrument of market intervention to achieve rationally stipulated objectives which otherwise would have been impossible of attainment at least in terms of volume, speed and direction (Anyanwu, 1996). The main objectives of monetary policy are the attainment of internal and external balance by ensuring price stability, maintenance of balance of payments equilibrium, promotion of employment and output growth, and sustainable development (Fasanya, Onakoya and Agboluaje, 2013). In Nigeria, the Central Bank of Nigeria (CBN) statutorily regulates the stock of money in the economy through the use of monetary policy that is usually targeted towards the achievement of full-employment equilibrium, rapid economic growth, price stability, and external balance. Over the years, the major goals of monetary policy in Nigeria have often been the two later objectives. Thus, inflation targeting and exchange rate policy have dominated CBN's monetary policy focus based on assumption that these are essential tools of achieving macroeconomic stability (Ajayi, 1999).

The informal sector can be defined as market-based production of goods and services, whether legal or illegal, that escape detection in the official estimates of gross domestic product (GDP). The activities in this sector cover almost every field of economic activity, ranging from petty trading and personal services to informal construction, manufacturing and repairs (Smith, 1994; Ajakaiye & Akerele, 1996; CBN/FOS/NISER, 2001; Oduh et al, 2008). In Nigeria, the activities in this sector include several small and unregistered sole proprietor businesses, and in some instances, joint-partnership businesses which can be found both in rural

and urban settlements across the country. However, the nature of the economic activities engaged in varies considerably from one locality to another. For example, in the rural areas, farming activities and allied occupations such as hunting, fishing, weaving, blacksmithing, basket and pot making as well as leather works are more prevalent. However, in urban centres like Lagos, Enugu, Abuja, Port Harcourt, and Kano, informal economic activities include trading, small scale manufacturing and repairing industries, such as carpentry, upholstery, furniture making, woodworks, metalworks, bakery, goldsmithing, tailoring, bricklaying, and printing. Those in the repairing occupations include, among others, the automobile mechanics, electricians, clock and watch repairers, and cobblers, (Olowu & Okotoni, 1996).

Apart from the economic activities enumerated above, numerous informal sector activities in contemporary Nigeria are illicit, especially those conducted on the external scene. These activities include drug peddling/trafficking, currency trafficking, money laundering, smuggling, advance fee fraud (419), over invoicing / under invoicing, 'crude oil bunkering' or theft, kidnapping for ransom, illegal arms trade, human trafficking, among others. Recent empirical evidences in Nigeria point to a growing informal sector (Ogbuabor & Malaolu, 2013; Ariyo & Bekoe, 2012; Oduh et al, 2008). Again, one main feature of informal transactions in Nigeria is that they are mainly conducted in cash to avoid official detection. Over the years, Nigeria has controlled her economy by varying her stock of money, which includes currency (or cash) in circulation (Ojo, 1989). This implies that the conduct of monetary policy by the CBN could have far reaching implications for the informal sector, which thrives mainly in a cash economy. In other words, the monetary policy decisions of the CBN can encourage or deter the emergence and growth of an active informal sector in Nigeria. Unfortunately, none of the existing studies on monetary policy in Nigeria has empirically examined the dynamic response of the informal sector to the conduct of monetary policy in Nigeria. This study seeks to address this research gap. Specifically, the objective of this study is to determine the impact of CBN monetary policy on informality in Nigeria in order to provide evidence based policies that will enhance the growth and development of the Nigerian economy. This study is therefore a major step towards eliminating dualistic markets and promoting a well functioning national economy in Nigeria.

2. Literature Review

2.1. An Overview of the Conduct of Monetary Policy in Nigeria

In Nigeria, the task of monetary management is performed by the CBN on behalf of government. Monetary policy is the tool used by the CBN in performing this task. Briefly, it is the use of instruments at the disposal of the Central Bank to influence the availability and cost of credit/money in order to achieve macroeconomic stability. Over the years, the stance or direction of monetary policy in Nigeria is dictated by the prevailing economic situation and policy objectives. However, the policy objectives have generally remained the same over the years and they include: price stability; sound financial system; balance of payments viability; and economic growth and development. The effects of monetary policy are transmitted through a chain linking CBN actions to various economic goals and activities. In other words, macroeconomic aggregates such as output, employment, prices and informality are in turn impacted upon by the stance of monetary policy through transmission channels. These channels include: interest rate or money; credit; wealth or portfolio; expectations channel; and exchange rate channels.

Prior to the financial sector reforms of 1986, the CBN conducted monetary policy by direct control. The main instruments used under this system are credit ceilings, sectoral credit allocations, interest rate controls, moral suasion, special deposits, issuance of stabilization securities, and exchange controls. Market-based instruments were not widely used during this period due to the narrowness and underdeveloped nature of the Nigerian financial markets, and the inadequate supply of the relevant debt instruments and the deliberate restraint on interest rates. During the period, the defense of the balance of payment (BOP) was the focus of monetary policy (Ubi, Effiom and Eyo, 2012; Gbosi, 1998).

Over time and as a result of financial deepening and economy-wide macroeconomic reforms that commenced with the introduction of Structural Adjustment Programme (SAP) in 1986, the CBN shifted to indirect control anchored on market-based instruments such as open market operations (OMO), cash reserve requirements (CRR), and discount window operations. The major objectives of monetary policy under SAP were the stimulation of output and employment and the promotion of domestic and external stability (CBN, 2009). In the 1990s, there existed excess liquidity in the economy. In order to reduce this excess liquidity, the monetary authorities adopted several monetary policy measures. These measures include the reduction in credit growth

by banks, special deposit requirements against outstanding external payments arrears, abolition of foreign exchange guarantees/currency deposit as collateral for naira loans and the withdrawal of public sector deposits from the banks (Ubi, Effiom and Eyo, 2012; CBN, 2009).

In 1988, problems of unemployment, inflation and disequilibria in the balance of payments remained crucial. To deal with problems, the CBN used the indirect system of monetary control. Thus, in September 1992, in pursuit of this monetary policy framework, the ceiling imposed on individual bank's credit growth was removed (Odozi, 1992). The main instrument of monetary policy used at this period was the open market operations (OMO). According to Ojo (1993), OMO involves the CBN discretionary power to purchase or sell securities in the financial market in order to influence the volume of credit and subsequently interest rates that consequently affect money supply. Specifically, the stance of monetary policy in 1993 was restrictive in nature. This was designed to ensure stability of key macroeconomic variables and prevent deviations from prescribed targets. The objectives of monetary policy in 1993 include: to reduce inflationary pressure in the economy; to eliminate pressures on the BOP in order to boost external reserves and stabilize the exchange rate of the naira; and to support government's effort in solving the problems of low productivity, decreased capacity utilization and output (CBN, 2009).

The post-SAP monetary policy in Nigeria (up till date) is aimed at a drastic reduction in the rate of inflation; stabilizing the naira exchange rate; and reduction of pressure on BOP. To achieve these objectives, the monetary policy has centered on a high growth rate of the GDP, a single digit inflation rate and accumulation of external reserves. Presently, the monetary policy is anchored on four pillars, namely: enhancing the quality of banks, establishing financial stability through banks liquidity management activities, enabling healthy financial sector evolution and ensuring that the financial sector contributes to the economy (Sanusi, 2010; Ubi, Effiom and Eyo, 2012).

2.2. Empirics on Monetary Policy in Nigeria

Fasanya, Onakoya and Agboluaje (2013) examined the impact of monetary policy on economic growth in Nigeria; using time-series data covering the period 1975 to 2010. The effects of stochastic shocks of each of the endogenous variables were explored using Error Correction Model

(ECM). The results indicate that long run relationship exists among the variables; and that inflation rate, exchange rate and external reserve are significant monetary policy instruments that drive growth in Nigeria.

Ubi, Effiom and Eyo (2012) examined the impact of monetary policy on industrialization in Nigeria as an open economy, deploying macroeconomic time series variables of industrial output, exchange rate, interest rate, money supply, balance of trade, and total reserves. The study also used vector error correction mechanism of ordinary least squares econometric methodology. The results revealed that these variables have statistically significant impact on industrialization.

Ajayai and Atanda (2012) studied the effect of monetary policy on banks performance in Nigeria between 1970 and 2008, using the Engle-granger two-step cointegration approach. The empirical estimates indicate that bank rate, inflation rate and exchange rate are total credit enhancing; while liquidity ratio and cash reserves ratio exert negative effect on banks total credit. However, only cash reserve ratio and exchange rate were found to be significant at 5% level; while the cointegration test indicated the absence of a stable long run relationship.

Ogun and Akinlo (2010) used Structural Vector Autoregressive (SVAR) technique to test the effectiveness of bank credit channel of monetary transmission after the adoption of deregulatory measures in Nigeria. Secondary data obtained from the International Financial Statistics and Central Bank of Nigeria for the period 1986:1 to 2006: 4 were employed in the analysis of the responses of bank balance sheet variables to monetary policy shock. The study found that bank deposits, securities holdings and total loans and advances responded slowly to monetary policy shock during the simulation period. Monetary policy shock also contributed very little to the forecast errors of these bank balance sheet variables.

Akujuobi (2010) investigated the impact of monetary policy instruments on the economic development of Nigeria, using multiple regression technique. The results indicate that cash reserve ratio was significant in impacting on the economic development of Nigeria at both 1% and 5% levels of significance, treasury bill at 5.6%, minimum rediscount rate at 7.4% and liquidity rate at 7.7%, while interest rate was not significant at all.

Amassoma, Nwosa and Olaiya (2011) appraised monetary policy development in Nigeria and also examined the effect of monetary policy

on macroeconomic variables in Nigeria for the period 1986 to 2009. The study adopted a simplified Ordinary Least Squared technique and also conducted the unit root and co-integration tests. The findings show that monetary policy has witnessed the implementation of various policy initiatives and has therefore experienced sustained improvement over the years. The results also show that monetary policy had a significant effect on exchange rate and money supply while monetary policy was observed to have an insignificant influence on price instability.

Iyaji, Success and Success (2012) examined the impact of monetary policy on inflation in Nigeria during the period 1980– 2010. The study employed classical least squares method. The results show that the liquidity ratio and interest rate are the leading monetary policy instruments that can be employed to combat inflation in Nigeria.

Imoisi, Olatunji and Ekpenyong (2013) examined the efficacy of monetary policy in achieving Balance of Payments stability in Nigeria, using an Ordinary Least Squares (OLS) technique of multiple regression models and time series data from 1980-2010. The results show a positive relationship between balance of payments and the regressors (Money Supply, Exchange Rate and Interest Rate). Money Supply and Interest Rate variables were significant whereas Exchange Rate was not statistically significant.

2.3. Empirics on Informality in Nigeria

Ogbuabor and Malaolu (2013) examined the size, development, and causes of the informal sector of the Nigerian economy. They found that unemployment, tax burden, government regulation, and inflation are the most important drivers of informality in Nigeria.

Ogbuabor, Malaolu, and Mba (2013a) examined the impact of informality on domestic savings in Nigeria for the period 1970 to 2011 using ordinary least squares (OLS) estimation methodology. The estimation results of the long run model indicate that informality hinders the growth of domestic savings, while the degree of financial depth impacts significantly and positively on domestic savings in Nigeria.

Ogbuabor, Malaolu, and Mba (2013b) examined the impact of informality on the liquidity of the banking system in Nigeria. The results indicate that informality impacts negatively on the liquidity of deposit money banks in Nigeria. Specifically, the results showed that a unit increase in the size of the informal sector results in 7.44% deterioration in the liquidity of deposit money banks in Nigeria.

Ariyo and Bekoe (2012) estimated the informal sector in Nigeria over the period 1975 – 2010 using the currency demand approach. They found that tax rate, inflation, interest rate, high income inequalities, low productivity of the Nigerian tax system due principally to deficiencies in tax administration and collection systems, and complex legislation are the main drivers of informality in Nigeria.

Oduh et al (2008) used the general MIMIC methodology to estimate the determinants of the informality in Nigeria over the period 1970 to 2005. The study found that declining income, high tax burden, high black market premiums, and government control of the economy are some of the most important drivers of informality in Nigeria.

Schneider (2007) used the DYMIMIC and Currency Demand Methods to estimate the informal economies of 145 developing, transition, and highly developed OECD economies over the period 1999 to 2005. The study found that an increased burden of taxation and social security contributions, combined with labour market regulations are the main causes of informality in those economies. Furthermore, the results show that the informal economy reduces corruption in high income countries, but increases corruption in low income countries.

Salisu (2001) utilised the MIMIC approach in the study of the hidden economy in Nigeria. The study found that tax rate, inflation and declining per capita income are the major determinants of informality in Nigeria.

2.4. Research Gap / Contribution to Knowledge

In spite of the numerous empirical studies on monetary policy and informality in Nigeria including the ones enumerated above, no empirical study known to the authors of this paper has specifically examined the dynamic response of informality to the conduct of monetary policy in Nigeria. This study is therefore a pioneer empirical attempt to fill this gap in the literature. Furthermore, this study will deepen our understanding of the phenomena of monetary policy and informality in Nigeria.

3. Methodology

This study adopted time series analysis, using ordinary least squares (OLS) methodology. Our estimation procedure began by pre-testing the time series properties of the data using the Zivot–Andrews unit root test technique since most economic variables have been shown to be non-stationary. The Zivot–Andrews technique provides a more robust result

than the usual Augmented Dickey Fuller (ADF) test and also accounts for structural break (Andrews & Zivot, 1992). The test of stationarity was then followed by the Johansen cointegration test which sought to establish whether or not the dependent variable (informality) is cointegrated with the explanatory variables. Here, the confirmation of cointegration relationship means that the long run model cannot be spurious (Johansen, 1998).

The study covered the period 1970 to 2011 (a total of 42 observations) in line with the availability of data. The data were collected from CBN Statistical Bulletin, 2011 as well as Ogbuabor & Malaolu (2013). Following the transmission mechanisms of monetary policy in Nigeria as well as Ogbuabor and Malaolu (2013), we specify our model as follows:

$$\text{INFO} = \alpha_0 + \alpha_1\text{MRR} + \alpha_2\text{MSS} + \alpha_3\text{EXCH} + \alpha_4\text{INFR} + \alpha_5\text{LIQR} + \alpha_6\text{TAXB} + \alpha_7\text{RGC} + \mu \dots 1$$

Where: INFO = size of informal sector as percentage of the GDP (obtained from Ogbuabor & Malaolu, 2013; CBN, 2011);

MRR = minimum rediscount rate;

MSS = money supply measured as M2/GDP % (a measure of financial depth);

EXCH = real exchange rate

INFR = inflation rate;

LIQR = liquidity ratio (ratio of total specified liquid assets to total current liabilities)

TAXB = burden of taxation (measured as ratio of total tax to GDP);

RGC = real government consumption in %GDP (proxy for state regulatory activities);

α_i are the parameters of the model while μ is the error term. Our a priori expectations include $\alpha_1, \alpha_2, \alpha_4, \alpha_6, \alpha_7 > 0$ and $\alpha_3, \alpha_5 < 0$. TAXB and RGC are included as control variables in order to obtain a robust estimate.

4. Results and Discussions

The results of the Zivot-Andrews unit root tests indicate that while some of the variables (INFO, RGC, INFR, LIQR) are stationary at levels, others (MRR, MSS, EXCH, TAXB) are stationary after first differencing. The Johansen test for cointegration also indicates that there are at least four cointegrating vectors. In other words, a stable long-run

relationship exists between the series. The result for the long run relationship is now presented in Table 1 below:

Table 1: Estimated Long Run Regression Result for the Informality model

Variable	Coefficient	t-statistic	Probability
MRR	0.3378125	1.48	0.149
MSS*	0.505112	2.86	0.007
EXCH	-0.0115658	-0.42	0.680
INFR	0.0002571	0.00	0.996
LIQR	0.1020115	1.10	0.281
TAXB*	-1.143761	-2.78	0.009
RGC**	0.0539999	2.67	0.011
Constant*	45.8093	6.81	0.000

Key: * Significant at 1% level; ** Significant at 5% level $R^2 = 0.4244$; $F(7, 34) = 3.58$;

Prob > F = 0.0054; **LR(7) = 23.199**; **Prob > LR = 0.002**;

Source: Author's computation using STATA 12

The results in Table 1 above indicate that all the variables conformed to a priori expectations except liquidity ratio and tax burden. The coefficients of money supply, tax burden and real government consumption are statistically significant at 5% level. This indicates that money supply is the only monetary variable in the model that significantly impacts on informality in Nigeria. A unit increase in money supply leads to 51% increase in informality. This finding conforms to theoretical expectation which postulates that increase in currency in circulation leads to increase in informal transactions that are mainly conducted with cash (Schneider, 2007). The implication of this finding is that expansionary monetary policy that favours increased money supply in Nigeria encourages informality. The other monetary variables such as minimum rediscount rate, exchange rate, inflation rate, and liquidity ratio do not significantly impact on informality. Overall, the model is statistically significant as seen from the probabilities of the F-statistic and the likelihood ratio which are 0.0054 and 0.002 respectively. The R^2 of 42.4% indicates that

the significant regressors have explained about 42.4% of the overall variations in the dependent variable.

5. Conclusion and Policy Recommendations

Following the lack of empirical evidence on the dynamic response of informality to monetary policy in Nigeria, this study examined the impact of monetary policy on informality in Nigeria for the period 1970 to 2011 as a means of providing evidence based policies that will enhance the growth and development of the Nigerian economy. The estimation results of the long run model indicate that money supply significantly and positively impacts on informality in Nigeria. The results further indicate that other monetary variables such as minimum rediscount rate, exchange rate, inflation rate, and liquidity ratio do not impact significantly on informality in Nigeria.

A major policy recommendation which can be drawn from the above findings is that expansionary monetary policy which favours increased money supply should be carefully implemented to avoid excessive use of cash in the economy. This recommendation is germane because excessive use of cash in the economy could encourage illicit activities in the informal sector to the detriment of the overall economy. Since informality thrives mainly in a cash economy, the ongoing cashless policy of the CBN should be encouraged and extended to every part of the country in order to drastically reduce the excessive use of cash in the economy and at the same time achieve an increased level of financial inclusion. Furthermore, state regulatory agencies should avoid repressive economic policies that could drive economic units in Nigeria underground. Indeed, the economy cannot function without regulation, but excessive regulation could also be detrimental as seen from Table 1 above. Government is therefore advised to moderate regulations so that dualistic markets can be eliminated in Nigeria.

References

- Abata, M. A., Kehinde, J. S. and Bolarinwa, S. A. (2012). Fiscal/Monetary Policy and Economic Growth in Nigeria: A Theoretical Exploration. *International Journal of Academic Research in Economics and Management Sciences*, 1(5): 75 – 88.

- Afolabi, L. (1991). *Monetary Economics*. Lagos: Heinemann Educational Books (Nigeria) PLC.
- Ajakaiye, O. & Akerele, W. O. (1996). Overview of conceptual and methodological issues in informal sector research. In *Conceptual and methodological framework for informal sector research in Nigeria*, CBN/NISER Informal Sector Study, pp. 7 – 26.
- Ajayi, I. (1999). Evolution and Functions of Central Banks. *Central Bank of Nigeria Economic and Financial Review*, 37(4): 11-27.
- Ajayi, F. O. and Atanda, A. A. (2012). Monetary Policy and Bank Performance in Nigeria: A Two-Step Cointegration Approach. *African Journal of Scientific Research*, 9(1): 462 – 476.
- Akujuobi, L. E. (2010). Monetary Policy and Nigeria's Economic Development. *African Research Review*, 4(4): 153 – 161.
- Amassoma, D., Nwosa, P. I. and Olaiya, S. A. (2011). An Appraisal of Monetary Policy and Its Effect on Macro Economic Stabilization in Nigeria. *Journal of Emerging Trends in Economics and Management Sciences (JETEMS)*, 2 (3): 232-237.
- Andrews, D. & Zivot, E. (1992). Further evidence on the great crash, the oil price shock, and the unit-root hypothesis. *Journal of Business and Economic Statistics* 10: 251-70.
- Anyanwu, J. C. (1996). *Monetary Economics: Theory, Policy and Institutions*. Lagos: Hybrid publishers limited.
- Ariyo, A. & Bekoe, W. (2012). Currency demand, the underground economy and tax evasion: The case of Nigeria. *Journal of Monetary and Economic Integration*, 11(2).
- CBN (2011). *Statistical Bulletin, 2011*. Abuja: Central Bank of Nigeria.
- CBN (2009). *50 years of Central Banking in Nigeria*. Abuja: Central Bank of Nigeria.
- CBN (2005). *Annual Reports and Statements of Accounts*, Abuja.
- CBN/FOS/NISER (2001). *A Study of Nigeria's Informal Sector, Volume 1*.
- Dwivedi, D.N. (2005). *Managerial Economics, Sixth Edition*. New Delhi, India: VIKAS Publishing house PVT LTD.

- Fasanya, I. O., Onakoya, A. B. O. and Agboluaje, M. A. (2013). Does Monetary Policy Influence Economic Growth in Nigeria? *Asian Economic and Financial Review*, 3(5):635-646.
- Folawewo, A.O. and Osinubi, T.S. (2006). Monetary Policy and Macroeconomic Instability in Nigeria: A Rational Expectation Approach. *Journal of Social Sciences*, 12(2): 93-100.
- Gbosi, A. N. (1998). *Banks, Financial Crisis and the Nigerian Economy Today*. Owerri: Corporate Impression Publishers.
- Imoisi, A. I., Olatunji, L. M. and Ekpenyong, B. I. (2013). Monetary Policy and Its Implications for Balance of Payments Stability in Nigeria: 1980-2010. *International Journal of Economics and Finance*, 5(3): 196 – 204.
- Iyaji, D., Success, M. J. and Success, E. B. (2012). An Assessment of the Effectiveness of Monetary Policy in Combating Inflation Pressure on the Nigerian Economy. *Erudite Journal of Business Administration and Management (EJBAM)*, 1(1): 7-16.
- Johansen, S. (1998). Statistical analysis of cointegration vectors. *Journal of Economic Dynamic and Control*, 12: 231 – 254.
- Odozi, V. A. (1992). Recent Monetary Policy Developments and Measures to Attract Foreign Investment in Nigeria. *CBN Bullion*.
- Oduh, M., Eboh, E., Ichoku, H. & Ujah, O. (2008). Measurement and explanation of informal sector of the Nigerian economy. *AIAE Research Paper 3*, pp. 1-64.
- Ogbuabor, Jonathan E. and Victor A. Malaolu. (2013). Size and Causes of the Informal Sector of the Nigerian Economy: Evidence from Error Correction MIMIC Model. *Journal of Economics and Sustainable Development*, 4(1): 85-103.
- Ogbuabor, Jonathan E., Victor A. Malaolu, and Ifeoma C. Mba. (2013a). Informality and Domestic Savings in Nigeria: Lessons from Time Series Analysis. *International Journal of Development and Economic Sustainability*, 1(3): 24 – 32.
- Ogbuabor, Jonathan E., Victor A. Malaolu, and Ifeoma C. Mba. (2013b). A Panel Data Analysis

- of the Impact of Informality on the Liquidity of Deposit Money Banks in Nigeria. *International Journal of Development and Economic Sustainability*, 1(3): 1 – 15.
- Ogun, T. P. and Akinlo, A. E. (2010). The Effectiveness of Bank Credit Channel of Monetary Policy Transmission: The Nigerian Experience. *African Economic and Business Review*, 8(2): 15 – 29.
- Ojo, M.O. (1989). Analysis of Some Prison Data. *Journal of Applied Statistics*, 16(6): 377-383.
- Ojo, M.O. (1993). *A Review and Appraisal of Nigeria Experience with Financial Sector Reform*. Lagos: CBN.
- Okowa, W. J. (1995). *Macroeconomics for Universities*. Port Harcourt: Pam Unique Publishing Company Limited.
- Olowu, D. & Okotoni, O. (1996). The informal sector in Nigeria: Some analytical and developmental issues. In *Conceptual and methodological framework for informal sector research in Nigeria*, CBN/NISER Informal Sector Study, pp. 27 – 40.
- Salisu, Mohammed. (2001). Incentive Structure, Civil Service Efficiency and the Hidden Economy in Nigeria. Discussion Paper No. 2001/86. World Bank Institute for Development Economic Research (WIDER), United Nations University.
- Sanusi, S.L. (2010). The Nigerian Banking Industry: What Went Wrong and the Way Forward. Convocation Lecture at Bayero University, Kano, February 26.
- Schneider, Friedrich. (2007). Reducing the Shadow Economy in Germany: A blessing or a Curse? Discussion Paper No. 3306. Institute for the Study of Labour, Department of Economics, University of Linz, Linz.
- Smith, P. (1994). Assessing the size of the underground economy: The Canadian statistical perspectives. *Canadian Economic Observer, Catalogue No. 11-010* (3), pp. 16-33.
- Ubi, P. S., Effiom, L. and Eyo, E. I. (2012). Monetary Policy and Industrialization in an Emerging Open Economy: Lessons from Nigeria. *International Journal of Academic Research in Business and Social Sciences*, 2(8): 270 – 288.